

'2010' Semiconductor Product Guide

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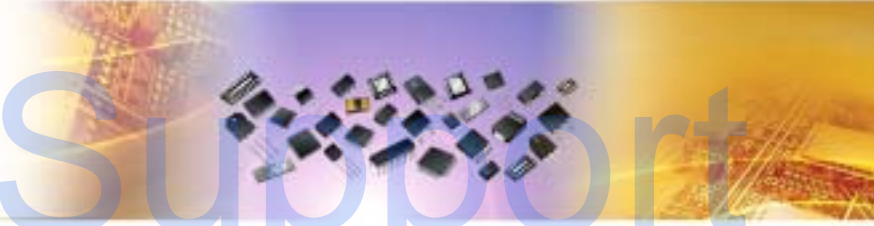
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- Bipolar Junction Transistor
 - Diode
 - MOSFET
 - IGBT
 - Power Module
 - Intergrated Circuit
 - Pressure Sensor















Table of Contents

	SMD	THD
Table of Contents	2	
Bipolar Junction Transistor	4	
Transistor Line-up (PNP Transistor)	4	
Transistor Line-up (NPN Transistor)	8	
Small Signal General Purpose Transistor	14 ~ 19	25, 26
Current Regulating Device	19	-
Small Signal Low Noise Transistor	19	27
Small Signal Audio Muting Transistor	20	27
Small Signal High hFE Transistor	20	27
Small Signal Darlington Transistor	20	27
Small Signal High Voltage Transistor	21	28
Small Signal RF/ VHF/ UHF Transistor	21, 22	29
Small Signal Strobo Flash Transistor	22	29
Small Signal Switching Transistor	22, 23	29
Small Signal Low VCE(sat) Transistor	23, 24	-
General Purpose Power Transistor	24	30, 31
Switching Power Transistor	24	32
Darlington Power Transistor	24	33
High hFE Power Transistor	-	32
Junction Field Effect Transistor		34
Junction Field Effect Transistor (General Purpose)		34
Junction Field Effect Transistor (High Gain)		34
Complex Junction Field Effect Transistor (Built in R-C Filter)		34
RF Junction Field Effect Transistor		34
Transistor with Built-in Bias Resistor		35
Small Signal General Purpose BRT	35 ~ 46	48
Small Signal Audio Muting BRT	46	48
Small Signal High Current BRT	47	48
USA/European specification models Type		49
Small Signal General Purpose Transistor	49	52
Small Signal Low Noise Transistor	50	-
Small Signal Darlington Transistor	50	53, 54
Small Signal High Voltage Transistor	50	53
Small Signal RF/ VHF/ UHF Transistor	50	53
Small Signal Switching Transistor	51	53
Darlington Power Transistor	51	54
General Purpose Power Transistor	-	54
Switching Power Transistor	-	54
List of Equivalent Product		55 ~ 61
Diode		62
Small Signal Switching Diode	62, 63	79
Small Signal Band Switch Diode	63	-
PIN Diode	64	-
FM Tuning (Varactor Diode)	65	81
AFC Application for FM (Varactor Diode)	65	79
TV Tuning (Varactor Diode)	66	-
VCO for UHF Band (Varactor Diode)	65	81
Low Capacitance Zener Diode	66	-
Dual Zener Diode	66	-
High Voltage Zener Diode	66	-
100mW Zener Diode	67, 68	-
150mW Zener Diode	69	-
200mW Zener Diode	70, 71	-
300mW Zener Diode	72	-
500mW Zener Diode	73	-
1W Zener Diode	74	-
Power Zener Diode(Surge Absorber)	75	-
Small Signal Schottky Barrier Diode	75, 76	-
Power Schottky Barrier Diode	76	82, 83
TVS Diode	77, 78	-
Low Cap TVS	79	-
EMI Filtering TVS	79	-
EMI Filtering TVS for USB Port	79	-
Surface Mount Glass Passivated Rectifier	-	80
Ultra Fast Recovery Rectifier Diode	-	80, 81
Single-Phase Bridge Rectifier	-	80
AFC Application for FM (Varactor Diode)	-	80
Alternator Diode	-	81
Super Fast Recovery Rectifier Diode	-	82
Fast Recovery Diode	-	82
List of Equivalent Product		83

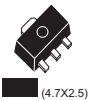
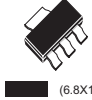
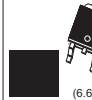



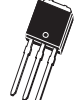

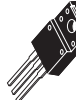
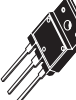
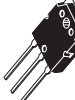
Table of Contents

MOSFET	86
Low Voltage MOSFET	86, 87 87
2nd Generation Low Voltage MOSFET	87 -
SMOS FET	88 89
RF MOSFET	89 -
High Voltage MOSFET	90 90-93
IGBT	94
IGBT	94
Power Module	94
2 in 1 IGBT Module	94
6 in 1, 7 in 1 IGBT Module	94
Integrated Circuit	95
Industrial & General Purpose IC	95
OP Amp.	95
Comparator	95
Voltage Stabilizer	96
Voltage Detector (Active Low)	97
Voltage Detector (Active High)	98
1.25V Adjustable Voltage Detector (Active Low)	99
150mA CMOS Low Dropout Voltage Regulator (On/Off Controllable) [High PSRR] (Positive)	99
150mA Low Noise CMOS LDO Voltage Regulator (On/Off Controllable)	100
400mA CMOS Low Dropout Voltage Regulator (Positive)	101, 102
30mA 3-Terminal Low Dropout Voltage Regulator (Positive)	103
0.15A 3-Terminal Voltage Regulator (Positive)	103
0.25A 3-Terminal Low Dropout Voltage Regulator (Positive)	103
0.5A 3-Terminal Voltage Regulator (Positive)	104
1A 3-Terminal Voltage Regulator (Positive)	104
1A SMD Type Low Dropout Voltage Regulator (Positive)	104
1A Low Dropout Voltage Regulator (Positive)	105
1A 3-Terminal Adjustable Voltage Regulator (Positive)	105
1A 4-Terminal Low Dropout Voltage Regulator (On/Off Controllable) (Positive)	105
1A 5-Terminal Low Dropout Voltage Regulator (On/Off Controllable) (Positive)	106
2A 4-Terminal Low Dropout Voltage Regulator (On/Off Controllable) (Positive)	106
3A Terminal Low Dropout Voltage Regulator (On/Off Controllable) (Positive)	106
2A 4/5-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)	107
3A 4/5-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)	107
5A 4/5-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)	107, 108
0.15A 3-Terminal Voltage Regulator (Negative)	108
0.5A 3-Terminal Voltage Regulator (Negative)	108
1A 3-Terminal Voltage Regulator (Negative)	109
0.5A 3-Terminal Low Dropout Voltage Regulator (Low Supply Current) (Positive)	109
0.5A 4-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)	110
0.5A 5-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)	110
1A 3-Terminal Low Dropout Voltage Regulator (Low Supply Current) (Positive)	110
1A 3-Terminal Low Dropout Voltage Regulator (Quasi-LDO Type)	111
1A 4-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)	111
1A 5-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)	111
1A 1.2V 3-Terminal Low Dropout Voltage Regulator (Quasi-LDO Type)	112
1.5A 3-Terminal Low Dropout Voltage Regulator (Quasi-LDO Type)	112
3A 3-Terminal Low Dropout Voltage Regulator (Quasi-LDO Type)	112
White LED Driver IC	113
Switching Regulator IC (DC/DC Converter)	113
Transistor Array & Interface Driver IC	114
Telecommunication IC	115
Power Supply Controller	115
Logic LMOS IC	116, 117
Other	117
List of Equivalent Product	118
Pressure Sensor	119
50~1,000kPa, Low Cost SMD Packaged Pressure Sensor	119
50~1,000kPa, Low Cost DIP Packaged Pressure Sensor	119
50~1,000kPa, Low Cost DIP Packaged Pressure Sensor	119
1~7kPa, Temperature Compensated & Offset Voltage Calibrated Low Pressure Sensor	119
1,000~5,000kPa, CMOS Digital Signal Processing Pressure Sensor (Temperature Compensated & Calibrated Amplified Output Voltage)	119
Index	120
KEC Address	129
















PNP Transistor(V_{CEO} : -12V ~ -65V)

V _{CEO}	I _C	TFSM	TFSV	TFS6	VSM	ESM	TESV	TES6	USM	USV	US6	TSM	TSV	TS6	SOT-23
		(Unit: mm)													
															
		■ (0.6 X0.8)	■ (1.0X0.8)	■ (1.0X0.8)	■ (1.2 X0.8)	■ (1.60X0.85)	■ (1.6 X1.2)	■ (1.6 X1.2)	■ (2.0X1.25)	■ (2.0X1.25)	■ (2.0X1.25)	■ (2.9X1.6)	■ (2.9X1.6)	■ (2.9X1.6)	■ (2.93X1.3)
-12V	-500mA				KTA2012V	KTA2012E		KTA702E KTX211E KTX213E KTX215E		KTX303U	KTX321U KTX211U KTX213U KTX215U				
	-1.5A								KTA1532U						
-20V	-50mA														
	-100mA														BCW29 BCW30
	-200mA	KTA2013F			KTA2013V										
	-500mA														
	-1A											KTA1531T	KTX311T		
	-1.5A											KTA1532T	KTX312T	KTX511T	
	-2A														
	-3A												KTA1535T		
	-5A												KTA1536T		
	-10A														
-25V	-100mA														
	-800mA														
	-1A														
	-1.5A														MPS8550S
-30V	-100mA								BC858W						BC858 BC859
	-500mA								KTA2015				KTA511T	KTA711T	KTA1505S KTC9012S MMBTA63 MMBTA64
	-800mA														KTA1298 KTC8550S
	-1.5A											KTA1541T			
	-2A											KTA1544T			
	-3A											KTA1542T			
	-5A														
-40V	-200mA				2N3906V	2N3906E		2N2906E	2N3906U						KN3906S 2N3906S
	-600mA								KTN2907U						KN2907S KN4403S KTN2907S
-45V	-100mA								BC857W						BCW69 BCW70 BC857 BC860
	-200mA														
	-500mA								BC807W						
	-800mA														BC807 BCW68
	-1.5A														
-50V	-150mA	KTA2014F	KTA501F	KTA701F	KTA2014V	KTA2014E	KTX301E KTA501E	KTX102E KTA701E KTA711E KTA712E	KTA2014	KTX301U KTX302U KTA501U	KTX102U KTA701U KTA711U KTA712U				KTA1504S KTC9015S
	-200mA														
	-500mA														
	-1A														
	-2A														
	-3A														
-60V	-5A														
	-100mA														BCW89
	-500mA														MMBTA55
	-600mA					KTN2907AE			KTN2907AU						KN2907AS KTN2907AS
	-1A														
	-3A														
	-5A														
-65V	-8A														
	-100mA								BC856W						BC856


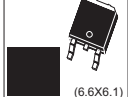






PNP Transistor(V_{CEO} : -12V ~ -65V)

SOT-89	SOT-223	DPAK	TO-92M	TO-92	TO-92L	IPAK	TO-126	TO-220IS	TO-3P(H)IS	TO-3P(N)
 (4.7X2.5)	 (6.8X1.8)	 (6.6X6.1)								
				BC309						
				MPSA62						
				KTA1296						
KTA1001										
		KTA1242D		KTA1243	KTA1241	KTA1242L	KTA1709			
		KTA1834D				KTA1834L				
				BC308						
				BC328						
				KTB598						
				MPS8550						
				KTA1283						
				BC558						
				BC559						
			KTA1021	KTA1270						
				KTC9012						
				MPSA63						
				MPSA64						
				BC516						
KTA1664			KTA1272	KTA1271						
				KTC8550						
KTA1663										
				KTA1282	KTA1273					
				KTB1772			KTA1705		KTA1658	
							KTB772			
				KN3905						
				KN3906						
				2N3906						
				2N3906C						
				KN2907						
				KN4402						
				KN4403						
				KTN2907						
				BC307						
				BC557						
				BC560						
				KTA539						
				BC327						
							BD136			
			KTA1267	KTA733	KTA1266L					
				KTA733B	KTA1267L					
				KTA1266						
				KTC9015						
				KTA200						
					KTB764					
KTA1666		KTA1718D			KTA1281	KTA1718L	KTA1715			
KTB1124					KTB985					
				BC638						
				MPSA55						
				MPSA77						
				KN2907A						
				KTN2907A						
KTA1668				MPS751						
				KTA708						
		KTA1040D				KTA1040L		KTA1046		
								KTB1366		
		KTA1385D				KTA1385L	KTB1151	KTB1424		
				BC556						

PNP Transistor(V_{CEO} : -80V~ -600V)



V _{CEO}	I _C	TFSM	TFSV	TFS6	VSM	ESM	TESV	TES6	USM	USV	US6	TSM	TSV	TS6	SOT-23	SOT-89	
		(Unit: mm)															
																	
		■ (0.6 X0.8)	■ (1.0X0.8)	■ (1.0X0.8)	■ (1.2 X0.8)	■ (1.60X0.85)	■ (1.6 X1.2)	■ (1.6 X1.2)	■ (2.0X1.25)	■ (2.0X1.25)	■ (2.0X1.25)	■ (2.9X1.6)	■ (2.9X1.6)	■ (2.9X1.6)	■ (2.93X1.3)	■ (4.7X2.5)	
-80V	-400mA															KTA1662	
	-500mA															MMBTA56	
	-1A																KTB1260
	-1.5A																
	-4A																
	-6A																
	-7A																
-100V	-100mA															BSS63	
	-1A															KTA1520S KTA1571S	
	-2A																
	-3A																
	-5A																
	-6A																
	-10A																
-120V	-25A																
	-100mA										KTA2017					KTA1517	
	-600mA															2N5400S	
	-800mA																KTA1661
	-1A																
	-1.2A																
	-5A																
-140V	-8A																
	-10A																
-150V	-10A																
	-50mA																KTA1660
	-500mA																
	-600mA															2N5401S	
-160V	-10A																
	-1.5A																
-180V	-15A																
	-1.5A																
-200V	-2A																
	-100mA																
-230V	-500mA																MMBTA93
	-1A																
-250V	-15A																
	-50mA																
-300V	-50mA																
	-100mA												KTA1073T				
-400V	-500mA																MMBTA92
	-100mA																KTA1759
	-300mA																
	-500mA																
-480V	-2A																
	-300mA																
-600V	-1A																

PNP Transistor(V_{CEO} : -80V~ -600V)

SOT-223	DPAK	TO-92M	TO-92	TO-92L	IPAK	TO-126	TO-220IS	TO-3P(H)IS	TO-3P(N)	TO-3P-5
 (6.8X1.8)	 (6.6X6.1)									
				KTA1274						
			MPSA56							
				KTB1241						
						BD140				
							KTB1368			
							KTA1725			
							KTB1370			
	MJD117			KTB2234	MJD117L		TIP117F			
							TIP32CF			
	KTA1042D				KTA1042L		KTA1049			
							KTB1367			
							TIP42CF			
									TIP34C	
									TIP36C	
									TIP36CA	
			KTA1268							
			KTA2400							
			2N5400							
				KTA1023						
	KTA1045D				KTA1045L	KTB631K				
						KTA1704				
							KTB1423			
									KTB688A	
								KTB778	KTA1940	
									KTB688	
									KTB688B	
									KTA1695	
									KTB817	
				KTA1024						
						KTA1360				
			2N5401							
			2N5401C							
									KTB2510	KTB01P
				KTA1275						
					KTA1225L	KTA1700	KTA1659			
										KTB03P
							KTA1659A			
							KTB1369			
			MPSA93	KTA1070						
							KTA1837			
									KTA1962A	
			BF423							
			BF421							
						KTA1381				
			KTA1279							
			MPSA92							
			MPSA94							
				KTA1277		KTA1703				
	KTA1862D				KTA1862L					
			MPSA94A							
	KTA1807D				KTA1807L					










Note) : TO-3P(N)-E PKG

NPN Transistor ($V_{CE0} : 3V \sim 30V$)















V _{CE0}	I _C	TFSM	TFSV	TFS6	VSM	ESM	TESV	TES6	USM	USV	US6	TSM	TSV	TS6	SOT-23
		(Unit: mm)													
															
		■ (0.6 X0.8)	■ (1.0X0.8)	■ (1.0X0.8)	■ (1.2 X0.8)	■ (1.60X0.85)	■ (1.6 X1.2)	■ (1.6 X1.2)	■ (2.0X1.25)	■ (2.0X1.25)	■ (2.0X1.25)	■ (2.9X1.6)	■ (2.9X1.6)	■ (2.9X1.6)	■ (2.93X1.3)
3V	30mA				KTC3640V										
6V	30mA				KTC3620V				KTC3620U						
10V	40mA								KTC3600U						KTC3600S
	65mA								KTC3790U						KTC3790S
	2A														
	5A														
11V	50mA	KTC3730F			KTC3730V				KTC3730U						
12V	100mA	KTC3770F			KTC3770V				KTC3770U				KTC3770T		KTC3770S
	500mA				KTC4072V	KTC4072E		KTC802E KTX212E KTX214E		KTX403U	KTX412U KTX212U KTX214U				
15V	50mA								KTC4021 KTC4082		KTC813U				KTC3121 KTC3882
	100mA														BFQ31
	200mA														KTC3883
	500mA								KTN2369AU KTN2369U						KTN2369S KTN2369AS
	5A														
20V	50mA														
	100mA														BCW31 BCW32
	200mA	KTC4074F			KTC4074V										
	300mA										KTC814U			KTC812T	KTC2875 KTD1304
	1A											KTC3531T	KTX411T		
	1.5A											KTC3532T	KTX412T		
	2A														
	3A											KTC3535T			
	5A											KTC3536T			
25V	10A														
	25mA														BF599 BFS20
	50mA								KTC4081						KTC3881S
	800mA														
	1.5A														MPS8050S
30V	20mA					KTC4080E			KTC4080						KTC3880S KTC9016S KTC9018S
	50mA								KTC4079						KTC3879S KTC9011S
	100mA								BC848W						BC848 BC849 KTC3878S
	400mA														MMBTA517
	500mA								KTC4076				KTC611T	KTC811T	KTC3876S KTC9013S MMBTA13 MMBTA14
	600mA								KTN2222U						KN2222S KTN2222S
	800mA														KTC3265 KTC8050S
	1.5A														
	2A											KTC3544T			
	3A											KTC3542T			
5A											KTC3543T				

Note) * : Under development

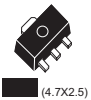

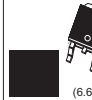



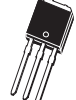

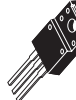
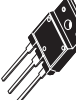

NPN Transistor (V_{CE0} : 3V ~ 30V)

SOT-89	SOT-223	DKPAK	TO-92M	TO-92	TO-92L	IPAK	TO-126	TO-220IS	TO-3P(H)IS	TO-3P(N)
 (4.7x2.5)	 (6.8x1.8)	 (6.6x6.1)								
KTC4377					KTC3226					
			KTC3225							
				KTC2347						
				KTN2369 KTN2369A KTH2369 KTH2369A						
			KTC3225							
				BC239						
				BC238						
			KTC2876 KTD1303	KTC2874 KTD1302						
				KTC3266						
		KTC3072D		KTD1146	KTD1145	KTC3072L				
		KTC5001D				KTC5001L				
				KTC3197						
				BC338						
				KTD545						
				KTC3211 MPS8050						
			KTC3195	KTC3194 KTC9016 KTC9018						
			KTC3193	KTC3192 KTC9011						
			KTC3191	BC548 BC549 KTC3190						
				BC517 KTC3202 KTC9013 MPSA13 MPSA14						
				KN2222 KTN2222						
KTC4376			KTC3204	KTC3203 KTC8050						
KTC4375										
				KTC3210	KTC3205					
				KTD1882			KTC2804 KTD882	KTC4369		

NPN Transistor (V_{CE0} : 40V ~ 100V)









V_{CE0}	Ic	TFSM	TFSV	TFS6	VSM	ESM	TESV	TES6	USM	USV	US6	TSM	TSV	TS6	SOT-23
		(Unit: mm)													
															
		■ (0.6 X0.8)	■ (1.0X0.8)	■ (1.0X0.8)	■ (1.2 X0.8)	■ (1.60X0.85)	■ (1.6 X1.2)	■ (1.6 X1.2)	■ (2.0X1.25)	■ (2.0X1.25)	■ (2.0X1.25)	■ (2.9X1.6)	■ (2.9X1.6)	■ (2.9X1.6)	■ (2.93X1.3)
40V	50mA					KTD1824E			KTD1824						
	200mA				2N3904V	2N3904E		2N2904E	2N3904U		2N2904U	2N2904U1			KN3904S 2N3904S
	600mA					KTN2222AE			KTN2222AU						KN2222AS KN4401S KTN2222AS
	2A														
45V	100mA								BC847W						BCW71 BCW72 BC847 BC850
	500mA								BC817W						BCX19
	800mA														BC817
	1.5A														
50V	150mA	KTC4075F	KTC601F	KTC801F	KTC4075V	KTC4075E	KTX401E KTC601E	KTC801E KTC811E KTC812E KTX102E	KTC4075 KTC4666	KTX401U KTX402U KTC601U	KTC801U KTC811U KTC812U KTX102U				KTC3295 KTC3875S KTC9014S
	200mA											KTD1854T			
	1A											KTC3551T			
	2A														
	3A											KTC3552T			
	5A														
	8A														
60V	100mA														BCV71/72
	500mA														MMBTA05
	1A														
	3A														
	4A														
	5A														
	8A														
65V	100mA								BC846W						BC846
80V	100mA														BSS64
	400mA														
	500mA														MMBTA06
	800mA														
	1A														
	1.5A														
	3A														
	4A														
	5A														
	6A														
100V	1A														KTC3571S
	2A														
	3A														
	5A														
	6A														
	7A														
	10A														
25A															

NPN Transistor ($V_{CE0} : 40V \sim 100V$)

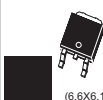

SOT-89	SOT-223	DKPAK	TO-92M	TO-92	TO-92L	IPAK	TO-126	TO-220IS	TO-3P(H)IS	TO-3P(N)
 (4.7X2.5)	 (6.8X1.8)	 (6.6X6.1)								
				KN3904 2N3904 2N3904C						
				KN2222A KN4401 KTN2222A						
							KTC3964			
				BC237 BC547 BC550						
				KTC200						
				BC337						
							BD135			
			KTC3113 KTC3199 KTC3199L	KTC945 KTC945B KTC3112 KTC3198 KTC3198L KTC9014			KTC3114			
KTD1003						KTD1028				
KTC4379		KTC2815D				KTC3209	KTC2815L	KTC2814		
KTD1624						KTD1347				
		KTC5706D					KTC5706L	KTC5706		
		KTC5707D					KTC5707L			
				BC637 MPSA05 MPSA27						
KTC4378 KTD2686				MPS651 KTC1008	KTD863					
		KTC2020D					KTC2020L	KTC2026 KTD2058 KTD2424		
								KTD1411	KTC1003	
		KTC5103D					KTC5103L	KTD1691		
				BC546						
KTC4374						KTC3227				
				MPSA06						
						KTC1006				
KTD1898						KTD1863				
							BD139			
								KTD2092		
								KTD1414 KTD2060 KTC2027		
								KTD2066		
								KTC4511		
								KTD1937		
		MJD112				KTD2854	MJD112L	TIP112F		
								TIP31CF		
		KTC2022D					KTC2022L	KTC2028 KTD1413 KTD2059		
								TIP41CF		
								KTD1415		
										TIP33C TIP35C TIP35CA

Note) : TO-3P(N)-E PKG

NPN Transistor (V_{CE0} : 120V ~ 800V)

V_{CE0}	I_c	TFSM	TFSV	TFS6	VSM	ESM	TESV	TES6	USM	USV	US6	TSM	TSV	TS6	SOT-23	SOT-89
		 (0.6 X0.8)	 (1.0X0.8)	 (1.0X0.8)	 (1.2 X0.8)	 (1.60X0.85)	 (1.6 X1.2)	 (1.6 X1.2)	 (2.0X1.25)	 (2.0X1.25)	 (2.0X1.25)	 (2.9X1.6)	 (2.9X1.6)	 (2.9X1.6)	 (2.93X1.3)	 (4.7X2.5)
120V	100mA								KTC4077						KTC3911S	
	800mA															KTC4373
	1A															
	1.2A															
	8A															
	10A															
140V	600mA														2N5550S	
	10A															
	12A															
150V	50mA															KTC4372
	10A															
160V	600mA														2N5551S	
	1A															
	1.5A															
	15A															
180V	100mA															
	1.5A															
	2A															
	5A															
200V	100mA															
	500mA														MMBTA43	
230V	1A															
	15A															
250V	50mA															
300V	50mA															
	100mA											KTC3207T				
	200mA															
	500mA														MMBTA42	
350V	300mA															
400V	300mA														MMBTA44	
	1.5A															
	2A															
	4A															
	5A															
	8A															
	12A															
500V	3A															
	5A															
530V	1.5A															
600V	1A															
800V	1.5A															
	3A															

NPN Transistor (V_{CE0} : 120V ~ 800V)

SOT-223	DPAK	TO-92M	TO-92	TO-92L	IPAK	TO-126	TO-220IS	TO-220AB	TO-3P(H)IS	TO-3P(N)	TO-3P-5
 (6.8X1.8)	 (6.6X6.1)										
			KTC3200 KTC3400								
				KTC1027							
	KTC2025D				KTC2025L	KTD600K					
						KTC2803					
										KTD718A	
									KTD998	KTC5197 KTD718 KTD718B	
			2N5550								
										KTC4468	
										KTD1047	
				KTC3206		KTC3423					
										KTD1510	KTD01N
			2N5551 2N5551C								
				KTC3228							
	KTC2983D				KTC2983L	KTC2800	KTC4370				
											KTD03N
				KTC1026							
								KTC4370A			
								KTD2061			
				KTC3467		KTC3502					
			MPSA43								
								KTC4793			
										KTC5242A	
			BF422								
			BF420								
				KTC3207		KTC2801 KTC3503	KTC3229				
						KTC4217					
			MPSA42								
			MPSA45 KTC3245								
PZTA44			MPSA44								
			KTC3003			MJE13003					
							MJE13005F	MJE13005			
							KTC4419	MJE13005D MJE5555			
							MJE13007F	MJE13007			
							MJE13009F	MJE13009			
							KTC4520F				
							KTC4521F				
			KTC3003HV			MJE13003HV					
	KTC3632D				KTC3632L						
							KTC5027F	KTC5027			

Note) : TO-3P(N)-E PKG

Small Signal General Purpose Transistor

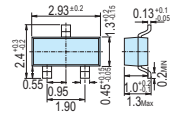
Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA2013F	F	KTC4074F	G	-20	-150	50	120	400	-5	-2	-0.3	-100	-10	80	-	-10	-1	TFSM	
KTA2014F	S	KTC4075F	L	-50	-150	50	70	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC4074F	G	KTA2013F	F	20	150	50	120	400	5	2	0.25	100	10	80	-	10	1		
KTC4075F	L	KTA2014F	S	50	150	50	70	700	6	2	0.25	100	10	80	-	10	1		
KTA2012V	SZ	KTC4072V	LZ	-12	-500	100	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10	VSM	
KTA2013V	U	KTC4074V	T	-20	-200	100	120	400	-5	-2	-0.3	-100	-10	80	-	-10	-1		
KTA2014V	S	KTC4075V	L	-50	-150	100	70	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC4072V	LZ	KTA2012V	SZ	12	500	100	270	680	2	10	0.25	200	10	-	320	2	10		
KTC4074V	T	KTA2013V	U	20	200	100	120	400	5	2	0.25	100	10	80	-	10	1		
KTC4075V	L	KTA2014V	S	50	150	100	70	700	6	2	0.25	100	10	80	-	10	1	ESM	
KTA2012E	SZ	KTC4072E	LZ	-12	-500	100	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10		
KTA2014E	S	KTC4075E	L	-50	-150	100	70	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC4072E	LZ	KTA2012E	SZ	12	500	100	270	680	2	10	0.25	200	10	-	320	2	10		
KTC4075E	L	KTA2014E	S	50	150	100	70	700	6	2	0.25	100	10	80	-	10	1	USM	
BC858W	3	BC848W	1	-30	-100	100	125	800	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC857W	3	BC847W	1	-45	-100	100	125	800	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC807W	1	BC817W	2	-45	-500	100	100	630	-1	-100	-0.7	-500	-50	80	-	-5	-10		
BC856W	3	BC846W	1	-65	-100	100	125	475	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC848W	1	BC858W	3	30	100	100	110	800	5	2	0.25	10	0.5	-	300	5	10		
BC847W	1	BC857W	3	45	100	100	110	800	5	2	0.25	10	0.5	-	300	5	10		
BC817W	2	BC807W	2	45	500	100	100	630	1	100	0.7	500	50	80	-	5	10		
BC846W	1	BC856W	3	65	100	100	110	450	5	2	0.25	10	0.5	-	300	5	10	SOT-23	
KTA2015	Z	KTC4076	W	-30	-500	100	70	240	-1	-100	-0.25	-100	-10	-	200	-6	-20		
KTA2014	S	KTC4075	L	-50	-150	100	70	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC4076	W	KTA2015	Z	30	500	100	70	240	1	100	0.25	100	10	-	300	6	20		
KTC4075	L	KTA2014	S	50	150	100	70	700	6	2	0.25	100	10	80	-	10	1		
KTA1505S	AZ	KTC3876S	W	-30	-500	150	70	400	-1	-100	-0.25	-100	-10	-	200	-6	-20		
KTA1298	I	KTC3265	E	-30	-800	200	100	320	-1	-100	-0.4	-500	-20	-	120	-5	-10		
KTA1504S	AS	KTC3875S	AL	-50	-150	150	70	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC3876S	W	KTA1505S	AZ	30	500	150	70	400	1	100	0.25	100	10	-	300	6	20		
KTC3265	E	KTA1298	I	30	800	200	100	320	1	100	0.5	500	20	-	120	5	10		
KTC3875S	AL	KTA1504S	AS	50	150	150	70	700	6	2	0.25	100	10	80	-	10	1		
KTC8050S	BK	KTC8550S	BL	30	800	350	100	300	1	50	0.5	500	20	-	120	5	10		
KTC8550S	BL	KTC8050S	BK	-30	-800	350	100	300	-1	-50	-0.5	-500	-50	-	120	-5	-10		
KTC9012S	BB	KTC9013S	BC	-30	-500	350	96	246	-1	-50	-0.25	-100	-10	150	-	-6	-20		
KTC9013S	BC	KTC9012S	BB	30	500	350	96	246	1	50	0.25	100	10	140	-	6	20		
KTC9014S	BD	KTC9015S	BE	50	150	350	100	1000	5	1	0.25	100	10	60	-	10	1		
KTC9015S	BE	KTC9014S	BD	-50	-150	350	100	600	-5	-1	-0.3	-100	-10	60	-	-10	-1		

Note) : Package Mounted on 99.5% Alumina 10 × 8 × 0.6mm. : hFE Grade

Small Signal General Purpose Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
BCW29	C1	BCW31	D1	-20	-100	350	110	220	-5	-2	-0.25	-10	-0.5	-	-	-	-		
BCW30	C2	BCW32	D2	-20	-100	350	200	450	-5	-2	-0.25	-10	-0.5	-	-	-	-		
BC858	3	BC848	1	-30	-100	350	125	800	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC859	4	BC849	2	-30	-100	350	125	475	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BCW69	H1	BCW71	K1	-45	-100	200	120	260	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BCW70	H2	BCW72	K2	-45	-100	200	215	500	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC857	3	BC847	1	-45	-100	350	125	800	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC860	4	BC850	2	-45	-100	350	125	475	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC807	5	BC817	6	-45	-800	350	100	630	-1	-100	-0.7	-500	-50	80	-	5	10		
BCW68	D	-	-	-45	-800	350	100	400	-1	-100	-0.3	-100	-10	100	-	-10	-80		
BCW89	H5	BCV71	K7	-60	-100	200	120	260	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC856	3	BC846	1	-65	-100	350	125	475	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BCW31	D1	BCW29	C1	20	100	350	110	220	5	2	0.25	10	0.5	-	-	-	-		
BCW32	D2	BCW30	C2	20	100	350	200	450	5	2	0.25	10	0.5	-	-	-	-		
BC848	1	BC858	3	30	100	350	110	800	5	2	0.25	10	0.5	-	300	5	10		
BC849	2	BC859	4	30	100	350	200	800	5	2	0.25	10	0.5	-	300	5	10		
BCW71	K1	BCW69	H1	45	100	200	110	220	5	2	0.25	10	0.5	-	300	5	10		
BCW72	K2	BCW70	H2	45	100	200	200	450	5	2	0.25	10	0.5	-	300	5	10		
BC847	1	BC857	3	45	100	350	110	800	5	2	0.25	10	0.5	-	300	5	10		
BC850	2	BC860	4	45	100	350	200	800	5	2	0.25	10	0.5	-	300	5	10		
BC817	6	BC807	5	45	800	350	100	630	1	100	0.7	500	50	100	-	5	10		
BCX19	U1	-	-	45	500	200	100	600	1	100	0.62	500	50	-	200	5	10		
BCV71	K7	BCW89	H5	60	100	200	110	220	5	2	0.25	10	0.5	-	300	5	10		
BCV72	K8	-	-	60	100	200	200	450	5	2	0.25	10	0.5	-	300	5	10		
BC846	1	BC856	3	65	100	350	110	450	5	2	0.25	10	0.5	-	300	5	10		
MMBTA55	AMX	MMBTA05	ACX	-60	-500	350	100	-	-1	-10	-0.25	-100	-10	50	-	1	100		
MMBTA56	ANX	MMBTA06	ADX	-80	-500	350	100	-	-1	-10	-0.25	-100	-10	50	-	1	100		
MMBTA05	ACX	MMBTA55	AMX	60	500	350	100	-	1	10	0.25	100	10	80	-	1	10		
MMBTA06	ADX	MMBTA56	ANX	80	500	350	100	-	1	10	0.25	100	10	100	-	2	10		
MPS8050S	BH	KTC8550S	BJ	25	150	350	85	300	1	100	0.5	800	80	100	190	10	50		
MPS8550S	BJ	KTC8050S	BH	-25	-150	350	85	300	-1	-100	-0.5	-800	-80	100	200	-10	-50		
KN3906S	ZAA	KN3904S	ZCA	-40	-200	350	60	-	-1	-0.1	-0.25	-10	-1	-	250	-20	-10		
KN2907S	ZDA	KN2222S	ZBA	-40	-600	350	35	-	-10	-0.1	-0.4	-150	-15	200	-	-20	-50		
KN4403S	ZWA	KN4401S	ZUA	-40	-600	350	30	-	-1	-0.1	-0.4	-150	-15	200	-	-10	-20		
KN2907AS	ZHA	KN2222AS	ZGA	-60	-600	350	75	-	-10	-0.1	-0.4	-150	-15	200	-	-20	-50		
KN2222S	ZBA	KN2907S	ZDA	30	600	350	35	-	10	0.1	0.4	150	15	250	-	20	20		
KN3904S	ZCA	KN3906S	ZAA	40	200	350	40	-	1	0.1	0.2	10	1	-	300	20	10		
KN2222AS	ZGA	KN2907AS	ZHA	40	600	350	35	-	10	0.1	0.3	150	15	300	-	20	20		
KN4401S	ZUA	KN4403S	ZWA	40	600	350	20	-	1	0.1	0.4	150	15	250	-	10	20		

SOT-23



Note) : Package Mounted on 99.5% Alumina 10 × 8 × 0.6mm, : hFE Grade

Small Signal General Purpose Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	@P _C (W)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA1664	R	KTC4376	P	-30	-800	1	100	320	-1	-100	-0.7	-500	-20	-	120	-5	-10	SOT-89	
KTA1663	H	KTC4375	G	-30	-1.5A	1	100	320	-2	-500	-2	-1.5A	-30	-	120	-2	-500		
KTA1668	J	KTC4378	T	-60	-1A	1	60	200	-2	-50	-0.7	-500	-50	-	150	-10	-50		
KTA1662	F	KTC4374	E	-80	-400	1	70	240	-2	-50	-0.4	-200	-20	-	120	-10	-10		
KTBD1260	Q	KTD1898	Z	-80	-1A	1	70	400	-3	-100	-0.4	-500	-50	-	100	-5	-50		
KTA1661	D	KTC4373	C	-120	-800	1	80	240	-5	-100	-1	-500	-50	-	120	-5	-100		
KTA1660	B	KTC4372	A	-150	-50	1	70	240	-5	-10	-0.8	-10	-1	-	120	-30	-10		
KTC4376	P	KTA1664	R	30	800	1	100	320	1	100	0.5	500	20	-	120	5	10		
KTC4375	G	KTA1663	H	30	1.5A	1	100	320	2	500	2	1.5A	30	-	120	2	500		
KTC4378	T	KTA1668	J	60	1A	1	100	320	2	50	0.5	500	50	-	150	10	50		
KTC4374	E	KTA1662	F	80	400	1	70	240	2	50	0.4	200	20	-	100	10	10		
KTD1898	Z	KTBD1260	Q	80	1A	1	70	400	3	500	0.4	500	20	-	100	10	50		

Note) @: Package Mounted on Ceramic Substrate (250mm² × 0.8t), : hFE Grade

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA501F	P		-50	-150	100	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1	TFSV	
KTC601F	Q		50	150	100	120	400	6	2	0.25	100	10	80	-	10	1		
KTA701F	P		-50	-150	100	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1	TFS6	
KTC801F	Q		50	150	100	120	400	6	2	0.25	100	10	80	-	10	1		
KTX101F	B		± 50	± 150	100	120	400	± 6	± 2	-0.3 0.25	± 100	± 100	80	-	± 10	± 1		
KTA501E	S		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1	TESV	
KTC601E	L		50	150	200	120	400	6	2	0.25	100	10	80	-	10	1		
KTX301E	C		-50	-150	100	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTX401E	C		50	150	100	120	400	6	2	0.25	100	10	80	-	10	1		
KTX201E	C		± 50	± 150	200	120	400	± 6	± 2	+0.25 -0.3	± 100	± 10	80	-	± 10	± 1		

Note) : hFE Grade

Small Signal General Purpose Transistor

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA701E	S		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1	TES6	
KTA702E	SZ		-12	-500	200	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10		
KTA711E	E		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTA712E	C		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC801E	L		50	150	200	120	400	6	2	0.3	100	10	80	-	10	1		
KTC802E	LZ		12	500	200	270	680	2	10	0.25	200	10	-	320	2	10		
KTC811E	V		50	150	200	120	400	6	2	0.25	100	10	80	-	10	1		
KTC812E	W		50	150	200	120	400	6	2	0.25	100	10	80	-	10	1		
KTX101E	B		± 50	± 150	200	120	400	± 6	± 2	+0.25 -0.3	± 100	± 10	80	-	± 10	± 1		
KTX103E	D7		± 12	± 500	200	270	680	± 2	± 10	± 0.25	± 200	± 10	-	320 260	± 2	± 10		
KTX102E	D		± 50	± 150	200	120	400	± 6	± 2	-0.3 +0.25	± 100	± 10	80	-	± 10	± 1		
KTX211E	BF		-12	-500	200	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10		
KTX212E	BG		12	500	200	270	680	2	10	0.25	200	10	-	320	2	10		
KTX213E	BH		-12	-500	200	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10		
KTX214E	BI		12	500	200	270	680	2	10	0.25	200	10	-	320	2	10		
KTX215E	BJ		-12	-500	200	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10		

Note) : hFE Grade

Small Signal General Purpose Transistor

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA501U	S		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1	USV	
KTC601U	L		50	150	200	120	400	6	2	0.25	100	10	80	-	10	1		
KTX201U	C		± 50	± 150	200	120	400	± 6	± 2	+0.25 -0.3	± 100	± 10	80	-	± 10	± 1		
KTX301U	C		-50	-150	100	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTX302U	C		-50	-150	100	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTX303U	CI		-12	-500	100	270	680	-2	-10	-250	-200	-10	-	260	-2	-10		
KTX401U	C		50	150	100	120	400	6	2	0.25	100	10	80	-	10	1		
KTX402U	C		50	150	100	120	400	6	2	0.25	100	10	80	-	10	1		
KTX403U	CK		12	500	100	270	680	2	10	250	200	10	-	320	2	10		

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA511T	S		-30	-500	900	70	240	-1	-100	-0.25	-100	-10	-	200	-6	-20	TSV	
KTC611T	L		30	500	900	70	240	1	100	0.25	100	10	-	300	6	20		
KTX111T	B		± 30	± 500	900	70	240	± 1	± 100	± 0.25	± 100	± 10	-	300 200	± 6	± 20	TS6	
KTA711T	S		-30	-500	900	70	240	-1	-100	-0.25	-100	-10	-	200	-6	-20		
KTC811T	L		30	500	900	70	240	1	100	0.25	100	10	-	300	6	20		

(Note) : Package mounted on a ceramic board (600mm² × 0.8mm), : hFE Grade

Small Signal General Purpose Transistor

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA701U	S		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1	US6	
KTA711U	E		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTA712U	F		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC801U	L		50	150	200	120	400	6	2	0.25	100	10	80	-	10	1		
KTC811U	V		50	150	200	120	400	6	2	0.3	100	10	80	-	10	1		
KTC812U	W		50	150	200	120	400	6	2	0.3	100	10	80	-	10	1		
KTX101U	B		± 50	± 150	200	120	400	± 6	± 2	0.25 -0.3	± 100	± 10	80	-	± 10	± 1		
KTX102U	D		± 50	± 150	200	120	400	± 6	± 2	-0.3 0.25	± 100	± 10	80	-	± 10	± 1		
KTX211U	BF		-12	-500	200	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10		
KTX212U	BG		12	500	200	270	680	2	10	0.25	200	10	-	260	2	10		
KTX213U	BH		-12	-500	200	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10		
KTX214U	BI		12	500	200	270	680	2	10	0.25	200	10	-	260	2	10		
KTX215U	BJ		-12	-500	150	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10		

Note) : hFE Grade

Current Regulating Device

Type No.	Mark	Internal Circuit	Max. Ratings			Output Current (mA)			Voltage Drop (V)		Package	Outline (Unit : mm)
			V _S (V)	I _O (mA)	P _D (mW)	Typ.	V _S (V)	V _{OUT} (V)	Typ.	I _O (mA)		
KCR401T	AC		40	65	900	10	10	8.6	0.8	10	TS6	
KCR402T	AA		40	65	900	20	10	8.6	0.8	20		
KCR405T	AB		40	65	900	50	10	8.6	0.8	50		

Small Signal Low Noise Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)					Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Max.	V _{CE} (V)	I _C (mA)	R _g (kΩ)	f (kHz)		
KTA2017	C	KTC4077	D	-120	-100	100	700	-6	-2	-0.3	-10	-1	10	-6	-0.1	10	1	USM	
KTC4666	T	-	-	50	150	100	3600	6	2	0.25	100	10	0.5	6	0.1	10	0.1		
KTC4077	D	KTA2017	C	120	100	100	700	6	2	0.3	10	1	10	6	0.1	10	1		
BSS63	T6	-	-	-100	-100	200	30	-1	-10	-0.25	-25	-2.5	-	-	-	-	-	SOT-23	
BSS64	U6	-	-	80	100	200	60	1	1	0.15	4	0.4	-	-	-	-	-		
KTA1517	AC	KTC3911S	AD	-120	-100	150	700	-6	-2	-0.3	-10	-1	10	-6	-0.1	10	1		
KTC3911S	AD	KTA1517	AC	120	100	150	700	6	2	0.3	10	1	10	6	0.1	10	1		

Note) : Min. : Typ. : hFE Grade

Small Signal Audio Muting Transistor

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)			R _{ON} (Ω)			Package	Outline (Unit : mm)	
			V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Typ.	V _{CE} (V)	I _C (mA)	Typ.	f (kHz)	I _B (mA)			V _{IN} (V)
KTC2875	M	-	20	300	150	350	1200	2	4	0.3	30	3	30	6	4	-	-	-	-	SOT-23	
KTD1304	MAX	-	20	300	200	200	800	2	4	0.25	100	10	60	10	1	0.6	1	1	0.3		
KTC814U	H		20	300	200	350	1200	2	4	0.3	30	3	30	6	4	-	-	-	-	US6	
KTC812T	M		20	300	900	350	1200	2	4	0.3	30	3	30	6	4	-	-	-	-	TS6	

Note) : Package mounted on a ceramic board (600mm² × 0.8mm), : hFE Grade

Small Signal High h_{FE} Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)		
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Typ.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.			V _{CE} (V)	I _C (mA)
KTD1824E	L	-	-	40	50	100	400	1000	2000	10	2	0.2	10	1	-	120	10	2	ESM	
KTD1824	L	-	-	40	50	100	400	1000	2000	10	2	0.2	10	1	-	120	10	2	USM	
KTC3295	T	-	-	50	150	150	600	-	3600	6	2	0.25	100	10	100	250	10	10	SOT-23	
KTD1003	L	-	-	50	1A	@1W	800	1500	3200	5	300	0.3	500	5	150	250	10	500	SOT-89	

Note) @ : Mounted on Ceramic Substrate (250mm² × 0.8), : hFE Grade

Small Signal Darlington Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	V _{CE} (V)	I _C (mA)			
MMBTA63	AGX	-	-	-30	-500	350	5000	-5	-10	-1.5	-100	-0.1	125	-5	-10	SOT-23		
MMBTA64	AFX	-	-	-30	-500	350	10000	-5	-10	-1.5	-100	-0.1	125	-5	-10			
MMBTA517	UA	-	-	30	400	350	30000	2	100	1	100	1	220	2	100			
MMBTA13	AIX	-	-	30	500	350	5000	5	10	1.5	100	0.1	125	5	10			
MMBTA14	AHX	-	-	30	500	350	10000	5	10	1.5	100	0.1	125	5	10			
KTB1234T	SY	KTD1854T	LY	-50	-200	900	5000	-2	-10	-1.5	-100	-0.1	-	-	-	TSM		
KTD1854T	LY	KTB1234T	SY	50	200	900	5000	2	10	1.5	100	0.1	-	-	-			
KTD2686	A2	-	-	60 ± 10	1A	1W@	2000	2	1A	1.2	500	1	-	-	-	SOT-89		

Note) : Package mounted on a ceramic board (600mm² × 0.8mm), : V_{CE(s)}
 @ : Package mounted on a FR4 board (Cu area : 645mm², glass epoxy, t=1.6mm)

Small Signal High Voltage Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)					Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	Max.	V _{CE} (V)		
KTA1520S	KMH	-	-	-100	-1A	150	100	300	-5	-500	-0.2	-250	-25	50	-	-	-5	-500	SOT-23	
2N5400S	ZN	-	-	-120	-600	350	40	180	-5	-10	-0.2	-10	-1	100	-	400	-10	-10		
2N5401S	ZE	-	-	-150	-600	350	60	240	-5	-10	-0.2	-10	-1	100	-	300	-10	-10		
2N5550S	ZP	-	-	140	600	350	60	250	5	10	0.15	10	1	100	-	300	10	10		
2N5551S	ZF	-	-	160	600	350	80	250	5	10	0.15	10	1	100	-	300	10	10		
MMBTA93	YW	MMBTA43	ABX	-200	-500	350	40	-	-10	-10	-0.5	-20	-2	50	-	-	-20	-10		
MMBTA92	YV	MMBTA42	AAX	-300	-500	350	40	-	-10	-10	-0.5	-20	-2	50	-	-	-20	-10		
MMBTA43	ABX	MMBTA93	YW	200	500	350	40	-	10	10	0.5	20	2	50	-	-	20	10		
MMBTA42	AAX	MMBTA92	YV	300	500	350	40	-	10	10	0.5	20	2	50	-	-	20	10		
MMBTA44	APX	-	-	400	300	350	50	200	10	10	0.5	10	1	20	-	-	10	10		
PZTA44	-	-	-	400	300	2W	50	200	10	10	0.5	10	1	-	-	-	-	-	SOT-223	
KTA1073T	SX	KTC3207T	LX	-300	-100	900	50	150	-10	-20	-0.5	-20	-2	50	55	-	-10	-20	TSM	
KTC3207T	LX	KTA1073T	SX	300	100	900	50	150	10	20	1	10	1	50	-	-	10	20		
KTA1759	AA	-	-	-400	-100	@1W	50	300	-10	-10	-0.5	-20	-2	-	-	-	-	-	SOT-89	
KTC4372	A	KTA1660	B	150	50	@1W	70	240	5	10	0.5	10	1	-	120	-	30	10		
KTC4373	C	KTA1661	D	120	800	@1W	80	240	5	100	1	500	50	-	120	-	5	100		

Note) : Package Mounted on 99.5% Alumina 10 × 8 × 0.6mm, @ : Mounted on Ceramic Substrate (250mm² × 0.8t), : hFE Grade, : Package mounted on a ceramic board (600mm² × 0.8mm).

Small Signal RF/ VHF/ UHF Transistor

Type No.	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (GHz)					Cob (pF)	NF (dB)	Gpe (dB)	Package	Outline (Unit : mm)		
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	Max.	V _{CE} (V)	I _C (mA)	Max.	V _{CB} (V)			Max.	f (GHz)
KTC3770F	7	12	100	50	50	250	10	20	-	-	-	5	7	-	10	20	1.0	10	2	1	-	TFSM	
KTC3730F	3	11	50	50	56	180	10	5	0.5	10	5	1.4	3.2	-	10	10	1.5	10	3.5	0.5	-		
KTC3730V	R	11	50	100	56	180	10	5	0.5	10	5	1.4	3.2	-	10	10	1.5	10	3.5	0.5	-	VSM	
KTC3770V	R	12	100	150	50	250	10	20	-	-	-	5	7	-	10	20	1.0	10	2	1	-		
KTC3620V	H	6	30	100	75	140	3	10	-	-	-	-	12	-	3	10	-	-	2.5	2	-		
KTC4080E	Q	30	20	100	40	200	6	1	-	-	-	0.3	0.55	-	6	1	-	-	5	0.1	15	ESM	
KTC4079	R	30	50	100	40	240	12	2	0.4	10	1	0.1	-	0.4	10	1	3.2	10	-	-	27	USM	
KTC4080	R	30	20	100	40	200	6	1	-	-	-	0.3	0.55	-	6	1	-	-	5	0.1	15		
KTC4081	VA	25	50	100	20	200	10	10	0.2	15	1.5	0.25	0.6	-	10	10	1.6	10	-	-	-		
KTC4082	HF	15	50	100	40	200	3	8	-	-	-	0.65	1.1	-	10	8	1.3	10	-	-	-		
KTC4021	HH	15	50	100	60	320	3	8	-	-	-	1.1	1.5	-	10	8	1.3	10	-	-	-		
KTC3730U	R	11	50	100	56	180	10	5	0.5	10	5	1.4	3.2	-	10	10	1.5	10	3.5	0.5	-		
KTC3770U	R	12	100	150	50	250	10	20	-	-	-	5	7	-	10	20	1.0	10	2	1	-		
KTC3790U	R	10	65	100	50	250	8	20	-	-	-	-	9	-	8	20	0.7	10	2.5	1	-		
KTC3600U	R	10	40	100	50	160	8	20	-	-	-	7	10	-	8	20	-	-	2.5	1	-		
KTC3620U	H	6	30	100	75	140	3	10	-	-	-	-	12	-	3	10	-	-	2.5	2	-		
KTC3660U	RA	4.5	15	67.5	50	150	3	10	-	-	-	13	16	-	3	10	0.65	3	1.4	1	-	USQ	
KTC813U	VA	15	50	200	60	320	3	8	-	-	-	1.1	1.5	-	10	8	1.3	10	-	-	-	US6	

Note) : Typ., : hFE Grade,

BJT

Small Signal RF/ VHF/ UHF Transistor

Type No.	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (GHz)				Cob (pF)		NF (dB)		Gpe (dB)	Package	Outline (Unit : mm)	
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Min.	Typ.	Max.	V _{CE} (V)	I _C (mA)	Max.	V _{CB} (V)	Max.	f (kHz)	Min.			
BFQ31	S2	15	100	200	20	-	1	3	0.4	10	1	0.6	-	-	10	4	1.7	10	6	0.06	-	
BF599	G2	25	25	200	40	-	10	7	-	-	-	0.55	-	10	7	0.35	10	-	-	-		
BFS20	G1	25	25	200	40	-	10	7	-	-	-	0.275	0.55	-	10	7	0.35	10	-	-	-	
KTC3121	VA	15	50	150	60	320	3	8	-	-	-	1.1	1.5	-	10	8	1.3	10	-	-	-	
KTC3600S	R	10	40	150	50	250	8	20	-	-	-	7	10	-	8	20	0.7	8	2.5	1G	-	
KTC3770S	R	12	100	150	50	250	10	20	-	-	-	5	7	-	10	20	1.0	10	2	1	-	
KTC3790S	R	10	65	150	50	250	8	20	-	-	-	-	9	-	8	20	-	-	2.5	1G	-	
KTC3882	HF	15	50	150	40	200	3	8	-	-	-	0.65	1.1	-	10	8	1.3	10	-	-	-	
KTC3883	AEO	15	200	150	55	140	1	10	0.25	10	1	0.5	-	-	10	10	3	10	-	-	-	
KTC3881S	HH	25	50	150	20	200	10	10	0.2	15	1.5	0.25	0.6	-	10	10	1.6	10	-	-	-	
KTC3880S	AQ	30	20	150	40	200	6	1	-	-	-	0.3	0.55	-	6	1	-	-	5	0.1	15	
KTC3879S	R	30	50	150	40	240	12	2	0.4	10	1	0.1	-	0.4	10	1	3.2	10	-	-	27	
KTC3878S	F	30	100	150	40	240	12	2	0.4	10	1	0.08	0.12	-	10	2	-	-	3.5	0.01	-	
KTC9011S	BA	30	50	350	54	198	5	1	0.4	10	1	0.1	-	-	10	1	2.0	10	-	-	-	
KTC9016S	BF	30	20	350	54	198	5	1	-	-	-	0.26	-	-	6	1	4.0	100	-	-	15	
KTC9018S	BG	30	20	350	54	198	5	1	-	-	-	0.5	0.8	-	10	8	4.0	100	-	-	15	
KTC3770T	R	12	100	900	50	250	10	20	-	-	-	5	7	-	10	20	1.0	10	2	1	-	TSM

Note) : Typ. , : hFE Grade, : Package mounted on a ceramic board (600mm² × 0.8mm)

Small Signal Strobe Flash Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (A)	@ P _C (W)	Min.	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Typ.	V _{CE} (V)	I _C (mA)			
KTA1001	K	-	-	-20	-3	1	100	320	-2	-500	-0.5	-3	-75	170	-2	-500	SOT-89
KTC4377	S	-	-	10	2	1	140	600	1	500	0.5	2	50	150	1	500	

Note) @ : Mounted on Ceramic Substrate (250mm² × 0.8), : hFE Grade

Small Signal Switching Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)	t _{on} (ns)	t _{off} (ns)	t _d (ns)	t _r (ns)	t _{stg} (ns)	t _f (ns)	Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Min.	Max.									
2N3906V	ZA	2N3904V	ZC	-40	-200	100	300	-1	-10	-0.25	-10	-1	250	-	-	35	35	225	75	VSM 	
2N3904V	ZC	2N3906V	ZA	40	200	100	300	1	10	0.2	10	1	300	-	-	35	35	200	50		
2N3906E	ZA	2N3904E	ZC	-40	-200	100	300	-1	-10	-0.25	-10	-1	250	-	-	35	35	225	75	ESM 	
2N3904E	ZC	2N3906E	ZA	40	200	100	300	1	10	0.2	10	1	300	-	-	35	35	200	50		
KTN2222AE	ZG	KTN2907AE	ZH	40	600	100	300	10	150	0.4	150	15	250	-	-	10	25	225	60	USM 	
KTN2907AE	ZH	KTN2222AE	ZG	-60	-600	100	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
2N3906U	ZA	2N3904U	ZC	-40	-200	100	300	-1	-10	-0.25	-10	-1	250	-	-	35	35	225	75	USM	
2N3904U	ZC	2N3906U	ZA	40	200	100	300	1	10	0.2	10	1	300	-	-	35	35	200	50		
KTN2907U	ZD	KTN2222U	ZB	-40	-600	100	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2907AU	ZH	KTN2222AU	ZG	-60	-600	100	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2369AU	ZK	-	-	15	500	100	120	1	10	0.25	10	1	500	12	15	-	-	13	-		
KTN2369U	ZI	-	-	15	500	100	120	1	10	0.25	10	1	500	12	-	-	-	-	-		
KTN2222U	ZB	KTN2907U	ZD	30	600	100	300	10	150	0.3	150	15	300	-	-	10	25	225	60		
KTN2222AU	ZG	KTN2907AU	ZH	40	600	100	300	10	150	0.4	150	15	250	-	-	10	25	225	60		

Small Signal Switching Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)							Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Max.	t _{on} (ns)	t _{off} (ns)	t _d (ns)	t _r (ns)	t _{stg} (ns)		
2N3906S	ZA	2N3904S	ZC	-40	-200	350	300	-1	-10	-0.25	-10	-1	250	-	-	35	35	225	75	SOT-23	
2N3904S	ZC	2N3906S	ZA	40	200	350	300	1	10	0.2	10	1	300	-	-	35	35	200	50		
KTN2907S	ZD	KTN2222S	ZB	-40	-600	350	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2907AS	ZH	KTN2222AS	ZG	-60	-600	350	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2369S	ZI	-	-	15	500	350	120	1	10	0.25	10	1	-	12	-	-	-	-			
KTN2369AS	ZK	-	-	15	500	350	120	1	10	0.25	10	1	-	12	15	-	-	13	-		
KTN2222S	ZB	KN2907S	ZDA	30	600	350	300	10	150	0.4	150	15	250	-	-	10	25	225	60		
KTN2222AS	ZG	KTN2907AS	ZH	40	600	350	300	10	150	0.3	150	15	300	-	-	10	25	225	60		
KTA1666	W	KTC4379	U	-50	-2A	@1W	240	-2	-500	-0.5	-1A	-50	120	0.1	-	-	-	1.0	0.1	SOT-89	
KTB1124	X	KTD1624	Y	-50	-3A	@1W	400	-2	-100	-0.7	-2A	-100	150	70	-	-	-	450	35		
KTC4379	U	KTA1666	W	50	2A	@1W	240	2	500	0.5	1A	50	120	0.1	-	-	-	1.0	0.1		
KTD1624	Y	KTB1124	X	50	3A	@1W	400	2	100	0.5	2A	100	150	70	-	-	-	650	35		
2N2904E	ZC	-	-	40	200	200	300	1	10	0.2	10	1	300	-	-	35	35	200	50	TES6	
2N2906E	ZA	-	-	-40	200	200	300	-1	-10	-0.25	-10	-1	250	-	-	35	35	225	75		
2N2904U	ZA		-	40	200	200	300	1	10	0.2	10	1	300	-	-	35	35	200	50	US6	
2N2904U1	ZB		-	40	200	200	300	1	10	0.2	10	1	300	-	-	35	35	200	50		

Note) : Typ. , : Package Mounted on 99.5% Alumina 10 × 8 × 0.6mm, @ : Mounted on Ceramic Substrate (250mm × 0.8t), : hFE Grade

Small Signal Low VCE(sat) Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)			
				V _{CEO} (V)	I _C (A)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Typ.	V _{CE} (V)	I _C (mA)						
KTA1531T	SA	KTC3531T	HA	-20	-1	900	120	400	-2	-50	-0.3	-500	-50	180	-10	-50	TSM			
KTA1532T	SB	KTC3532T	HB	-20	-1.5	900	200	560	-2	-100	-0.18	-750	-15	210	-2	-300				
KTA1535T	SD	KTC3535T	HD	-20	-3	900	200	560	-2	-500	-0.165	-1.5A	-30	160	-2	-500				
KTA1536T	SE	KTC3536T	HE	-20	-5	900	200	560	-2	-500	-0.30	-3A	-60	140	-2	-500				
KTA1542T	SH	KTC3542T	HH	-30	-3	900	200	560	-2	-500	-0.23	-1.5A	-30	380	-10	-500				
KTA1544T	SN	KTC3544T	HN	-30	-2	900	200	560	-2	-100	-0.6	-1.5A	-75	150	-10	-50				
KTA1551T	SK	KTC3551T	HK	-50	-1	900	200	560	-2	-100	-0.43	-500	-10	420	-10	-300				
KTA1552T	SL	KTC3552T	HL	-50	-3	900	200	560	-2	-100	-0.2	-1A	-50	360	-10	-500				
KTC3531T	HA	KTA1531T	SA	20	1	900	120	400	2	50	0.3	500	50	180	10	50				
KTC3532T	HB	KTA1532T	SB	20	1.5	900	200	560	2	100	0.2	750	15	210	2	300				
KTC3535T	HD	KTA1535T	SD	20	3	900	200	560	2	500	0.15	1.5A	30	180	2	500				
KTC3536T	HE	KTA1536T	SE	20	5	900	200	560	2	500	0.30	3A	60	160	2	500				
KTC3541T	HF	KTA1541T	SF	30	1.5	900	200	560	2	100	0.225	750	15	450	10	300				
KTC3542T	HH	KTA1542T	SH	30	3	900	200	560	2	500	0.18	1.5A	30	450	10	500				
KTC3543T	HJ	KTA1543T	SJ	30	5	900	200	560	2	500	0.165	2.5A	50	290	10	500				
KTC3544T	HN	KTA1544T	SN	30	2	900	200	560	2	100	0.4	1.5A	75	150	10	50				
KTC3551T	HK	KTA1551T	SK	50	1	900	200	560	2	100	0.19	500	10	420	10	300				
KTC3552T	HL	KTA1552T	SL	50	3	900	200	560	2	100	0.12	1A	50	380	10	500				
KTC3571S	KMB	KTA1571S	KMA	100	1	350	150	500	10	250	0.12	500	50	100	10	50			SOT-23	
KTA 1571S	KMA	KTC3571S	KMB	-100	-1	350	150	450	-5	-250	-0.12	-250	-25	100	-10	-50				
KTA1532U	2A	-	-	-12	-1.5	200	270	680	-2	-200	-0.2	-500	-25	400	-2	-200	USM			

Note) : Package mounted on a ceramic board (600mm × 0.8mm), : hFE Grade, : Package Mounted on 99.5% Alumina 10 × 8 × 0.6mm

Small Signal Low V_{CE(sat)} Transistor

Type No.	Mark	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (A)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Max.	I _C (mA)	I _B (mA)	Typ.	V _{CE} (V)		
KTX311T	C		-20	-1	900	120	400	-2	-50	-0.3	-500	-50	180	-10	-50	TSV	
* KTX312T	CM		-20	-1.5	900	200	560	-2	-100	0.18	-750	-15	210	-2	-300		
KTX411T	C		20	1	900	120	400	2	50	0.3	500	50	180	10	50		
* KTX412T	CN		20	1.5	900	200	560	2	100	0.2	750	15	210	2	300		
KTX511T	DA		-20	-1.5	900	200	560	-2	-100	-0.18	-750	-15	210	-2	-100	TS6	
* KTX512T	DB		-20	-3	900	200	560	-2	-500	-0.165	-1.5A	-30	160	-2	-500		

Note) : Package mounted on a ceramic board (600mm² × 0.8mm), : h_{FE} Grade * : Under development

General Purpose Power Transistor

Type No.	Complementary	Max. Ratings				h _{FE}				V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (A)	P _C (W)	P _C (W)	Min.	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Max.	I _C (mA)	I _B (mA)	Typ.	V _{CE} (V)		
KTA1242D	-	-20	-5	1	-	100	320	-2	-500	-0.5	-3A	-75	170	-2	-500	DPAK	
KTA1834D	KTC5001D	-20	-10	1	10	120	390	-2	-500	-0.25	-4A	-50	150	-5	-1.5A		
KTA1040D	KTC2020D	-60	-3	1	20	100	300	-5	-500	-1.0	-2A	-200	30	-5	-500		
KTA1042D	KTC2022D	-100	-5	-	20	70	240	-5	-1A	-2.0	-4A	-400	30	-5	-1A		
KTA1045D	KTC2025D	-120	-1	1	8	100	320	-5	-50	-0.4	-500	-50	110	-10	-50		
KTA1225D	KTC2983D	-160	-1.5	1	10	70	240	-5	-100	-1.5	-500	-50	100	-10	-100		
KTC3072D	-	20	5	1	-	120	700	2	500	0.4	3A	60	100	6	50		
KTC5001D	KTA1834D	20	10	1	10	120	390	2	500	0.25	4A	50	150	5	1.5A		
KTC2020D	KTA1040D	60	3	1	20	100	300	5	500	1.0	2A	200	30	5	500		
KTC5706D	-	50	5	1	15	200	560	2	500	0.24	2A	100	400	10	500		
KTC5707D	-	50	8	1	15	200	560	2	500	0.24	3.5A	175	330	10	500		
KTC2022D	KTA1042D	100	5	-	20	70	240	5	1A	2.0	4A	400	30	5	1A		
KTC2025D	KTA1045D	120	1	1	8	100	320	5	50	0.4	500	50	130	10	50		
KTC2983D	KTA1225D	160	1.5	1	10	70	240	5	100	1.5	500	50	100	10	100		

Note) : Ta=25 , : Tc=25

Switching Power Transistor

Type No.	Complementary	Max. Ratings				h _{FE}				V _{CE(sat)} (V)			f _T (MHz)	t _{on} (μs)	t _{fig} (μs)	t _f (μs)	Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (A)	P _C (W)	P _C (W)	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Max.	I _C (mA)	I _B (mA)	Typ.	Max.	Max.	Max.		
KTA1718D	KTC2815D	-50	-2	10	240	-2	-500	-0.5	-1	-50	100	0.1	1.0	0.1	DPAK			
KTA1385D	KTC5103D	-60	-5	15	400	-1	-2A	-0.3	-2	-200	-	1	2.5	1				
KTA1862D	-	-400	-2	10	180	-5	-100	-0.5	0.5	-100	18	0.2	1.8	0.4				
KTA1807D	-	-600	-1	20	120	-5	-100	-1.0	-0.3	-60	28	0.5	5.0	0.5				
KTC2815D	KTA1718D	50	2	10	240	2	500	0.5	1	50	100	0.1	1.0	0.1				
KTC5103D	KTA1385D	60	5	15	400	1	2A	0.3	2	200	-	1	2.5	1				

Note) : Typ, : Tc=25

Darlington Power Transistor

Type No.	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _r (MHz)			Package	Outline (Unit: mm)
		V _{CEO} (V)	I _C (A)	P _C (W)	Min.	V _{CE} (V)	I _C (A)	I _B (mA)	Max.	I _C (A)	I _B (mA)	Min.	V _{CE} (V)	I _C (mA)		
MJD117	MJD112	-100	-2	20	1000	-3	-2	-2	-2	-8	25	-10	-750	DPAK		
MJD112	MJD117	100	2	20	1000	3	2	2	2	8	25	10	750			

Note) : Tc=25

Small Signal General Purpose Transistor

Type No.	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA1021	KTC1020	-30	-500	400	100	240	-1	-100	-0.25	-100	-10	-	200	-6	-20	TO-92M	
KTA1272	KTC3204	-30	-800	400	100	320	-1	-100	-0.7	-500	-20	-	120	-5	-10		
KTA1267	KTC3199	-50	-150	400	70	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC1020	KTA1021	30	500	400	100	240	1	100	0.25	100	10	-	300	6	20		
KTC3204	KTA1272	30	800	400	100	320	1	100	0.5	500	20	-	120	5	10		
KTC3199	KTA1267	50	150	400	70	700	6	2	0.25	100	10	80	-	10	1		
BC309	BC239	-20	-50	625	180	800	-5	-2	-0.2	-10	-0.5	-	200	-5	-10	TO-92	
BC308	BC238	-25	-100	625	120	800	-5	-2	-0.6	-100	-5	-	200	-5	-10		
BC328	BC338	-25	-800	625	100	630	-1	-100	-0.7	-500	-50	-	100	-5	-10		
BC558	BC548	-30	-100	625	110	800	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC559	BC549	-30	-100	625	110	800	-5	-2	-0.6	-100	-5	-	300	-5	-10		
BC307	BC237	-45	-100	625	120	460	-5	-2	-0.6	-100	-5	-	200	-5	-10		
BC557	BC547	-45	-100	625	110	800	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC560	BC550	-45	-100	625	110	800	-5	-2	-0.6	-100	-5	-	300	-5	-10		
BC327	BC337	-45	-800	625	100	630	-1	-100	-0.7	-500	-50	-	100	-5	-10		
BC638	BC637	-60	-500	625	40	160	-2	-150	-0.5	-500	-50	-	200	-2	-50		
BC556	BC546	-65	-100	625	110	450	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC239	BC309	20	50	625	180	800	5	2	0.2	10	0.5	150	250	5	10		
BC238	BC308	20	100	625	120	800	5	2	0.6	100	5	150	250	5	10		
BC338	BC328	25	800	625	100	630	1	100	0.7	500	50	-	100	5	10		
BC548	BC558	30	100	625	110	800	5	2	0.6	100	5	-	150	5	10		
BC549	BC559	30	100	625	110	800	5	2	0.6	100	5	-	300	5	10		
BC237	BC307	45	100	625	120	460	5	2	0.6	100	5	150	250	5	10		
BC547	BC557	45	100	625	110	800	5	2	0.6	100	5	-	150	5	10		
BC550	BC560	45	100	625	110	800	5	2	0.6	100	5	-	300	5	10		
BC337	BC327	45	800	625	100	630	1	100	0.7	500	50	-	100	5	10		
BC637	BC638	60	500	625	40	160	2	150	0.5	500	50	-	200	2	50		
BC546	BC556	65	100	625	110	450	5	2	0.6	100	5	-	150	5	10		
MPS8550	MPS8050	-25	-1.5A	625	85	300	-1	-100	-0.5	-800	-80	100	200	-10	-50		
MPSA55	MPSA05	-60	-500	625	100	-	-1	-10	-0.25	-100	-10	50	-	-1	-100		
MPS751	MPS651	-60	-1A	625	60	200	-2	-50	-0.7	-500	-50	-	150	-10	-50		
MPSA56	MPSA06	-80	-500	625	100	-	-1	-10	-0.25	-100	-10	50	-	-1	-100		
MPS8050	MPS8550	25	1.5A	625	85	300	1	100	0.5	800	80	100	190	10	50		
MPS651	MPS751	60	1A	625	100	320	2	50	0.5	500	50	-	150	10	50		
MPSA06	MPSA56	80	500	625	100	-	1	10	0.25	100	10	100	-	2	10		
MPSA05	MPSA55	60	500	625	100	-	1	10	0.25	100	10	80	-	1	10		
KN3906	KN3904	-40	-200	625	60	-	-1	-0.1	-0.25	-10	-1	-	250	-20	-10		
KN2907	KN2222	-40	-600	625	35	-	-10	-0.1	-0.4	-150	-15	200	-	-20	-50		
KN4403	KN4401	-40	-600	625	30	-	-1	-0.1	-0.4	-150	-15	200	-	-10	-20		
KN2907A	KN2222A	-60	-600	625	75	-	-10	-0.1	-0.4	-150	-15	200	-	-20	-50		
KN2222	KN2907	30	600	625	35	-	10	0.1	0.4	150	15	250	-	20	20		
KN3904	KN3906	40	200	625	40	-	1	0.1	0.2	10	1	-	300	20	10		
KN2222A	KN2907A	40	600	625	35	-	10	0.1	0.3	150	15	300	-	20	20		
KN4401	KN4403	40	600	625	20	-	1	0.1	0.4	150	15	250	-	10	20		

Small Signal General Purpose Transistor

Type No.	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA539	KTC815	-45	-200	625	70	240	-1	-50	-0.5	-150	-15	100	-	-10	-10	TO-92	
KTB598	KTD545	-25	-1A	625	70	400	-2	-50	-0.3	-500	-50	-	180	-10	-50		
KTA1270	KTC3202	-30	-500	625	70	240	-1	-100	-0.25	-100	-10	-	200	-6	-20		
KTA1271	KTC3203	-30	-800	625	100	320	-1	-100	-0.7	-500	-20	-	120	-5	-10		
KTA1282	KTC3210	-30	-2A	625	100	320	-2	-500	-2	-1.5A	-30	-	120	-2	-500		
KTB1772	KTD1882	-30	-3A	625	100	400	-2	-1A	-0.5	-2A	-200	-	80	-5	-100		
KTA733	KTC945	-50	-150	625	90	600	-6	-2	-0.3	-100	-10	-	300	-10	-10		
KTA733B	KTC945B	-50	-150	625	70	400	-6	-2	-0.3	-100	-10	-	300	-10	-10		
KTA1266	KTC3198	-50	-150	625	70	240	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTA200	KTC200	-50	-500	625	70	240	-2	-50	-0.25	-100	-10	-	200	-6	-20		
KTA708	KTC1008	-60	-1A	625	60	200	-2	-50	-0.7	-500	-50	-	150	-10	-50		
KTC3266	KTA1296	20	2A	400	120	400	2	100	0.5	2A	100	-	120	2	500		
KTD545	KTB598	25	1A	625	70	400	2	50	0.3	500	50	-	180	10	50		
KTC3202	KTA1270	30	500	625	70	400	1	100	0.25	100	10	-	300	6	20		
KTC3203	KTA1271	30	800	625	100	320	1	100	0.5	500	20	-	120	5	10		
KTC3210	KTA1282	30	2A	625	100	320	2	500	2	1.5A	30	-	120	2	500		
KTC3211	KTA1283	25	1.5A	625	85	300	1	100	0.5	800	80	100	190	10	50		
KTD1882	KTB1772	30	3A	625	100	400	2	1A	0.5	2A	200	-	80	5	100		
KTC200	KTA200	45	500	625	70	240	2	50	0.25	100	10	-	300	6	20		
KTC815	KTA539	45	200	625	70	240	1	50	0.4	150	15	100	-	10	10		
KTC945	KTA733	50	150	625	90	600	6	2	0.25	100	10	80	300	10	10		
KTC945B	KTA733B	50	150	625	70	700	6	2	0.25	100	10	-	300	10	10		
KTC3198	KTA1266	50	150	625	70	700	6	2	0.25	100	10	80	-	10	1		
KTC1008	KTA708	60	1A	625	100	320	2	50	0.5	500	50	-	150	10	50		
KTA1283	KTC3211	-25	-1.5A	625	85	300	-1	-100	-0.5	-800	-80	100	190	-10	-50		
KTC9012	KTC9013	-30	-500	625	64	246	-1	-50	-0.25	-100	-10	150	-	-6	-20		
KTC8550	KTC8050	-30	-800	625	100	300	-1	-50	-0.5	-500	-50	-	120	-5	-10		
KTC9015	KTC9014	-50	-150	625	60	600	-5	-1	-0.3	-100	-10	60	-	-10	-1		
KTC9013	KTC9012	30	500	625	64	246	1	50	0.25	100	10	140	-	6	20		
KTC8050	KTC8550	30	800	625	100	300	1	50	0.5	500	20	-	120	5	10		
KTC9014	KTC9015	50	150	625	60	1000	5	1	0.25	100	10	60	-	10	1		
KTA1273	KTC3205	-30	-2A	1W	100	320	-2	-500	-2	-1.5A	-30	-	120	-2	-500		
KTB764	KTD863	-50	-1A	1W	60	320	-2	-50	-0.7	-500	-50	-	150	-10	-50		
KTA1274	KTC3227	-80	-400	1W	70	240	-2	-50	-0.4	-200	-20	-	100	-10	-10		
KTB1241	KTD1863	-80	-1A	1W	70	400	-3	-100	-0.4	-500	-50	-	100	-5	-50		
KTC3205	KTA1273	30	2A	1W	100	320	2	500	2	1.5A	30	-	120	2	500		
KTD863	KTB764	60	1A	1W	60	320	2	50	0.5	500	50	-	150	10	50		
KTC3227	KTA1274	80	400	1W	70	240	2	50	0.4	200	20	-	100	10	10		
KTC1006	-	80	800	1W	100	-	2	150	0.7	500	20	-	150	10	100		
KTD1863	KTB1241	80	1A	1W	70	400	3	500	0.4	500	20	-	100	10	50		
KTC1027	KTA1023	120	800	1W	80	240	5	100	1	500	50	-	120	5	100		

Small Signal Low Noise Transistor

Type No.	Complementary	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			NF (dB)					Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Max.	V _{CE} (V)	I _C (mA)	R _g (Ω)	f (kHz)		
KTC3199L	KTA1267L	50	150	400	700	6	2	0.25	100	10	6.0	6	0.1	10	0.1	TO-92M	
KTA1267L	KTC3199L	-50	-150	-400	700	-6	-2	-0.25	-100	-10	6.0	-6	-0.1	10	0.1		
KTA1268	KTC3200	-120	-100	625	700	-6	-2	-0.3	-10	-1	6.0	-6	-0.1	10	0.01	TO-92	
KTA2400	KTC3400	-120	-100	625	400	-6	-2	-0.3	-10	-1	10	6	-0.1	10	1		
KTC3198L	KTA1266L	50	150	625	700	6	2	0.25	100	10	6	6	0.1	10	0.1		
KTA1266L	KTC3198L	-50	-150	625	700	-6	-2	-0.25	-100	-10	6	6	0.1	10	0.1		
KTC3400	KTA2400	120	100	625	400	6	2	0.3	10	1	10	6	0.1	10	1		
KTC3200	KTA1268	120	100	625	700	6	2	0.3	10	1	6	6	0.1	10	0.01		

BJT

Small Signal Audio Muting Transistor

Type No.	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)		R _{ON} ()					Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Typ.	V _{CE} (V)	I _C (mA)	Typ.	f (kHz)	I _B (mA)	V _{IN} (V)		
KTC2876	-	20	300	400	200	1200	2	4	0.3	30	3	30	6	4	-	-	-	-	TO-92M	
KTD1303	-	20	300	400	200	800	2	4	0.25	100	10	60	10	1	0.6	1	1	0.3		
KTC2874	-	20	300	625	200	1200	2	4	0.3	30	3	30	6	4	-	-	-	-	TO-92	
KTD1302	-	20	300	625	200	800	2	4	0.25	100	10	60	10	1	0.6	1	1	0.3		

Small Signal High h_{FE} Transistor

Type No.	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)	
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Typ.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)			I _C (mA)
KTC3113	-	50	150	400	600	-	3600	6	2	0.25	100	10	100	250	10	10	TO-92L	
KTC3112	-	50	150	625	600	-	3600	6	2	0.25	100	10	100	250	10	10		
KTD1028	-	50	1A	1W	800	1500	3200	5	300	0.3	500	5	150	250	10	500		

Small Signal Darlington Transistor

Type No.	Complementary	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	V _{CE} (V)	I _C (mA)		
MPSA13	MPSA63	30	500	625	5,000	5	10	1.5	100	0.1	125	5	10	TO-92	
MPSA14	MPSA64	30	500	625	10,000	5	10	1.5	100	0.1	125	5	10		
MPSA62	-	-20	-500	625	20,000	-5	-10	-1	-10	-0.01	125	-5	-10		
MPSA63	MPSA13	-30	-500	625	5,000	-5	-10	-1.5	-100	-0.1	125	-5	-10		
MPSA64	MPSA14	-30	-500	625	10,000	-5	-10	-1.5	-100	-0.1	125	-5	-10		
MPSA77	-	-60	-500	625	10,000	-5	-100	-1.5	-100	-0.1	-	-	-		
BC516	-	-30	-500	625	30,000	-2	-100	-1	-100	-1	220	-2	-100		
BC517	-	30	500	625	30,000	2	100	1	100	1	220	5	10		

Note) :V_{CE(sat)}, :Typ.

Small Signal Strobe Flash Transistor

Type No.	Complementary	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)	
		V _{CEO} (V)	I _C (A)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Max.	I _C (A)	I _B (mA)	Typ.			V _{CE} (V)
KTC3255	-	10	-5	400	600	-	2	500	150	1.5	30	380	2	500	TO-92M	
KTA1243	-	-20	5	625	100	320	-2	-500	-0.5	-3	-75	170	-2	-500	TO-92	
KTD1146	-	20	5	625	120	700	2	500	0.4	3	60	100	6	50	TO-92	
KTA1241	-	-20	-5	1W	100	320	-2	-500	-0.5	-3	-75	170	-2	-500	TO-92L	
KTC3226	-	10	2	1W	140	600	1	500	0.5	2	50	150	1	500	TO-92L	
KTD1145	-	20	5	1W	140	600	2	500	0.5	3	60	120	10	50	TO-92L	

Small Signal RF/ VHF/ UHF Transistor

Type No.	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _r (MHz)			Cob (pF)		NF (dB)		Gpe (dB)	Package	Outline (Unit : mm)			
	V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	Max.	V _{CE} (V)	I _C (mA)	Max.			V _{CB} (V)	Max.	f (kHz)
KTC3195	30	20	400	40	200	6	1	-	-	-	300	550	-	6	1	-	-	5	100	18	TO-92M	
KTC3193	30	50	400	40	240	12	2	0.4	10	1	100	-	-	10	1	3.2	10	-	-	27	TO-92M	
KTC3191	30	100	400	40	240	12	2	0.4	10	1	80	120	-	10	2	-	-	3.5	1	-	TO-92M	
KTC2347	15	50	625	20	-	3	8	-	-	-	650	1100	-	10	8	1.5	10	-	-	-	TO-92	
KTC3197	25	50	625	20	200	12.5	12.5	0.2	15	1.5	300	-	-	12.5	12.5	2	10	-	-	28	TO-92	
KTC3194	30	20	625	40	200	6	1	-	-	-	300	550	-	6	1	-	-	5	100	15	TO-92	
KTC3192	30	50	625	40	240	12	2	0.4	10	1	100	-	400	10	1	3.2	10	-	-	27	TO-92	
KTC3190	30	100	625	40	240	12	2	0.4	10	1	80	120	-	10	2	-	-	3.5	1	-	TO-92	
KTC9016	30	20	625	40	198	5	1	-	-	-	260	-	-	6	1	-	-	4	100k	15	TO-92	
KTC9018	30	20	625	40	198	5	1	-	-	-	500	800	-	10	8	-	-	4	100k	15	TO-92	
KTC9011	30	50	625	40	198	5	1	0.4	10	1	100	-	400	10	1	2.0	10	-	-	-	TO-92	

Note) : Typ.

Small Signal Switching Transistor

Type No.	Complementary	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)	t _{on} (ns)	t _{off} (ns)	t _d (ns)	t _r (ns)	t _{stg} (ns)	t _f (ns)	Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Max.	Max.	Max.	Max.	Max.		
2N3906	2N3904	-40	-200	625	300	-1	-10	-0.25	-10	-1	250	-	-	35	35	225	75	TO-92	
2N3906C	2N3904C	-40	-200	625	300	-1	-10	-0.25	-10	-1	250	-	-	35	35	225	75		
2N3904	2N3906	40	200	625	300	1	10	0.2	10	1	300	-	-	35	35	200	50		
2N3904C	2N3906C	40	200	625	300	1	10	0.2	10	1	300	-	-	35	35	200	50		
KTH2369	-	15	500	625	120	1	10	0.25	10	1	500	12	-	-	-	-	-		
KTH2369A	-	15	500	625	120	1	10	0.25	10	1	500	12	15	-	-	13	-		
KTN2907	KTN2222	-40	-600	625	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2907A	KTN2222A	-60	-600	625	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2369	-	15	500	625	120	1	10	0.25	10	1	500	12	-	-	-	-	-		
KTN2369A	-	15	500	625	120	1	10	0.25	10	1	500	12	15	-	-	13	-		
KTN2222	KTN2907	30	600	625	300	10	150	0.4	150	15	250	-	-	10	25	225	60		
KTN2222A	KTN2907A	40	600	625	300	10	150	0.3	150	15	300	-	-	10	25	225	60		
KTA1281	KTC3209	-50	-2A	1W	240	-2	-500	-0.5	-1A	-50	100	0.1	-	-	-	1.0	0.1	TO-92L	
KTB985	KTD1347	-50	-3A	1W	400	-2	-100	-0.7	-2A	-100	150	70	-	-	-	450	35		
KTC3209	KTA1281	50	2A	1W	240	2	500	0.5	1A	50	100	0.1	-	-	-	1.0	0.1		
KTD1347	KTB985	50	3A	1W	400	2	100	0.5	2A	100	150	70	-	-	-	650	35		

Note) : Typ.

General Purpose Power Transistor

Type No.	Complementary	Max. Ratings				h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (A)	P _C (W)	P _C (W)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA1242L	-	-20	-5	1	-	100	320	-2	-500	-0.5	-3A	-75	-	170	-2	-500	IPAK	
KTA1834L	KTC5001L	-20	10	1	10	120	390	-2	-500	-0.25	-4A	-50	-	150	-5	-1.5A		
KTA1040L	KTC2020L	-60	-3	1	20	100	300	-5	-500	-1	-2A	-200	-	30	-5	-500		
KTA1042L	KTC2022L	-100	-5	-	20	70	240	5	1A	-2	-4A	-400	-	30	-5	-1A		
KTA1045L	KTC2025L	-120	-1	1	8	100	320	-5	-50	-0.4	-500	-50	-	130	-10	-50		
KTA1225L	KTC2983L	-160	-1.5	1	10	70	240	-5	-100	-1.5	-500	-50	-	100	-10	-100		
KTC3072L	-	20	5	1	-	120	700	2	500	0.4	3A	60	20	100	6	50		
KTC5001L	KTA1834L	20	10	1	10	120	390	2	500	0.25	4A	50	-	150	5	1.5A		
KTC2020L	KTA1040L	60	3	1	20	100	300	5	500	1	2A	200	-	30	5	500		
KTC2022L	KTA1042L	100	5	-	20	70	240	5	1A	2	4A	400	-	30	5	1A		
KTC2025L	KTA1045L	120	1	1	8	100	320	5	50	0.4	500	50	-	130	10	50		
KTC2983L	KTA1225L	160	1.5	1	10	70	240	5	100	1.5	500	50	-	100	10	100		
KTC5706L	-	50	5	1	15	200	560	2	500	0.24	2A	100	-	400	10	500		
KTC5707L	-	50	8	1	15	200	560	2	500	0.24	3.5A	175	-	330	10	500		
KTA1709	-	-20	-5	1.5	-	100	320	-2	-500	-0.5	-3A	-75	-	170	-2	-500	TO-126	
KTA1705	KTC2804	-30	-3	1.5	10	70	240	-2	-500	-0.8	-2A	-200	-	100	-2	-500		
KTB772	KTD882	-30	-3	1.5	10	100	400	-2	-1A	-0.5	-2A	-200	-	80	-5	-100		
KTB1151	KTD1691	-60	-5	1.5	20	160	400	-1	-2A	-0.3	-2A	-200	-	-	-	-		
KTB631K	KTD600K	-120	-1	1.5	8	100	320	-5	-50	-0.4	-500	-50	-	110	-10	-50		
KTA1704	KTC2803	-120	-1.2	1.5	20	100	320	-5	-50	-0.4	-500	-50	-	110	-10	-50		
KTA1700	KTC2800	-160	-1.5	1.5	10	70	240	-5	-100	-1.5	-500	-50	-	100	-10	-100		
KTA1360	KTC3423	-150	-0.5	1.5	-	70	240	-5	-10	-0.8	-10	-1	-	120	-30	-10		
KTA1381	KTC3503	-300	-0.1	1.5	7	60	200	-10	-10	-0.6	-20	-2	-	150	-30	-10		
KTA1703	-	-400	-0.5	1.5	10	60	200	-5	-100	-1	-100	-10	-	-	-	-		
KTC2804	KTA1705	30	3	1.5	10	70	240	2	500	0.8	2A	200	-	100	2	500		
KTD882	KTB772	30	3	1.5	10	100	400	2	1A	0.5	2A	200	-	90	5	100		
KTC5706	-	50	5	1.5	20	200	560	2	500	0.24	2A	100	-	400	10	500		
KTD1691	KTB1151	60	5	1.5	20	160	400	1	2A	0.3	2A	200	-	-	-	-		
KTD600K	KTB631K	120	1	1.5	8	100	320	5	50	0.4	500	50	-	130	10	50		
KTC2803	KTA1704	120	1.2	1.5	20	100	320	5	50	0.4	500	50	-	110	10	50		
KTC2800	KTA1700	160	1.5	1.5	10	70	240	5	100	1.5	500	50	-	100	10	100		
KTC3502	-	200	0.1	1.5	5	70	240	5	10	0.6	20	2	-	150	30	10		
KTC2801	-	300	0.1	1.5	-	30	200	10	20	1	10	1	75	95	20	20		
KTC3423	KTA1360	150	0.5	1.5	5	70	240	5	10	0.5	10	1	-	120	30	10		
KTC3503	KTA1381	300	0.1	1.5	7	60	200	10	10	0.6	20	2	-	150	30	10		
KTC4217	-	300	0.2	1.5	10	60	200	10	10	0.6	20	2	-	70	10	10		
BD135	BD136	45	1.5	1.25	10	40	250	2	150	0.5	500	50	-	190	5	50		
BD136	BD135	-45	-1.5	1.25	10	40	250	-2	-150	-0.5	-500	-50	-	160	-5	-50		
BD139	BD140	80	1.5	1.25	10	40	250	2	150	0.5	500	50	-	190	5	50		
BD140	BD139	-80	-1.5	1.25	10	40	250	-2	-150	-0.5	-500	-50	-	160	-5	-50		
KTA1658	KTC4369	-30	-3	-	15	70	240	-2	-500	-0.8	-2A	-200	-	100	-2	-500	TO-220IS	
KTA1046	KTC2026	-60	-3	2	25	100	300	-5	-500	-1	-2A	-200	-	30	-5	-500		
KTB1366	KTD2058	-60	-3	2	25	60	200	-5	-500	-1	-2A	-200	-	9	-5	-500		
KTB1368	KTD2060	-80	-4	-	25	40	240	-5	-500	-1.7	-3A	-300	-	9	-5	-500		
KTB1370	-	-80	-7	-	30	70	240	-1	-1A	-0.5	-4A	-400	-	10	-4	-1A		
KTA1049	KTC2028	-100	-5	-	30	70	240	-5	-1A	-2	-4A	-400	-	30	-5	-1A		
KTB1367	KTD2059	-100	-5	-	30	40	240	-5	-1A	-2	-4A	-400	-	5	-5	-1A		

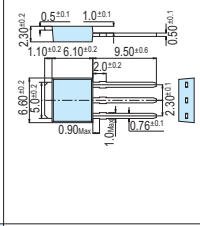
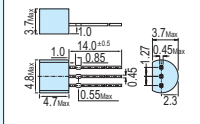
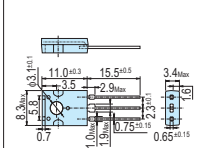
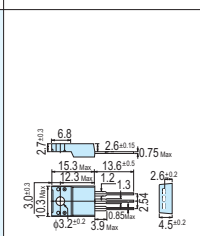
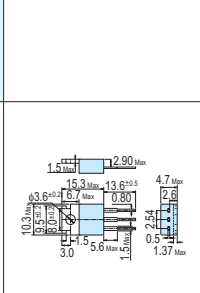
Note) : Typ. : Ta=25 , : Tc=25

General Purpose Power Transistor

Type No.	Complementary	Max. Ratings				h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (A)	P _C (W)	P _C (W)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
KTA1659	KTC4370	-160	-1.5	-	20	70	240	-5	-100	-1.5	-500	-50	-	100	-10	-100		
KTA1659A	KTC4370A	-180	-1.5	-	20	70	240	-5	-100	-1.5	-500	-50	-	100	-10	-100		
KTB1369	KTD2061	-180	-2	-	20	70	240	-10	-400	-1	-500	-50	-	100	-10	-400		
KTA1725	KTC4511	-80	-6	-	30	55	160	-4	-2A	-0.5	-2A	-200	-	20	-12	-500		
KTA1837	KTC4793	-230	-1	2	20	100	320	-5	-100	-1.5	-500	-50	-	70	-10	-100		
KTC4369	KTA1658	30	3	-	15	70	240	2	500	0.8	2A	200	-	100	2	500		
KTC2026	KTA1046	60	3	2	25	100	300	5	500	1	2A	200	-	30	5	500		
KTD2058	KTB1366	60	3	2	25	60	200	5	500	1	2A	200	-	3	5	500		
KTD2060	KTB1368	80	4	-	25	40	240	5	500	1.5	3A	300	-	8	5	500		
KTC4511	KTA1725	80	6	-	30	55	160	4	2A	0.5	2A	200	-	20	12	500		
KTC2027	-	80	4	-	25	40	240	5	500	1.5	3A	300	-	30	5	500		
KTC2028	KTA1049	100	5	-	30	70	240	5	1A	2	4A	400	-	30	5	1A		
KTD2059	KTB1367	100	5	-	30	40	240	5	1A	2	4A	400	-	12	5	1A		
KTC4370	KTA1659	160	1.5	-	20	70	240	5	100	1.5	500	50	-	100	10	100		
KTC4370A	KTA1659A	180	1.5	-	20	70	240	5	100	1.5	500	50	-	100	10	100		
KTD2061	KTB1369	180	2	-	20	70	240	10	400	1	500	50	-	100	10	400		
KTC1003	-	200	4	-	30	30	150	5	1A	1	4A	400	-	8	5	500		
KTC4793	KTA1837	230	1	2	20	100	320	5	100	1.5	500	50	-	70	10	100		
KTC3229	-	300	0.1	2	-	30	200	10	20	1	10	1	75	95	20	20		
TIP32CF	TIP31CF	-100	-3	2	25	10	50	-4	-3A	-1.2	-3A	-375	3	-	-10	-500		
TIP42CF	TIP41CF	-100	-6	2	25	15	75	-4	-3A	-1.5	-6A	-600	3	-	-10	-500		
TIP31CF	TIP32CF	100	3	2	25	10	50	4	3A	1.2	3A	375	3	-	10	500		
TIP41CF	TIP42CF	100	6	2	25	15	75	4	3A	1.5	6A	600	3	-	10	500		
KTB778	KTD998	-120	-10	-	80	55	160	-5	-1A	-2.5	-5A	-500	-	10	-5	-1A		
KTD998	KTB778	120	10	-	80	55	160	5	1A	2.5	5A	500	-	12	5	1A		
TIP34C	TIP33C	-100	-10	-	80	55	160	-4	-2A	-1	-4A	-400	-	20	-12	-500		
TIP36C	TIP35C	-100	-25	-	125	55	160	-5	-1.5A	-1.8	-15A	-1.5A	3	-	-5	-1A		
TIP33C	TIP34C	100	10	-	80	55	160	4	2A	1	4A	400	-	20	12	500		
TIP35C	TIP36C	100	25	-	125	55	160	5	1.5A	1.8	15A	1.5A	3	-	5	1A		
KTA1940	KTC5197	-120	-10	-	80	55	160	-5	-1A	-2	-6A	-600	-	30	-5	-1A		
KTB688A	KTD718A	-120	-8	-	80	55	160	-5	-1A	-2.5	-6A	-600	-	30	-5	-1A		
KTB688	KTD718	-120	-10	-	80	55	160	-5	-1A	-2.5	-5A	-500	-	10	-5	-1A		
KTA1695	KTC4468	-140	-10	-	100	55	-	-4	-3A	-0.5	-5A	-500	-	20	-12	-500		
KTB817	KTD1047	-140	-12	-	100	60	200	-5	-1A	-2.5	-5A	-500	-	15	-5	-1A		
KTA1962A	KTC5242A	-230	-15	-	130	55	160	-5	-1A	-3	-8A	-800	-	30	-5	-1A		
KTC5197	KTA1940	120	10	-	80	55	160	5	1A	2	6A	600	-	30	5	1A		
KTD718A	KTB688A	120	8	-	80	55	160	5	1A	2.5	6A	600	-	30	5	1A		
KTD718	KTB688	120	10	-	80	55	160	5	1A	2.5	5A	500	-	12	5	1A		
KTC4468	KTA1695	140	10	-	100	55	-	4	3A	0.5	5A	500	-	20	12	500		
KTD1047	KTB817	140	12	-	100	60	200	5	1A	2.5	5A	500	-	15	5	1A		
KTC5242A	KTA1962A	230	15	-	130	55	160	5	1A	3	8A	800	-	30	5	1A		
TIP36A	TIP35A	-100	-25	-	125	55	160	-5	-1.5A	-1.8	-15A	-1.5A	3	-	-5	-1A		
TIP36CA	TIP35CA	-100	-25	-	125	55	160	-5	-1.5A	-1.8	-15A	-1.5A	3	-	-5	-1A		
TIP35A	TIP36A	100	25	-	125	55	160	5	1.5A	1.8	15A	1.5A	3	-	5	1A		
TIP35CA	TIP36CA	100	25	-	125	55	160	5	1.5A	1.8	15A	1.5A	3	-	5	1A		
KTB688B	KTD718B	-120	-10	-	80	55	160	-5	-1A	-2.5	-5A	-500	-	10	-5	-1A		
KTD718B	KTB688B	120	10	-	80	55	160	5	1A	2.5	5A	500	-	12	5	1A		

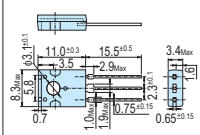
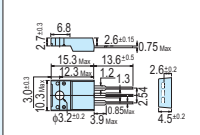
Note) : T_a=25 , : T_c=25 , : V_{CEO}

Switching Power Transistor

Type No.	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _r (MHz)	t _{on} (μs)			t _{stg} (μs)		t _r (μs)		Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (A)	I _B (mA)	Typ.	Typ.	Max.	Typ.	Max.	Typ.	Max.			
KTA1718L	KTC2815L	-50	-2	10	70	240	-2	-500	-0.5	-1	-50	100	0.1	-	1.0	-	0.1	-			
KTA1385L	KTC5103L	-60	-5	15	160	400	-1	-2A	-0.3	-2	-200	-	0.2	1	1.1	2.5	0.2	1			
KTA1862L	-	-400	-2	10	56	180	-5	-100	-0.5	0.5	-100	18	0.2	-	1.8	-	0.4	-			
KTA1807L	-	-600	-1	20	40	120	-5	-100	-1.0	-0.3	-60	28	0.1	0.5	3.5	5.0	0.08	0.5			
KTC2815L	KTA1718L	50	2	10	70	240	2	500	0.5	1	50	100	0.1	-	1.0	-	0.1	-			
KTC5103L	KTA1385L	60	5	15	160	400	1	2A	0.3	2	200	-	0.2	1	1.1	2.5	0.2	1			
KTC3632L	KTA1807L	600	1	@1.0	30	120	5	100	1.0	0.3	60	28	0.1	0.5	3.5	5.0	0.08	0.5			
KTC3003	-	400	1.5	@1.1	9	38	2	500	0.5	0.5	100	4	-	1.1	-	4	-	0.7			
KTC3003HV	-	530	1.5	@1.1	20	40	10	400	0.8	0.5	100	4	1.1	-	-	4	-	0.7			
MJE13003	-	400	1.5	20	9	38	2	500	0.5	0.5	100	4	-	1.1	-	4	-	0.7			
MJE13003HV	-	530	1.5	20	20	40	10	400	0.8	0.5	100	4	1.1	-	-	4	-	0.7			
KTA1715	KTC2814	-50	-2	10	70	240	-2	-500	-0.5	-1	-50	100	-0.1	-	1	-	0.1	-			
KTC2814	KTA1715	50	2	10	70	240	2	500	0.5	1	50	100	0.1	-	1	-	0.1	-			
MJE13005F	-	400	4	30	18	35	5	1A	0.5	1	200	4	-	0.8	-	4	-	0.9			
MJE13005DF	-	400	5	30	18	35	5	1A	0.5	1	200	4	-	0.15	-	5	-	0.8			
MJE13007F	-	400	8	40	15	50	5	2A	1	2	400	4	-	1.6	-	3	-	0.7			
MJE13009F	-	400	12	50	8	28	5	5A	1	5	1A	4	-	1.1	-	3	-	0.7			
KTC4419	-	400	5	30	10	40	4	1.5A	0.5	1.5	300	20	-	1	-	2.5	-	0.5			
KTC4520F	-	500	3	30	15	50	5	300	1	1.5	300	18	-	0.5	-	3	-	0.3			
KTC4521F	-	500	5	40	15	50	5	600	1	3	600	18	-	0.5	-	3	-	0.3			
KTC5027F	-	800	3	40	15	40	5	200	2	1.5	300	15	-	0.5	-	3	-	0.3			
MJE13005	-	400	4	75	18	35	5	1A	0.5	1	200	4	-	0.8	-	4	-	0.9			
MJE13005D	-	400	5	75	18	35	5	1A	0.5	1	200	4	-	0.15	-	5	-	0.8			
MJE13007	-	400	8	80	15	50	5	2A	1	2	400	4	-	1.6	-	3	-	0.7			
MJE13009	-	400	12	100	8	28	5	5A	1	5	1A	4	-	1.1	-	3	-	0.7			
KTC5027	-	800	3	50	10	40	5	200	2	1.5	300	15	-	0.5	-	3	-	0.3			

Note) : Min., : Tc=25 , @ : Ta=25

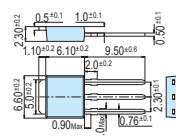
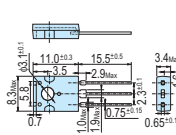
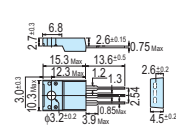
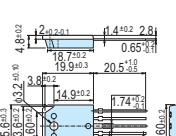
High h_{FE} Power Transistor

Type No.	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			t _r (μs)	t _{on} (μs)	t _{stg} (μs)	t _f (μs)	Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	V _{CE} (V)	I _C (A)	Max.	I _C (A)	I _B (mA)	Typ.	Typ.	Typ.	Typ.		
KTC3114	-	50	0.15	1.5	600	3600	6	2mA	0.25	0.1	10	250	-	-	-		
KTC3964	-	40	2	1.5	500	-	1	0.4	0.5	0.3	1	220	1.0	3.0	1.2		
KTD2092	-	80	3	25	500	1500	1	0.5	0.35	1	10	140	0.5	5	0.7		
KTD2066	-	80	5	30	500	1500	1	1	0.35	3	30	130	0.6	3	0.8		
KTD1937	-	80	10	40	500	1500	1	1	0.35	5	50	70	0.6	6	1		

Note) : Tc=25

Darlington Power Transistor

BJT

Type No.	Complementary	Max. Ratings			h _{FE}					V _{CE(sat)} (V)			Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Typ.	Max.	V _{CE} (V)	I _C (A)	Max.	I _C (A)	I _B (mA)		
MJD117L	MJD112L	-100	-2	20	1000	12000	-	-3	-2	-2	-2	-8	IPAK	
MJD112L	MJD117L	100	2	20	1000	12000	-	3	2	2	2	8		
KTD1411	-	60	4	15	3000	-	-	2	1	1.5	3	30	TO-126	
TIP117F	TIP112F	-100	-2	20	1000	-	-	-4	-1	-2.5	-2	-8	TO-220IS	
TIP112F	TIP117F	100	2	20	1000	-	-	4	1	2.5	2	8		
KTB1424	KTD2424	-60	-3	25	3000	-	-	-2	-1	-1.5	-3	-30		
KTB1423	-	-120	-5	30	1000	-	-	-3	-0.5	-2	-3	-12		
KTD2424	KTB1424	60	3	25	3000	-	-	2	1	1.5	3	30		
KTD1414	-	80	4	25	2000	-	-	2	1	1.5	3	6		
KTD1413	-	100	5	25	2000	6000	15000	2	3	1.5	3	3		
KTD1415	-	100	7	30	2000	-	15000	3	3	1.5	3	6		
KTB2510	KTD1510	-150	-10	100	5000	12000	20000	-4	-7	-2.5	-7	-7		
KTD1510	KTB2510	150	10	100	5000	12000	20000	4	7	2.5	7	7		
*KTD01P	KTD01N	-150	-10	100	5000	-	20000	-4	-6	-2	-6	-6	TO-3P-5	
*KTD01N	KTD01P	150	10	100	5000	-	20000	4	6	2	6	6		
*KTD03P	KTD03N	-160	-15	160	5000	-	20000	-4	-10	-2	-10	-10		
*KTD03N	KTD03P	160	15	160	5000	-	20000	4	10	2	10	10		

Note) : Tc=25 , * : Under development

Junction Field Effect Transistor (General Purpose) [SMD Type]

Type No.	Mark	Max. Ratings			I _{DSS} (μA)			G _v (dB)					Package	Outline (Unit : mm)
		V _{GDO} (V)	I _G (mA)	P _D (mW)	I _{DSS}	V _{DS} (V)	V _{GS} (V)	Typ.	V _{DD} (V)	C _g (pF)	R _L (kΩ)	f (kHz)		
KTK597TV	F	-20	10	100	150~350	5	0	-3	4.5	15	1	1	TVSM	
KTK598TV	B	-20	10	100	150~350	2	0	1.4	2	5	2.2	1		
KTK597V	F	-20	10	100	150~350	5	0	-3	4.5	15	1	1	VSM	
KTK598V	B	-20	10	100	150~350	2	0	1.4	2	5	2.2	1		
KTK597E	F	-20	10	100	150~350	5	0	-3	4.5	15	1	1	ESM	
KTK597	F	-20	10	100	150~350	5	0	-3	4.5	15	1	1	USM	
KTK596S	F	-20	10	150	150~350	5	0	-3	4.5	15	1	1	SOT-23	

Note) : Idss Grade * : Under development

Junction Field Effect Transistor (General Purpose) [THD Type]

Type No.	Max. Ratings			I _{DSS} (μA)			G _v (dB)					Package	Outline (Unit : mm)	
	V _{GDO} (V)	I _G (mA)	P _D (mW)	I _{DSS}	V _{DS} (V)	V _{GS} (V)	Typ.	V _{DD} (V)	C _g (pF)	R _L (kΩ)	f (kHz)			
KTK596	-20	10	400	150	350	5	0	-3	4.5	15	1	1	TO-92M	

Junction Field Effect Transistor (High Gain) [SMD Type]

Type No.	Mark	Max. Ratings			I _{SUPPLY} (μA)			G _v (dB)					Package	Outline (Unit : mm)
		V _{SUPPLY} (V)	I _{SUPPLY} (mA)	P _D (mW)	Min.	Max.	V _{SUPPLY} (V)	Typ.	V _{SUPPLY} (V)	C _{IN} (pF)	R _L (kΩ)			
KTK599TV	D	6	10	100	70	350	2	1.5	2	5	2.2	TVSM		
*KTK697TV	A	6	10	100	70	250	2	8	2	5	2.2			
*KTK698TV	C	6	10	100	70	250	2	13	2	5	2.2			

Note) : Idss Grade * : Under development

Complex Junction Field Effect Transistor (Built in R-C Filter)

Type No.	Mark	Internal Circuit	Max. Ratings			I _{SUPPLY} (μA)		GV (dB)	C1 (pF)	R1 (Ω)	C2 (pF)	Package	Outline (Unit : mm)
			V _{SUPPLY} (V)	I _{SUPPLY} (mA)	P _D (mW)	Min.	Max.						
*KTX598TF	B		5	1	100	70	350	1.4	15	200	33	TFSQ	
*KTX597E	B		5	1	100	150	350	-3	15	200	33	TESV	
*KTX597U	B		5	1	100	150	350	-3	15	200	33	USV	

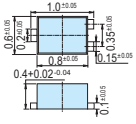
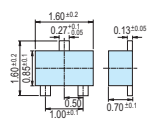
Note) * : Under development

RF Junction Field Effect Transistor

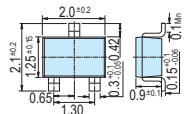
Type No.	Mark	Max. Ratings			Y _{fs} [mS]				I _{DSS} [mA]				Ciss[PF]		Package	Outline (Unit : mm)
		V _{GDO} (V)	I _G (mA)	P _C (mW)	Typ.	V _{DS} (V)	V _{GS} (V)	f (kHz)	Min.	Max.	V _{DS} (V)	V _{GS} (V)	Typ.	f (MHz)		
KTK951S	J	-22	10	150	30	5	0	1	12	40	5	0	9	1	SOT-23	

Note) : Idss Grade,

Small Signal General Purpose BRT

Type No.				Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
NPN	Mark	PNP	Mark	V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)				
KRC151F	FA	KRA151F	GA	20	50	50	30	-	5	10	0.15	5	0.25	4.7	4.7	TFSM	
KRC152F	FB	KRA152F	GB	20	50	50	60	-	5	10	0.15	5	0.25	10	10		
KRC153F	FC	KRA153F	GC	20	50	50	100	-	5	10	0.15	5	0.25	22	22		
KRC154F	FD	KRA154F	GD	20	50	50	100	-	5	10	0.15	5	0.25	47	47		
KRC157F	FG	KRA157F	GG	20	50	50	120	-	5	10	0.15	5	0.25	10	47		
KRC158F	FH	KRA158F	GH	20	50	50	120	-	5	10	0.15	5	0.25	22	47		
KRC159F	FJ	KRA159F	GJ	20	50	50	100	-	5	10	0.15	5	0.25	47	22		
KRC160F	FK	KRA160F	GK	20	50	50	300	-	5	1	0.15	5	0.25	4.7	-		
KRC161F	FL	KRA161F	GL	20	50	50	300	-	5	1	0.15	5	0.25	10	-		
KRC163F	FN	KRA163F	GN	20	50	50	300	-	5	1	0.15	5	0.25	22	-		
KRC164F	FP	KRA164F	GP	20	50	50	300	-	5	1	0.15	5	0.25	47	-		
KRC401V	NA	KRA301V	PA	50	100	100	30	55	5	10	0.3	10	0.5	4.7	4.7		
KRC402V	NB	KRA302V	PB	50	100	100	50	80	5	10	0.3	10	0.5	10	10		
KRC403V	NC	KRA303V	PC	50	100	100	70	120	5	10	0.3	10	0.5	22	22		
KRC404V	ND	KRA304V	PD	50	100	100	80	200	5	10	0.3	10	0.5	47	47		
KRC405V	NE	KRA305V	PE	50	100	100	80	200	5	10	0.3	10	0.5	2.2	47		
KRC406V	NF	KRA306V	PF	50	100	100	80	200	5	10	0.3	10	0.5	4.7	47		
KRC407V	NH	KRA307V	PH	50	100	100	80	150	5	10	0.3	10	0.5	10	47		
KRC408V	NI	KRA308V	PI	50	100	100	80	150	5	10	0.3	10	0.5	22	47		
KRC409V	NJ	KRA309V	PJ	50	100	100	70	140	5	10	0.3	10	0.5	47	22		
KRC410V	NK	KRA310V	PK	50	100	100	120	-	5	1	0.3	10	0.5	4.7	-		
KRC411V	NM	KRA311V	PM	50	100	100	120	-	5	1	0.3	10	0.5	10	-		
KRC412V	NN	KRA312V	PN	50	100	100	120	-	5	1	0.3	10	0.5	100	-		
KRC413V	NO	KRA313V	PO	50	100	100	120	-	5	1	0.3	10	0.5	22	-		
KRC414V	NP	KRA314V	PP	50	100	100	120	-	5	1	0.3	10	0.5	47	-		
KRC416V	N2	KRA316V	P2	50	100	100	33	-	5	5	0.3	10	0.5	1	10		
KRC417V	N4	KRA317V	P4	50	100	100	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC418V	N5	KRA318V	P5	50	100	100	33	-	5	10	0.3	10	0.5	2.2	10		
KRC419V	N6	KRA319V	P6	50	100	100	30	-	5	10	0.3	10	0.5	4.7	10		
KRC420V	N7	KRA320V	P7	50	100	100	24	-	5	10	0.3	10	0.5	10	4.7		
KRC421V	N8	KRA321V	P8	50	100	100	33	-	5	5	0.3	10	0.5	47	10		
KRC422V	N9	KRA322V	P9	50	100	100	62	-	5	5	0.3	5	0.25	100	100		
KRC401E	NA	KRA301E	PA	50	100	100	30	55	5	10	0.3	10	0.5	4.7	4.7	ESM	
KRC402E	NB	KRA302E	PB	50	100	100	50	80	5	10	0.3	10	0.5	10	10		
KRC403E	NC	KRA303E	PC	50	100	100	70	120	5	10	0.3	10	0.5	22	22		
KRC404E	ND	KRA304E	PD	50	100	100	80	200	5	10	0.3	10	0.5	47	47		
KRC405E	NE	KRA305E	PE	50	100	100	80	200	5	10	0.3	10	0.5	2.2	47		
KRC406E	NF	KRA306E	PF	50	100	100	80	200	5	10	0.3	10	0.5	4.7	47		
KRC407E	NH	KRA307E	PH	50	100	100	80	150	5	10	0.3	10	0.5	10	47		
KRC408E	NI	KRA308E	PI	50	100	100	80	150	5	10	0.3	10	0.5	22	47		
KRC409E	NJ	KRA309E	PJ	50	100	100	70	140	5	10	0.3	10	0.5	47	22		
KRC410E	NK	KRA310E	PK	50	100	100	120	-	5	1	0.3	10	0.5	4.7	-		
KRC411E	NM	KRA311E	PM	50	100	100	120	-	5	1	0.3	10	0.5	10	-		
KRC412E	NN	KRA312E	PN	50	100	100	120	-	5	1	0.3	10	0.5	100	-		
KRC413E	NO	KRA313E	PO	50	100	100	120	-	5	1	0.3	10	0.5	22	-		
KRC414E	NP	KRA314E	PP	50	100	100	120	-	5	1	0.3	10	0.5	47	-		
KRC416E	N2	KRA316E	P2	50	100	100	33	-	5	5	0.3	10	0.5	1	10		
KRC417E	N4	KRA317E	P4	50	100	100	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC418E	N5	KRA318E	P5	50	100	100	33	-	5	10	0.3	10	0.5	2.2	10		
KRC419E	N6	KRA319E	P6	50	100	100	30	-	5	10	0.3	10	0.5	4.7	10		
KRC420E	N7	KRA320E	P7	50	100	100	24	-	5	10	0.3	10	0.5	10	4.7		
KRC421E	N8	KRA321E	P8	50	100	100	33	-	5	5	0.3	10	0.5	47	10		
KRC422E	N9	KRA322E	P9	50	100	100	62	-	5	5	0.3	5	0.25	100	100		

Small Signal General Purpose BRT

Type No.				Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
NPN	Mark	PNP	Mark	V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)				
KRC401	NA	KRA301	PA	50	100	100	30	55	5	10	0.3	10	0.5	4.7	4.7	USM	
KRC402	NB	KRA302	PB	50	100	100	50	80	5	10	0.3	10	0.5	10	10		
KRC403	NC	KRA303	PC	50	100	100	70	120	5	10	0.3	10	0.5	22	22		
KRC404	ND	KRA304	PD	50	100	100	80	200	5	10	0.3	10	0.5	47	47		
KRC405	NE	KRA305	PE	50	100	100	80	200	5	10	0.3	10	0.5	2.2	47		
KRC406	NF	KRA306	PF	50	100	100	80	200	5	10	0.3	10	0.5	4.7	47		
KRC407	NH	KRA307	PH	50	100	100	80	150	5	10	0.3	10	0.5	10	47		
KRC408	NI	KRA308	PI	50	100	100	80	150	5	10	0.3	10	0.5	22	47		
KRC409	NJ	KRA309	PJ	50	100	100	70	140	5	10	0.3	10	0.5	47	22		
KRC410	NK	KRA310	PK	50	100	100	120	-	5	1	0.3	10	0.5	4.7	-		
KRC411	NM	KRA311	PM	50	100	100	120	-	5	1	0.3	10	0.5	10	-		
KRC412	NN	KRA312	PN	50	100	100	120	-	5	1	0.3	10	0.5	100	-		
KRC413	NO	KRA313	PO	50	100	100	120	-	5	1	0.3	10	0.5	22	-		
KRC414	NP	KRA314	PP	50	100	100	120	-	5	1	0.3	10	0.5	47	-		
KRC416	N2	KRA316	P2	50	100	100	33	-	5	5	0.3	10	0.5	1	10		
KRC417	N4	KRA317	P4	50	100	100	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC418	N5	KRA318	P5	50	100	100	33	-	5	10	0.3	10	0.5	2.2	10		
KRC419	N6	KRA319	P6	50	100	100	30	-	5	10	0.3	10	0.5	4.7	10		
KRC420	N7	KRA320	P7	50	100	100	24	-	5	10	0.3	10	0.5	10	4.7		
KRC421	N8	KRA321	P8	50	100	100	33	-	5	5	0.3	10	0.5	47	10		
KRC422	N9	KRA322	P9	50	100	100	62	-	5	5	0.3	5	0.25	100	100		
KRC101S	NA	KRA101S	PA	50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7		
KRC102S	NB	KRA102S	PB	50	100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC103S	NC	KRA103S	PC	50	100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC104S	ND	KRA104S	PD	50	100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC105S	NE	KRA105S	PE	50	100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC106S	NF	KRA106S	PF	50	100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC107S	NH	KRA107S	PH	50	100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC108S	NI	KRA108S	PI	50	100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC109S	NJ	KRA109S	PJ	50	100	200	70	140	5	10	0.3	10	0.5	47	22		
KRC110S	NK	KRA110S	PK	50	100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC111S	NM	KRA111S	PM	50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC112S	NN	KRA112S	PN	50	100	200	120	-	5	1	0.3	10	0.5	100	-		
KRC113S	NO	KRA113S	PO	50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC114S	NP	KRA114S	PP	50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC116S	N2	KRA116S	P2	50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC117S	N4	KRA117S	P4	50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC118S	N5	KRA118S	P5	50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC119S	N6	KRA119S	P6	50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		
KRC120S	N7	KRA120S	P7	50	100	200	24	-	5	10	0.3	10	0.5	10	4.7		
KRC121S	N8	KRA121S	P8	50	100	200	33	-	5	5	0.3	10	0.5	47	10		
KRC122S	N9	KRA122S	P9	50	100	200	62	-	5	5	0.3	5	0.25	100	100		

Small Signal General Purpose BRT

Type No.	Mark	Internal circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)				
KRA551F	HA		-20	-50	50	30	-	-5	-10	-0.15	-5	-0.25	4.7	4.7	TFSV	
KRA552F	HB		-20	-50	50	60	-	-5	-10	-0.15	-5	-0.25	10	10		
KRA553F	HC		-20	-50	50	100	-	-5	-10	-0.15	-5	-0.25	22	22		
KRA554F	HD		-20	-50	50	120	-	-5	-10	-0.15	-5	-0.25	47	47		
KRA557F	HG		-20	-50	50	120	-	-5	-10	-0.15	-5	-0.25	10	47		
KRA558F	HH		-20	-50	50	120	-	-5	-10	-0.15	-5	-0.25	22	47		
KRA559F	HJ		-20	-50	50	100	-	-5	-10	-0.15	-5	-0.25	47	22		
KRA560F	HK		-20	-50	50	300	-	-5	-1	-0.15	-5	-0.25	4.7	-		
KRA561F	HL		-20	-50	50	300	-	-5	-1	-0.15	-5	-0.25	10	-		
KRA563F	HN		-20	-50	50	300	-	-5	-1	-0.15	-5	-0.25	22	-		
KRA564F	HP		-20	-50	50	300	-	-5	-1	-0.15	-5	-0.25	47	-		
KRC651F	JA		20	50	50	30	-	5	10	0.15	5	0.25	4.7	4.7		
KRC652F	JB		20	50	50	60	-	-5	10	0.15	5	0.25	10	10		
KRC653F	JC		20	50	50	100	-	-5	10	0.15	5	0.25	22	22		
KRC654F	JD		20	50	50	120	-	-5	10	0.15	5	0.25	47	47		
KRC657F	JG		20	50	50	120	-	-5	10	0.15	5	0.25	10	47		
KRC658F	JH		20	50	50	120	-	-5	10	0.15	5	0.25	22	47		
KRC659F	JJ		20	50	50	100	-	-5	10	0.15	5	0.25	47	22		
KRC660F	JK		20	50	50	300	-	-5	1	0.15	5	0.25	4.7	-		
KRC661F	JL		20	50	50	300	-	-5	1	0.15	5	0.25	10	-		
KRC663F	JN		20	50	50	300	-	-5	1	0.15	5	0.25	22	-		
KRC664F	JP		20	50	50	300	-	-5	1	0.15	5	0.25	47	-		

Note) P_c/P_D= Total Rating, : P_c

Small Signal General Purpose BRT

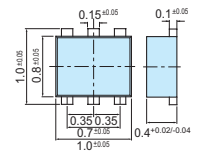
Type No.	Mark	Internal circuit (Top view)	Max. Ratings				h _{FE}				V _{CE(sat)} (V)						R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)							
			V _{CEO} (V)		I _C (mA)		P _D (mW)	Min.		Typ.	V _{CE} (V)		I _C (mA)		Max.						I _B (mA)						
			Q1	Q2	Q1	Q2		Q1	Q2		Q1	Q2	Q1	Q2	Q1	Q2					Q1	Q2	Q1	Q2			
KRX102F	BM		20	-20	50	-50	100	120	120	-	-	5	-5	10	-10	0.15	-0.15	15	-5	0.02	-0.25	47	10	47	47	TFSV	

Note) P_D= Total Rating

Small Signal General Purpose BRT

Type No.	Mark	Internal circuit (Top view)	Max. Ratings			h _{FE}		V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.				
KRA751F	KA		-20	-50	50	30	-	-5	-10	-0.15	-5	-0.25	4.7	4.7
KRA752F	KB		-20	-50	50	60	-	-5	-10	-0.15	-5	-0.25	10	10
KRA753F	KC		-20	-50	50	100	-	-5	-10	-0.15	-5	-0.25	22	22
KRA754F	KD		-20	-50	50	120	-	-5	-10	-0.15	-5	-0.25	47	47
KRA757F	KG		-20	-50	50	120	-	-5	-10	-0.15	-5	-0.25	10	47
KRA758F	KH		-20	-50	50	120	-	-5	-10	-0.15	-5	-0.25	22	47
KRA759F	KJ		-20	-50	50	100	-	-5	-10	-0.15	-5	-0.25	47	22
KRA760F	KK		-20	-50	50	300	-	-5	-1	-0.15	-5	-0.25	4.7	-
KRA761F	KL		-20	-50	50	300	-	-5	-1	-0.15	-5	-0.25	10	-
KRA763F	KN		-20	-50	50	300	-	-5	-1	-0.15	-5	-0.25	22	-
KRA764F	KP		-20	-50	50	300	-	-5	-1	-0.15	-5	-0.25	47	-
KRC851F	LA		20	50	50	30	-	5	10	0.15	5	0.25	4.7	4.7
KRC852F	LB		20	50	50	60	-	5	10	0.15	5	0.25	10	10
KRC853F	LC		20	50	50	100	-	5	10	0.15	5	0.25	22	22
KRC854F	LD		20	50	50	120	-	5	10	0.15	5	0.25	47	47
KRC857F	LG		20	50	50	120	-	5	10	0.15	5	0.25	10	47
KRC858F	LH		20	50	50	120	-	5	10	0.15	5	0.25	22	47
KRC859F	LJ		20	50	50	100	-	5	10	0.15	5	0.25	47	22
KRC860F	LK		20	50	50	300	-	5	1	0.15	5	0.25	4.7	-
KRC861F	LL		20	50	50	300	-	5	1	0.15	5	0.25	10	-
KRC863F	LN		20	50	50	300	-	5	1	0.15	5	0.25	22	-
KRC864F	LP		20	50	50	300	-	5	1	0.15	5	0.25	47	-
KRA721F	MA		-20	-50	50	30	-	-5	-10	-0.15	-5	-0.25	4.7	4.7
KRA722F	MB		-20	-50	50	60	-	-5	-10	-0.15	-5	-0.25	10	10
KRA723F	MC		-20	-50	50	100	-	-5	-10	-0.15	-5	-0.25	22	22
KRA724F	MD		-20	-50	50	120	-	-5	-10	-0.15	-5	-0.25	47	47
KRA727F	MG		-20	-50	50	120	-	-5	-10	-0.15	-5	-0.25	10	47
KRA728F	MH		-20	-50	50	120	-	-5	-10	-0.15	-5	-0.25	22	47
KRA729F	MJ		-20	-50	50	100	-	-5	-10	-0.15	-5	-0.25	47	22
KRA730F	MK			-20	-50	50	300	-	-5	-1	-0.15	-5	-0.25	4.7
KRA731F	ML	-20		-50	50	300	-	-5	-1	-0.15	-5	-0.25	10	-
KRA733F	MN	-20		-50	50	300	-	-5	-1	-0.15	-5	-0.25	22	-
KRA734F	MP	-20		-50	50	300	-	-5	-1	-0.15	-5	-0.25	47	-
KRC821F	NA		20	50	50	30	-	5	10	0.15	5	0.25	4.7	4.7
KRC822F	NB		20	50	50	60	-	5	10	0.15	5	0.25	10	10
KRC823F	NC		20	50	50	100	-	5	10	0.15	5	0.25	22	22
KRC824F	ND		20	50	50	120	-	5	10	0.15	5	0.25	47	47
KRC827F	NG		20	50	50	120	-	5	10	0.15	5	0.25	10	47
KRC828F	NH		20	50	50	120	-	5	10	0.15	5	0.25	22	47
KRC829F	NJ		20	50	50	100	-	5	10	0.15	5	0.25	47	22
KRC830F	NK		20	50	50	300	-	5	1	0.15	5	0.25	4.7	-
KRC831F	NL		20	50	50	300	-	5	1	0.15	5	0.25	10	-
KRC833F	NN		20	50	50	300	-	5	1	0.15	5	0.25	22	-
KRC834F	NP		20	50	50	300	-	5	1	0.15	5	0.25	47	-

TFS6



Note) P_C/P_D= Total Rating. : P_C

Small Signal General Purpose BRT

Type No.	Mark	Internal circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)		R2 (kΩ)		Package	Outline (Unit : mm)	
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Q1	Q2	Q1	Q2			
KRA551E	PA		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	TESV				
KRA552E	PB		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10					
KRA553E	PC		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22					
KRA554E	PD		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47					
KRA555E	PE		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47					
KRA556E	PF		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47					
KRA557E	PH		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47					
KRA558E	PI		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47					
KRA559E	PJ		-50	-100	200	70	140	-5	-10	-0.3	-10	-0.5	47	22					
KRA560E	PK		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-	TESV				
KRA561E	PM		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-					
KRA562E	PN		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	100	-					
KRA563E	PO		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-					
KRA564E	PP		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-					
KRA566E	P2		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10	TESV				
KRA567E	P4		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2					
KRA568E	P5		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10					
KRA569E	P6		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10					
KRA570E	P7		-50	-100	200	24	-	-5	-10	-0.3	-10	-0.5	10	4.7					
KRA571E	P8		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	47	10					
KRA572E	P9		-50	-100	200	62	-	-5	-5	-0.3	-5	-0.25	100	100					
KRC651E	NA			50	100	200	30	55	5	10	0.3	10	0.5	4.7			4.7	TESV	
KRC652E	NB			50	100	200	50	80	5	10	0.3	10	0.5	10			10		
KRC653E	NC	50		100	200	70	120	5	10	0.3	10	0.5	22	22					
KRC654E	ND	50		100	200	80	200	5	10	0.3	10	0.5	47	47					
KRC655E	NE	50		100	200	80	200	5	10	0.3	10	0.5	2.2	47					
KRC656E	NF	50		100	200	80	200	5	10	0.3	10	0.5	4.7	47					
KRC657E	NH	50		100	200	80	150	5	10	0.3	10	0.5	10	47					
KRC658E	NI	50		100	200	80	150	5	10	0.3	10	0.5	22	47					
KRC659E	NJ	50		100	200	70	140	5	10	0.3	10	0.5	47	22					
KRC660E	NK		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-	TESV				
KRC661E	NM		50	100	200	120	-	5	1	0.3	10	0.5	10	-					
KRC662E	NN		50	100	200	120	-	5	1	0.3	10	0.5	100	-					
KRC663E	NO		50	100	200	120	-	5	1	0.3	10	0.5	22	-					
KRC664E	NP		50	100	200	120	-	5	1	0.3	10	0.5	47	-					
KRC666E	N2		50	100	200	33	-	5	5	0.3	10	0.5	1	10	TESV				
KRC667E	N4		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2					
KRC668E	N5		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10					
KRC669E	N6		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10					
KRC670E	N7		50	100	200	24	-	5	10	0.3	10	0.5	10	4.7					
KRC671E	N8		50	100	200	33	-	5	5	0.3	10	0.5	47	10					
KRC672E	N9		50	100	200	62	-	5	5	0.3	5	0.25	100	100					

Note) P_C/P_D= Total Rating, : P_C

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)						R1 (kΩ)		R2 (kΩ)		Package	Outline (Unit : mm)						
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.		Typ.		V _{CE} (V)		I _C (mA)		Max.		I _B (mA)		Q1	Q2								
						Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2			Q1	Q2				
KRX101E	BA		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10	TESV	
KRX102E	BM		50	-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	10	47	47		
KRX103E	BB		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22		
KRX104E	BN		50	-50	100	-100	200	80	30	200	-	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	4.7	47	10		
KRX105E	BE		50	-50	100	-100	200	120	120	-	-	5	-5	1	-1	0.3	-0.3	10	-10	0.5	-0.5	4.7	4.7	-	-		

Note) P_C/P_D= Total Rating, : P_C

BJT

Small Signal General Purpose BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)				
KRA721E	JA		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	TES6	
KRA722E	JB		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA723E	JC		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA724E	JD		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA725E	JE		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA726E	JF		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA727E	JH		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA728E	JI		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47		
KRA729E	JJ		-50	-100	200	70	140	-5	-10	-0.3	-10	-0.5	47	22		
KRA730E	JK		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-		
KRA731E	JM		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA732E	JN		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	100	-		
KRA733E	JO		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA734E	JP		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA736E	J2		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA737E	J4		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA738E	J5		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA739E	J6		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		
KRA740E	J7		-50	-100	200	24	-	-5	-10	-0.3	-10	-0.5	10	4.7		
KRA741E	J8		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	47	10		
KRA742E	J9		-50	-100	200	62	-	-5	-5	-0.3	-5	-0.25	100	100		
KRC821E	YA			50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7	
KRC822E	YB			50	100	200	50	80	5	10	0.3	10	0.5	10	10	
KRC823E	YC	50		100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC824E	YD	50		100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC825E	YE	50		100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC826E	YF	50		100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC827E	YH	50		100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC828E	YI	50		100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC829E	YJ	50		100	200	70	140	5	10	0.3	10	0.5	47	22		
KRC830E	YK		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC831E	YM		50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC832E	YN		50	100	200	120	-	5	1	0.3	10	0.5	100	-		
KRC833E	YO		50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC834E	YP		50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC836E	Y2		50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC837E	Y4		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC838E	Y5		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC839E	Y6		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		
KRC840E	Y7		50	100	200	24	-	5	10	0.3	10	0.5	10	4.7		
KRC841E	Y8		50	100	200	33	-	5	5	0.3	10	0.5	47	10		
KRC842E	Y9		50	100	200	62	-	5	5	0.3	5	0.25	100	100		

Note) P_D= Total Rating, : P_c

Small Signal General Purpose BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}		V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)		
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.					I _C (mA)	I _B (mA)
KRA751E	PA		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	TES6	
KRA752E	PB		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA753E	PC		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA754E	PD		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA755E	PE		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA756E	PF		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA757E	PH		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA758E	PI		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47		
KRA759E	PJ		-50	-100	200	70	140	-5	-10	-0.3	-10	-0.5	47	22		
KRA760E	PK			-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7		
KRA761E	PM	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA762E	PN	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	100	-		
KRA763E	PO	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA764E	PP	-50		-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA766E	P2		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA767E	P4		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA768E	P5		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA769E	P6		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		
KRA770E	P7		-50	-100	200	24	-	-5	-10	-0.3	-10	-0.5	10	4.7		
KRA771E	P8		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	47	10		
KRA772E	P9		-50	-100	200	62	-	-5	-5	-0.3	-5	-0.25	100	100		
KRC851E	NA			50	100	200	30	55	5	10	0.3	10	0.5	4.7		
KRC852E	NB	50		100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC853E	NC	50		100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC854E	ND	50		100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC855E	NE	50		100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC856E	NF	50		100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC857E	NH	50		100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC858E	NI	50		100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC859E	NJ	50		100	200	70	140	5	10	0.3	10	0.5	47	22		
KRC860E	NK			50	100	200	120	-	5	1	0.3	10	0.5	4.7	-	
KRC861E	NM		50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC862E	NN		50	100	200	120	-	5	1	0.3	10	0.5	100	-		
KRC863E	NO		50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC864E	NP		50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC866E	N2		50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC867E	N4		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC868E	N5		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC869E	N6		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		
KRC870E	N7		50	100	200	24	-	5	10	0.3	10	0.5	10	4.7		
KRC871E	N8		50	100	200	33	-	5	5	0.3	10	0.5	47	10		
KRC872E	N9		50	100	200	62	-	5	5	0.3	5	0.25	100	100		

Note) Pc/Pd= Total Rating, : Pc

Small Signal General Purpose BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)						R1 (kΩ)		R2 (kΩ)		Package	Outline (Unit : mm)						
			V _{CEO} (V)		I _C (mA)		P _D (mW)	Min.		Typ.		V _{CE} (V)		I _C (mA)		Max.		I _C (mA)	I _B (mA)			Q1	Q2	Q1	Q2		
			Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1			Q2	Q1	Q2	Q1	Q2	
KRX201E	BA		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10	TES6	
KRX202E	BB		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22		
KRX203E	BC		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	47	47		
KRX204E	BD		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	2.2	2.2	47	47		
KRX205E	BE		50	-50	100	-100	200	120	120	-	-	5	-5	1	-1	0.3	-0.3	10	-10	0.5	-0.5	4.7	4.7	-	-		
KRX206E	BK		50	-50	100	-100	200	80	80	150	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	47	47		
KRX207E	BT		50	-50	100	-100	200	50	80	80	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	47		
KRX208E	BW		50	-50	100	-100	200	80	30	200	-	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	4.7	47	10		
KRX209E	BM		50	-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	10	47	47		
KRX210E	MN		-30	50	-500	100	200	140	50	-	80	-5	5	-100	10	-0.3	0.3	-50	10	-2.5	0.5	1	10	10	10		

Note) Pc/Pd= Total Rating, : Pc

Small Signal General Purpose BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)				
KRA551U	PA		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	USV	
KRA552U	PB		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA553U	PC		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA554U	PD		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA555U	PE		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA556U	PF		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA557U	PH		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA558U	PI		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47		
KRA559U	PJ		-50	-100	200	70	140	-5	-10	-0.3	-10	-0.5	47	22		
KRA560U	PK		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-	USV	
KRA561U	PM		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA562U	PN		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	100	-		
KRA563U	PO		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA564U	PP		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA566U	P2		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10	USV	
KRA567U	P4		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA568U	P5		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA569U	P6		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		
KRA570U	P7		-50	-100	200	24	-	-5	-10	-0.3	-10	-0.5	10	4.7		
KRA571U	P8		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	47	10		
KRA572U	P9		-50	-100	200	62	-	-5	-5	-0.3	-5	-0.25	100	100		

Note) Pc/Pd= Total Rating, : Pc

Small Signal General Purpose BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)				
KRC651U	NA		50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7	USV	
KRC652U	NB		50	100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC653U	NC		50	100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC654U	ND		50	100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC655U	NE		50	100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC656U	NF		50	100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC657U	NH		50	100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC658U	NI		50	100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC659U	NJ		50	100	200	70	140	5	10	0.3	10	0.5	47	22		
KRC660U	NK		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-	USV	
KRC661U	NM		50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC662U	NN		50	100	200	120	-	5	1	0.3	10	0.5	100	-		
KRC663U	NO		50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC664U	NP		50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC666U	N2		50	100	200	33	-	5	5	0.3	10	0.5	1	10	USV	
KRC667U	N4		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC668U	N5		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC669U	N6		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		
KRC670U	N7		50	100	200	24	-	5	10	0.3	10	0.5	10	4.7		
KRC671U	N8		50	100	200	33	-	5	5	0.3	10	0.5	47	10		
KRC672U	N9		50	100	200	62	-	5	5	0.3	5	0.25	100	100		

Note) P_C/P_D= Total Rating, : P_C

Small Signal General Purpose BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings					h _{FE}				V _{CE(sat)} (V)						R1 (kΩ)		R2 (kΩ)		Package	Outline (Unit : mm)				
			V _{CEO} (V)		I _C (mA)		P _D (mW)	Min.		Typ.	V _{CE} (V)		I _C (mA)		Max.		I _C (mA)		I _B (mA)								
			Q1	Q2	Q1	Q2		Q1	Q2		Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1			Q2			
KRX101U	BA		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10	USV	
KRX102U	BM		50	-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	10	47	47		
KRX103U	BB		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22		
KRX104U	BN		50	-50	100	-100	200	80	30	200	-	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	4.7	47	10		
KRX105U	BE		50	-50	100	-100	200	120	120	-	-	5	-5	1	-1	0.3	-0.3	10	-10	0.5	-0.5	4.7	4.7	-	-	USV	

Note) P_C/P_D= Total Rating, : P_C

BJT

Small Signal General Purpose BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}		V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)			
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.					I _C (mA)	I _B (mA)	
KRA721U	JA		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	US6		
KRA722U	JB		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10			
KRA723U	JC		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22			
KRA724U	JD		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47			
KRA725U	JE		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47			
KRA726U	JF		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47			
KRA727U	JH		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47			
KRA728U	JI		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47			
KRA729U	JJ		-50	-100	200	70	140	-5	-10	-0.3	-10	-0.5	47	22			
KRA730U	JK		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-			
KRA731U	JM		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-			
KRA732U	JN		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	100	-			
KRA733U	JO		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-			
KRA734U	JP		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-			
KRA736U	J2		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10			
KRA737U	J4		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2			
KRA738U	J5		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10			
KRA739U	J6		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10			
KRA740U	J7		-50	-100	200	24	-	-5	-10	-0.3	-10	-0.5	10	4.7			
KRA741U	J8		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	47	10			
KRA742U	J9		-50	-100	200	62	-	-5	-5	-0.3	-5	-0.25	100	100			
KRC821U	YA			50	100	200	30	55	5	10	0.3	10	0.5	4.7			4.7
KRC822U	YB			50	100	200	50	80	5	10	0.3	10	0.5	10			10
KRC823U	YC	50		100	200	70	120	5	10	0.3	10	0.5	22	22			
KRC824U	YD	50		100	200	80	200	5	10	0.3	10	0.5	47	47			
KRC825U	YE	50		100	200	80	200	5	10	0.3	10	0.5	2.2	47			
KRC826U	YF	50		100	200	80	200	5	10	0.3	10	0.5	4.7	47			
KRC827U	YH	50		100	200	80	150	5	10	0.3	10	0.5	10	47			
KRC828U	YI	50		100	200	80	150	5	10	0.3	10	0.5	22	47			
KRC829U	YJ	50		100	200	70	140	5	10	0.3	10	0.5	47	22			
KRC830U	YK		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-			
KRC831U	YM		50	100	200	120	-	5	1	0.3	10	0.5	10	-			
KRC832U	YN		50	100	200	120	-	5	1	0.3	10	0.5	100	-			
KRC833U	YO		50	100	200	120	-	5	1	0.3	10	0.5	22	-			
KRC834U	YP		50	100	200	120	-	5	1	0.3	10	0.5	47	-			
KRC836U	Y2		50	100	200	33	-	5	5	0.3	10	0.5	1	10			
KRC837U	Y4		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2			
KRC838U	Y5		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10			
KRC839U	Y6		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10			
KRC840U	Y7		50	100	200	24	-	5	10	0.3	10	0.5	10	4.7			
KRC841U	Y8		50	100	200	33	-	5	5	0.3	10	0.5	47	10			
KRC842U	Y9		50	100	200	62	-	5	5	0.3	5	0.25	100	100			

Note) Pc/Pd= Total Rating, : Pc

Small Signal General Purpose BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)	
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)					
KRA751U	PA		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	US6		
KRA752U	PB		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10			
KRA753U	PC		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22			
KRA754U	PD		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47			
KRA755U	PE		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47			
KRA756U	PF		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47			
KRA757U	PH		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47			
KRA758U	PI		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47			
KRA759U	PJ		-50	-100	200	70	140	-5	-10	-0.3	-10	-0.5	47	22			
KRA760U	PK		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-			
KRA761U	PM		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-			
KRA762U	PN		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	100	-			
KRA763U	PO		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-			
KRA764U	PP		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-			
KRA766U	P2		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10			
KRA767U	P4		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2			
KRA768U	P5		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10			
KRA769U	P6		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10			
KRA770U	P7		-50	-100	200	24	-	-5	-10	-0.3	-10	-0.5	10	4.7			
KRA771U	P8		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	47	10			
KRA772U	P9		-50	-100	200	62	-	-5	-5	-0.3	-5	-0.25	100	100			
KRC851U	NA			50	100	200	30	55	5	10	0.3	10	0.5	4.7			4.7
KRC852U	NB			50	100	200	50	80	5	10	0.3	10	0.5	10			10
KRC853U	NC	50		100	200	70	120	5	10	0.3	10	0.5	22	22			
KRC854U	ND	50		100	200	80	200	5	10	0.3	10	0.5	47	47			
KRC855U	NE	50		100	200	80	200	5	10	0.3	10	0.5	2.2	47			
KRC856U	NF	50		100	200	80	200	5	10	0.3	10	0.5	4.7	47			
KRC857U	NH	50		100	200	80	150	5	10	0.3	10	0.5	10	47			
KRC858U	NI	50		100	200	80	150	5	10	0.3	10	0.5	22	47			
KRC859U	NJ	50		100	200	70	140	5	10	0.3	10	0.5	47	22			
KRC860U	NK		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-			
KRC861U	NM		50	100	200	120	-	5	1	0.3	10	0.5	10	-			
KRC862U	NN		50	100	200	120	-	5	1	0.3	10	0.5	100	-			
KRC863U	NO		50	100	200	120	-	5	1	0.3	10	0.5	22	-			
KRC864U	NP		50	100	200	120	-	5	1	0.3	10	0.5	47	-			
KRC866U	N2		50	100	200	33	-	5	5	0.3	10	0.5	1	10			
KRC867U	N4		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2			
KRC868U	N5		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10			
KRC869U	N6		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10			
KRC870U	N7		50	100	200	24	-	5	10	0.3	10	0.5	10	4.7			
KRC871U	N8		50	100	200	33	-	5	5	0.3	10	0.5	47	10			
KRC872U	N9		50	100	200	62	-	5	5	0.3	5	0.25	100	100			

Note) Pc/Pd= Total Rating, : Pc

Small Signal General Purpose BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)						R1 (kΩ)		R2 (kΩ)		Package	Outline (Unit : mm)							
			V _{CEO} (V)		I _C (mA)	P _D (mW)	Min.		Typ.		V _{CE} (V)		I _C (mA)		I _B (mA)		Q1		Q2									
			Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1			Q2						
KRX201U	BA		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10			
KRX202U	BB		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22			
KRX203U	BC		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	47	47			
KRX204U	BD		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	2.2	2.2	47	47			
KRX205U	BE		50	-50	100	-100	200	120	120	-	-	5	-5	1	-1	0.3	-0.3	10	-10	0.5	-0.5	4.7	4.7	-	-	US6 		
KRX206U	BK		50	-50	100	-100	200	80	80	150	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	47	47			
KRX207U	BT		50	-50	100	-100	200	50	80	80	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	47			
KRX208U	BW		50	-50	100	-100	200	80	30	200	-	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	4.7	47	10			
KRX209U	BM		50	-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	10	47	47			
KRX210T	MN			50	-50	100	-800	300	80	56	80	-	5	-5	10	-50	0.3	-0.3	10	-50	0.5	-2.5	10	1	10		10	TS6

Note) P_c/P_d= Total Rating, : P_c

Small Signal Audio Muting BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)	R _{ON} (Ω)	Package	Outline (Unit : mm)	
			V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Typ.	Typ.			
			Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2			
KRC281U	MQ	-	20	300	100	200	1200	2	4	0.1	30	3	2.2	1	USM 		
KRC282U	MR		20	300	100	200	1200	2	4	0.1	30	3	4.7	1			
KRC283U	MS		20	300	100	200	1200	2	4	0.1	30	3	5.6	1			
KRC284U	MT		20	300	100	200	1200	2	4	0.1	30	3	6.8	1			
KRC285U	MS		20	300	100	200	1200	2	4	0.1	30	3	10	1			
KRC286U	MV		20	300	100	200	1200	2	4	0.1	30	3	22	1			
KRC231S	NW	-	15	600	200	200	800	5	50	0.08	50	2.5	2.2	0.6	SOT-23 		
KRC232S	NY		15	600	200	200	800	5	50	0.08	50	2.5	5.6	0.6			
KRC233S	NZ		15	600	200	200	800	5	50	0.08	50	2.5	10	0.6			
KRC234S	NNA		15	600	200	200	800	5	50	0.08	50	2.5	4.7	0.6			
KRC235S	NNB		15	600	200	200	800	5	50	0.08	50	2.5	6.8	0.6			
KRC281S	MQ		20	300	200	200	1200	2	4	0.1	30	3	2.2	1			
KRC282S	MR		20	300	200	200	1200	2	4	0.1	30	3	4.7	1			
KRC283S	MS		20	300	200	200	1200	2	4	0.1	30	3	5.6	1			
KRC284S	MT		20	300	200	200	1200	2	4	0.1	30	3	6.8	1			
KRC285S	MU		20	300	200	200	1200	2	4	0.1	30	3	10	1			
KRC286S	MV		20	300	200	200	1200	2	4	0.1	30	3	22	1			
KRC681T	MQ			20	300	900	200	1200	2	4	0.1	30	3	2.2		-	TSV
KRC682T	MR			20	300	900	200	1200	2	4	0.1	30	3	4.7		-	
KRC683T	MS			20	300	900	200	1200	2	4	0.1	30	3	5.6		-	
KRC684T	MT	20		300	900	200	1200	2	4	0.1	30	3	6.8	-			
KRC685T	MU	20		300	900	200	1200	2	4	0.1	30	3	10	-			
KRC686T	MV	20		300	900	200	1200	2	4	0.1	30	3	22	-			
KRC881T	MQ		20	300	900	200	1200	2	4	0.1	30	3	2.2	-	TS6 		
KRC882T	MR		20	300	900	200	1200	2	4	0.1	30	3	4.7	-			
KRC883T	MS		20	300	900	200	1200	2	4	0.1	30	3	5.6	-			
KRC884T	MT		20	300	900	200	1200	2	4	0.1	30	3	6.8	-			
KRC885T	MU		20	300	900	200	1200	2	4	0.1	30	3	10	-			
KRC886T	MV		20	300	900	200	1200	2	4	0.1	30	3	22	-			

Note) : Package mounted on a ceramic board (600mm² × 0.8mm)

Small Signal High Current BRT

Type No.	Mark	Internal Circuit (Top view)	Max. Ratings			G ₁			V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)		
			V _O (V)	I _O (mA)	P _D (mW)	Min.	V _O (V)	I _O (mA)	Max.	I _O (mA)	I ₁ (mA)						
KRA521T	PA		-50	-800	900	33	-5	-50	-0.3	-50	-2.5	1	1	TSV			
KRA522T	PB		-50	-800	900	39	-5	-50	-0.3	-50	-2.5	2.2	2.2				
KRA523T	PC		-50	-800	900	47	-5	-50	-0.3	-50	-2.5	4.7	4.7				
KRA524T	PD		-50	-800	900	56	-5	-50	-0.3	-50	-2.5	10	10				
KRA525T	PE		-50	-800	900	56	-5	-50	-0.3	-50	-2.5	1	10				
KRA526T	PF		-50	-800	900	56	-5	-50	-0.3	-50	-2.5	2.2	10				
KRC641T	NA		50	800	900	33	5	50	0.3	50	2.5	1	1			TS6	
KRC642T	NB		50	800	900	39	5	50	0.3	50	2.5	2.2	2.2				
KRC643T	NC		50	800	900	47	5	50	0.3	50	2.5	4.7	4.7				
KRC644T	ND		50	800	900	56	5	50	0.3	50	2.5	10	10				
KRC645T	NE		50	800	900	56	5	50	0.3	50	2.5	1	10				
KRC646T	NF		50	800	900	56	5	50	0.3	50	2.5	2.2	10				
KRA721T	PA		-50	-800	900	33	-5	-50	-0.3	-50	-2.5	1	1	TS6			
KRA722T	PB		-50	-800	900	39	-5	-50	-0.3	-50	-2.5	2.2	2.2				
KRA723T	PC		-50	-800	900	47	-5	-50	-0.3	-50	-2.5	4.7	4.7				
KRA724T	PD		-50	-800	900	56	-5	-50	-0.3	-50	-2.5	10	10				
KRA725T	PE		-50	-800	900	56	-5	-50	-0.3	-50	-2.5	1	10				
KRA726T	PF		-50	-800	900	56	-5	-50	-0.3	-50	-2.5	2.2	10				
KRC841T	NA		50	800	900	33	5	50	0.3	50	2.5	1	1			TS6	
KRC842T	NB		50	800	900	39	5	50	0.3	50	2.5	2.2	2.2				
KRC843T	NC		50	800	900	47	5	50	0.3	50	2.5	4.7	4.7				
KRC844T	ND		50	800	900	56	5	50	0.3	50	2.5	10	10				
KRC845T	NE		50	800	900	56	5	50	0.3	50	2.5	1	10				
KRC846T	NF		50	800	900	56	5	50	0.3	50	2.5	2.2	10				

Note) : Package Mounted on a Ceramic Board (600mm² × 0.8mm)

Type No.				Max. Ratings			G ₁			V _{O(ON)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
NPN	Mark	PNP	Mark	V _O (V)	I _O (mA)	P _D (mW)	Min.	V _O (V)	I _O (mA)	Max.	I _O (mA)	I ₁ (mA)				
KRC241S	NQ	KRA221S	PQ	50	800	200	33	5	50	0.3	50	2.5	1	1	SOT-23	
KRC242S	NR	KRA222S	PR	50	800	200	39	5	50	0.3	50	2.5	2.2	2.2		
KRC243S	NS	KRA223S	PS	50	800	200	47	5	50	0.3	50	2.5	4.7	4.7		
KRC244S	NT	KRA224S	PT	50	800	200	56	5	50	0.3	50	2.5	10	10		
KRC245S	NU	KRA225S	PU	50	800	200	56	5	50	0.3	50	2.5	1	10		
KRC246S	NV	KRA226S	PV	50	800	200	56	5	50	0.3	50	2.5	2.2	10		
KRC451	CA	KRA351	AA	12	500	100	33	5	50	0.3	50	2.5	1	1	USM	
KRC452	CB	KRA352	AB	12	500	100	39	5	50	0.3	50	2.5	2.2	2.2		
KRC453	CC	KRA353	AC	12	500	100	47	5	50	0.3	50	2.5	4.7	4.7		
KRC454	CD	KRA354	AD	12	500	100	56	5	50	0.3	50	2.5	10	10		
KRC455	CE	KRA355	AE	12	500	100	56	5	50	0.3	50	2.5	0.47	10		
KRC456	CF	KRA356	AF	12	500	100	56	5	50	0.3	50	2.5	1	10		
KRC457	CG	KRA357	AG	12	500	100	56	5	50	0.3	50	2.5	2.2	10		

Small Signal General Purpose BRT

Type No.		Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
NPN	PNP	V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)				
KRC101M	KRA101M	50	100	400	30	55	5	10	0.3	10	0.5	4.7	4.7	TO-92M	
KRC102M	KRA102M	50	100	400	50	80	5	10	0.3	10	0.5	10	10		
KRC103M	KRA103M	50	100	400	70	120	5	10	0.3	10	0.5	22	22		
KRC104M	KRA104M	50	100	400	80	200	5	10	0.3	10	0.5	47	47		
KRC105M	KRA105M	50	100	400	80	200	5	10	0.3	10	0.5	2.2	47		
KRC106M	KRA106M	50	100	400	80	200	5	10	0.3	10	0.5	4.7	47		
KRC107M	KRA107M	50	100	400	80	150	5	10	0.3	10	0.5	10	47		
KRC108M	KRA108M	50	100	400	80	150	5	10	0.3	10	0.5	22	47		
KRC109M	KRA109M	50	100	400	70	140	5	10	0.3	10	0.5	47	22		
KRC110M	KRA110M	50	100	400	120	-	5	1	0.3	10	0.5	4.7	-		
KRC111M	KRA111M	50	100	400	120	-	5	1	0.3	10	0.5	10	-		
KRC112M	KRA112M	50	100	400	120	-	5	1	0.3	10	0.5	100	-		
KRC113M	KRA113M	50	100	400	120	-	5	1	0.3	10	0.5	22	-		
KRC114M	KRA114M	50	100	400	120	-	5	1	0.3	10	0.5	47	-		
KRC116M	KRA116M	50	100	400	33	-	5	5	0.3	10	0.5	1	10		
KRC117M	KRA117M	50	100	400	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC118M	KRA118M	50	100	400	33	-	5	10	0.3	10	0.5	2.2	10		
KRC119M	KRA119M	50	100	400	30	-	5	10	0.3	10	0.5	4.7	10		
KRC120M	KRA120M	50	100	400	24	-	5	10	0.3	10	0.5	10	4.7		
KRC121M	KRA121M	50	100	400	33	-	5	5	0.3	10	0.5	47	10		
KRC122M	KRA122M	50	100	400	62	-	5	5	0.3	5	0.25	100	100		

Small Signal Audio Muting BRT

Type No.		Max. Ratings			h _{FE}				V _{CE(sat)} (V)			R1 (kΩ)	R _{ON} (Ω)	Package	Outline (Unit : mm)
NPN	PNP	V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)				
KRC231M	-	15	600	400	200	800	5	50	0.08	50	2.5	2.2	0.6	TO-92M	
KRC232M	-	15	600	400	200	800	5	50	0.08	50	2.5	5.6	0.6		
KRC233M	-	15	600	400	200	800	5	50	0.08	50	2.5	10	0.6		
KRC234M	-	15	600	400	200	800	5	50	0.08	50	2.5	4.7	0.6		
KRC235M	-	15	600	400	200	800	5	50	0.08	50	2.5	6.8	0.6		
KRC281M	-	20	300	400	200	1200	2	4	0.1	30	3	2.2	1		
KRC282M	-	20	300	400	200	1200	2	4	0.1	30	3	4.7	1		
KRC283M	-	20	300	400	200	1200	2	4	0.1	30	3	5.6	1		
KRC284M	-	20	300	400	200	1200	2	4	0.1	30	3	6.8	1		
KRC285M	-	20	300	400	200	1200	2	4	0.1	30	3	10	1		
KRC286M	-	20	300	400	200	1200	2	4	0.1	30	3	22	1		

Small Signal High Current BRT

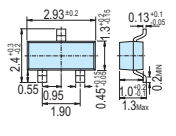
Type No.		Max. Ratings			h _{FE}			V _{CE(sat)} (V)			R1 (kΩ)	R _{ON} (Ω)	Package	Outline (Unit : mm)
NPN	PNP	V _{CEO} (V)	I _C (mA)	P _D (mW)	Min.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)				
KRC241M	KRA221M	50	800	400	33	5	50	0.3	50	2.5	1	1	TO-92M	
KRC242M	KRA222M	50	800	400	39	5	50	0.3	50	2.5	2.2	2.2		
KRC243M	KRA223M	50	800	400	47	5	50	0.3	50	2.5	4.7	4.7		
KRC244M	KRA224M	50	800	400	56	5	50	0.3	50	2.5	10	10		
KRC245M	KRA225M	50	800	400	56	5	50	0.3	50	2.5	1	10		
KRC246M	KRA226M	50	800	400	56	5	50	0.3	50	2.5	2.2	10		

Small Signal General Purpose Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	V _{CE} (V)	I _C (mA)		
BC858W	3	BC848W	1	-30	-100	100	125	800	-5	-2	-0.3	-10	-0.5	-	150	-5	-10	USM	
BC857W	3	BC847W	1	-45	-100	100	125	800	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC856W	3	BC846W	1	-65	-100	100	125	475	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC848W	1	BC858W	3	30	100	100	110	800	5	2	0.25	10	0.5	-	300	5	10		
BC847W	1	BC857W	3	45	100	100	110	800	5	2	0.25	10	0.5	-	300	5	10		
BC846W	1	BC856W	3	65	100	100	110	450	5	2	0.25	10	0.5	-	300	5	10		
BCW29	C1	BCW31	D1	-20	-100	350	110	220	-5	-2	-0.25	-10	-0.5	-	-	-	-	SOT-23	
BCW30	C2	BCW32	D2	-20	-100	350	200	450	-5	-2	-0.25	-10	-0.5	-	-	-	-		
BC858	3	BC848	1	-30	-100	350	125	800	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC859	4	BC849	2	-30	-100	350	125	475	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BCW69	H1	BCW71	K1	-45	-100	200	120	260	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BCW70	H2	BCW72	K2	-45	-100	200	215	500	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC857	3	BC847	1	-45	-100	350	125	800	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC860	4	BC850	2	-45	-100	350	125	475	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC807	5	BC817	6	-45	-800	350	100	630	-1	-100	-0.7	-500	-50	80	-	5	10		
BCW68	D	-	-	-45	-800	350	100	400	-1	-100	-0.3	-100	-10	100	-	-10	-80		
BCW89	H5	BCV71	K7	-60	-100	200	120	260	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BC856	3	BC846	1	-65	-100	350	125	475	-5	-2	-0.3	-10	-0.5	-	150	-5	-10		
BCW31	D1	BCW29	C1	20	100	350	110	220	5	2	0.25	10	0.5	-	-	-	-		
BCW32	D2	BCW30	C2	20	100	350	200	450	5	2	0.25	10	0.5	-	-	-	-		
BC848	1	BC858	3	30	100	350	110	800	5	2	0.25	10	0.5	-	300	5	10		
BC849	2	BC859	4	30	100	350	200	800	5	2	0.25	10	0.5	-	300	5	10		
BCW71	K1	BCW69	H1	45	100	200	110	220	5	2	0.25	10	0.5	-	300	5	10		
BCW72	K2	BCW70	H2	45	100	200	200	450	5	2	0.25	10	0.5	-	300	5	10		
BC847	1	BC857	3	45	100	350	110	800	5	2	0.25	10	0.5	-	300	5	10		
BC850	2	BC860	4	45	100	350	200	800	5	2	0.25	10	0.5	-	300	5	10		
BC817	6	BC807	5	45	800	350	100	630	1	100	0.7	500	50	100	-	5	10		
BCX19	U1	-	-	45	500	200	100	600	1	100	0.62	500	50	-	200	5	10		
BCV71	K7	BCW89	H5	60	100	200	110	220	5	2	0.25	10	0.5	-	300	5	10		
BCV72	K8	-	-	60	100	200	200	450	5	2	0.25	10	0.5	-	300	5	10		
BC846	1	BC856	3	65	100	350	110	450	5	2	0.25	10	0.5	-	300	5	10		
MMBTA55	AMX	MMBTA05	ACX	-60	-500	350	100	-	-1	-10	-0.25	-100	-10	50	-	1	100		
MMBTA56	ANX	MMBTA06	ADX	-80	-500	350	100	-	-1	-10	-0.25	-100	-10	50	-	1	100		
MMBTA05	ACX	MMBTA55	AMX	60	500	350	100	-	1	10	0.25	100	10	80	-	1	10		
MMBTA06	ADX	MMBTA56	ANX	80	500	350	100	-	1	10	0.25	100	10	100	-	2	10		
MPS8050S	BH	MPS8550S	BJ	25	150	350	85	300	1	100	0.5	800	80	100	190	10	50		
MPS8550S	BJ	MPS8050S	BH	-25	-150	350	85	300	-1	-100	-0.5	-800	-80	100	200	-10	-50		
KTC8050S	BK	KTC8550S	BL	30	800	350	100	300	1	50	0.5	500	20	-	120	5	10		
KTC8550S	BL	KTC8050S	BK	-30	-800	350	100	300	-1	-50	-0.5	-500	-50	-	120	-5	-10		
KTC9012S	BB	KTC9013S	BC	-30	-500	350	96	246	-1	-50	-0.25	-100	-10	150	-	-6	-20		
KTC9013S	BC	KTC9012S	BB	30	500	350	96	246	1	50	0.25	100	10	140	-	6	20		
KTC9014S	BD	KTC9015S	BE	50	150	350	100	1000	5	1	0.25	100	10	60	-	10	1		
KTC9015S	BE	KTC9014S	BD	-50	-150	350	100	600	-5	-1	-0.3	-100	-10	60	-	-10	-1		
KN3906S	ZAA	KN3904S	ZCA	-40	-200	350	60	-	-1	-0.1	-0.25	-10	-1	-	250	-20	-10		
KN2907S	ZDA	KN2222S	ZBA	-40	-600	350	35	-	-10	-0.1	-0.4	-150	-15	200	-	-20	-50		
KN4403S	ZWA	KN4401S	ZUA	-40	-600	350	30	-	-1	-0.1	-0.4	-150	-15	200	-	-10	-20		
KN2907AS	ZHA	KN2222AS	ZGA	-60	-600	350	75	-	-10	-0.1	-0.4	-150	-15	200	-	-20	-50		
KN2222S	ZBA	KN2907S	ZDA	30	600	350	35	-	10	0.1	0.4	150	15	250	-	20	20		
KN3904S	ZCA	KN3906S	ZAA	40	200	350	40	-	1	0.1	0.2	10	1	-	300	20	10		
KN2222AS	ZGA	KN2907AS	ZHA	40	600	350	35	-	10	0.1	0.3	150	15	300	-	20	20		
KN4401S	ZUA	KN4403S	ZWA	40	600	350	20	-	1	0.1	0.4	150	15	250	-	10	20		

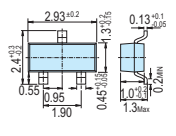
Note) : Package Mounted on 99.5% Alumina 10 × 8 × 0.6mm, : hFE Grade

Small Signal Low Noise Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Typ.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)		
BSS63	T6	-	-	-100	-100	200	30	-1	-10	-0.25	-25	-2.5	SOT-23	
BSS64	U6	-	-	80	100	200	60	1	1	0.15	4	0.4		

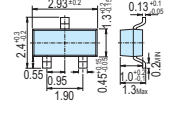
Note) : Min

Small Signal Darlington Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)
				V _{CE} (V)	I _C (mA)	P _C (mW)	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Typ.	V _{CE} (V)	I _C (mA)		
MMBTA63	AGX	-	-	-30	-500	350	5000	-5	-10	-1.5	-100	-0.1	125	-5	-10	SOT-23	
MMBTA64	AFX	-	-	-30	-500	350	10000	-5	-10	-1.5	-100	-0.1	125	-5	-10		
MMBTA517	UA	-	-	30	400	350	30000	2	100	1	100	1	220	2	100		
MMBTA13	AIX	-	-	30	500	350	5000	5	10	1.5	100	0.1	125	5	10		
MMBTA14	AHX	-	-	30	500	350	5000	5	10	1.5	100	0.1	125	5	10		

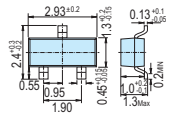
Note) : V_{CEO}

Small Signal High Voltage Transistor

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)	
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Max.	V _{CE} (V)			I _C (mA)
2N5400S	ZN	-	-	-120	-600	350	40	180	-5	-10	-0.2	-10	-1	100	400	-10	-10	SOT-23	
2N5401S	ZE	-	-	-150	-600	350	60	240	-5	-10	-0.2	-10	-1	100	300	-10	-10		
2N5550S	ZP	-	-	140	600	350	60	250	5	10	0.15	10	1	100	300	10	10		
2N5551S	ZF	-	-	160	600	350	80	250	5	10	0.15	10	1	100	300	10	10		
MMBTA93	YW	MMBTA43	ABX	-200	-500	350	40	-	-10	-10	-0.5	-20	-2	50	-	-20	-10		
MMBTA92	YV	MMBTA42	AAX	-300	-500	350	40	-	-10	-10	-0.5	-20	-2	50	-	-20	-10		
MMBTA43	ABX	MMBTA93	YW	200	500	350	40	-	10	10	0.5	20	2	50	-	20	10		
MMBTA42	AAX	MMBTA92	YV	300	500	350	40	-	10	10	0.5	20	2	50	-	20	10		
MMBTA44	APX	-	-	400	300	350	50	200	10	10	0.5	10	1	20	-	10	10		
PZTA44	-	-	-	400	300	2W	50	200	10	10	0.5	10	1	20	-	10	10		

Note) : Package Mounted on 99.5% Alumina 10 × 8 × 0.6mm, @ : Mounted on Ceramic Substrate (250mm² × 0.8t)

Small Signal RF/ VHF/ UHF Transistor

Type No.	Mark	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (GHz)			Cob (pF)		NF (dB)		G _{pe} (dB)	Package	Outline (Unit : mm)		
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	Max.	V _{CE} (V)	I _C (mA)	Max.	V _{CB} (V)				Max.	f (kHz)
BFQ31	S2	15	100	200	20	-	1	3	0.4	10	1	600	-	-	10	4	1.7	10	6	60	-	SOT-23	
BF599	G2	25	25	200	40	-	10	7	-	-	-	550	-	10	7	0.35	10	-	-	-	-		
BFS20	G1	25	25	200	40	-	10	7	-	-	-	275	550	-	10	7	0.35	10	-	-	-		
KTC9011S	BA	30	50	350	54	198	5	1	0.4	10	1	100	-	400	10	1	2.0	10	-	-	-		
KTC9016S	BF	30	20	350	54	198	5	1	-	-	-	260	-	-	6	1	-	-	4.0	100	15		
KTC9018S	BG	30	20	350	54	198	5	1	-	-	-	500	800	-	10	8	-	-	4.0	100	15		

Note) : Package Mounted on 99.5% Alumina 10 × 8 × 0.6mm

Small Signal Switching Transistor

BJT

Type No.	Mark	Complementary	Mark	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)	t _{on} (ns)	t _{off} (ns)	t _d (ns)	t _r (ns)	t _{stg} (ns)	t _f (ns)	Package	Outline (Unit : mm)
				V _{CEO} (V)	I _C (mA)	P _C (mW)	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Max.	Max.	Max.	Max.	Max.	Max.		
2N3906U	ZA	2N3904U	ZC	-40	-200	100	300	-1	-10	-0.25	-10	-1	250	-	-	35	35	225	75	USM	
2N3904U	ZC	2N3906U	ZA	40	200	100	300	1	10	0.2	10	1	300	-	-	35	35	200	50		
KTN2907U	ZD	KTN2222U	ZB	-40	-600	100	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2907AU	ZH	KTN2222AU	ZG	-60	-600	100	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2369AU	ZK	-	-	15	500	100	120	1	10	0.25	10	1	500	12	15	-	-	13	-		
KTN2369U	ZI	-	-	15	500	100	120	1	10	0.25	10	1	500	12	-	-	-	-	-		
KTN2222U	ZB	KTN2907U	ZD	30	600	100	300	10	150	0.3	150	15	300	-	-	10	25	225	60		
KTN2222AU	ZG	KTN2907AU	ZH	40	600	100	300	10	150	0.4	150	15	250	-	-	10	25	225	60		
2N3906V	ZA	2N3904V	ZC	-40	-200	100	300	-1	-0.1	-0.25	-10	-1	250	-	-	35	35	225	75	VSM	
2N3904V	ZC	2N3906V	ZA	40	200	100	300	1	10	0.2	10	1	300	-	-	35	35	200	50		
2N3906E	ZA	2N3904E	ZC	-40	-200	100	300	-1	-0.1	-0.25	-10	-1	250	-	-	35	35	225	75	ESM	
2N3904E	ZC	2N3906E	ZA	40	200	100	300	1	10	0.2	10	1	300	-	-	35	35	200	50		
KTN2222AE	ZG	KTN2907AE	ZH	40	600	100	300	10	150	0.4	150	15	250	-	-	10	25	225	60		
KTN2907AE	ZH	KTN2222AE	ZG	-60	-600	100	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
2N3906S	ZA	2N3904S	ZC	-40	-200	350	300	-1	-0.1	-0.25	-10	-1	250	-	-	35	35	225	75	SOT-23	
2N3904S	ZC	2N3906S	ZA	40	200	350	300	1	10	0.2	10	1	300	-	-	35	35	200	50		
KTN2907S	ZD	KTN2222S	ZB	-40	-600	350	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2907AS	ZH	KTN2222AS	ZG	-60	-600	350	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2369S	ZI	-	-	15	500	350	120	1	10	0.25	10	1	-	12	-	-	-	-			
KTN2369AS	ZK	-	-	15	500	350	120	1	10	0.25	10	1	-	12	15	-	-	13	-		
KTN2222S	ZB	KN2907S	ZDA	30	600	350	300	10	150	0.4	150	15	250	-	-	10	25	225	60		
KTN2222AS	ZG	KTN2907AS	ZH	40	600	350	300	10	150	0.3	150	15	300	-	-	10	25	225	60		

Note) : Package Mounted on 99.5% Alumina 10 × 8 × 0.6mm

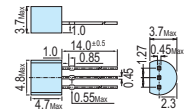
Darlington Power Transistor

Type No.	Complementary	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (A)	P _C (W)	Max.	V _{CE} (V)	I _C (A)	Max.	I _C (A)	I _B (mA)	Typ.	V _{CE} (V)	I _C (mA)		
MJD117	MJD112	-100	-2	20	1000	-3	-2	-2	-2	-8	25	-10	-750	DPAK	
MJD112	MJD117	100	2	20	1000	3	2	2	2	8	25	10	750		

Small Signal General Purpose Transistor

Type No.	Complementary	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
		V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
BC309	BC239	-20	-50	625	180	800	-5	-2	-0.2	-10	-0.5	-	200	-5	-10	TO-92	
BC308	BC238	-25	-100	625	120	800	-5	-2	-0.6	-100	-5	-	200	-5	-10		
BC328	BC338	-25	-800	625	100	630	-1	-100	-0.7	-500	-50	-	100	-5	-10		
BC558	BC548	-30	-100	625	110	800	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC559	BC549	-30	-100	625	110	800	-5	-2	-0.6	-100	-5	-	300	-5	-10		
BC307	BC237	-45	-100	625	120	460	-5	-2	-0.6	-100	-5	-	200	-5	-10		
BC557	BC547	-45	-100	625	110	800	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC560	BC550	-45	-100	625	110	800	-5	-2	-0.6	-100	-5	-	300	-5	-10		
BC327	BC337	-45	-800	625	100	630	-1	-100	-0.7	-500	-50	-	100	-5	-10		
BC638	BC637	-60	-500	625	40	160	-2	-150	-0.5	-500	-50	-	200	-2	-50		
BC556	BC546	-65	-100	625	110	450	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC239	BC309	20	50	625	180	800	5	2	0.2	10	0.5	150	250	5	10		
BC238	BC308	20	100	625	120	800	5	2	0.6	100	5	150	250	5	10		
BC338	BC328	25	800	625	100	630	1	100	0.7	500	50	-	100	5	10		
BC548	BC558	30	100	625	110	800	5	2	0.6	100	5	-	150	5	10		
BC549	BC559	30	100	625	110	800	5	2	0.6	100	5	-	300	5	10		
BC237	BC307	45	100	625	120	460	5	2	0.6	100	5	150	250	5	10		
BC547	BC557	45	100	625	110	800	5	2	0.6	100	5	-	150	5	10		
BC550	BC560	45	100	625	110	800	5	2	0.6	100	5	-	300	5	10		
BC337	BC327	45	800	625	100	630	1	100	0.7	500	50	-	100	5	10		
BC637	BC638	60	500	625	40	160	2	150	0.5	500	50	-	200	2	50		
BC546	BC556	65	100	625	110	450	5	2	0.6	100	5	-	150	5	10		
MPS8550	MPS8050	-25	-1.5A	625	85	300	-1	-100	-0.5	-800	-80	100	200	-10	-50		
MPSA55	MPSA05	-60	-500	625	100	-	-1	-10	-0.25	-100	-10	50	-	-1	-100		
MPS751	MPS651	-60	-1A	625	60	200	-2	-50	-0.7	-500	-50	-	150	-10	-50		
MPSA56	MPSA06	-80	-500	625	100	-	-1	-10	-0.25	-100	-10	50	-	-1	-100		
MPS8050	MPS8550	25	1.5A	625	85	300	1	100	0.5	800	80	100	190	10	50		
MPS651	MPS751	60	1A	625	100	320	2	50	0.5	500	50	-	150	10	50		
MPSA06	MPSA56	80	500	625	100	-	1	10	0.25	100	10	100	-	2	10		
MPSA05	MPSA55	60	500	625	100	-	1	10	0.25	100	10	80	-	1	10		
KN3906	KN3904	-40	-200	625	60	-	-1	-0.1	-0.25	-10	-1	-	250	-20	-10		
KN2907	KN2222	-40	-600	625	35	-	-10	-0.1	-0.4	-150	-15	200	-	-20	-50		
KN4403	KN4401	-40	-600	625	30	-	-1	-0.1	-0.4	-150	-15	200	-	-10	-20		
KN2907A	KN2222A	-60	-600	625	75	-	-10	-0.1	-0.4	-150	-15	200	-	-20	-50		
KN2222	KN2907	30	600	625	35	-	10	0.1	0.4	150	15	250	-	20	20		
KN3904	KN3906	40	200	625	40	-	1	0.1	0.2	10	1	-	300	20	10		
KN2222A	KN2907A	40	600	625	35	-	10	0.1	0.3	150	15	300	-	20	20		
KN4401	KN4403	40	600	625	20	-	1	0.1	0.4	150	15	250	-	10	20		
KTC9012	KTC9013	-30	-500	625	64	246	-1	-50	-0.25	-100	-10	150	-	-6	-20		
KTC8550	KTC8050	-30	-800	625	100	300	-1	-50	-0.5	-500	-50	-	120	-5	-10		
KTC9015	KTC9014	-50	-150	625	60	600	-5	-1	-0.3	-100	-10	60	-	-10	-1		
KTC9013	KTC9012	30	500	625	64	246	1	50	0.25	100	10	140	-	6	20		
KTC8050	KTC8550	30	800	625	100	300	1	50	0.5	500	20	-	120	5	10		
KTC9014	KTC9015	50	150	625	60	1000	5	1	0.25	100	10	60	-	10	1		

TO-92



Small Signal RF/ VHF/ UHF Transistor

Type No.	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Cob (pF)		NF (dB)		Gpe(dB)	Package	Outline (Unit : mm)	
	V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	Max.	V _{CE} (V)	I _C (mA)	Typ.	V _{CB} (V)	Max.	f (kHz)			Min.
KTC9016	30	20	625	40	198	5	1	-	-	-	260	-	-	6	1	-	-	4	100k	15	TO-92	
KTC9018	30	20	625	40	198	5	1	-	-	-	500	800	-	10	8	-	-	4	100k	15		
KTC9011	30	50	625	40	198	5	1	0.4	10	1	100	-	400	10	1	2.0	10	-	-			

BJT

Small Signal Darlington Transistor

Type No.	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)			Package	Outline (Unit : mm)
		V _{CE(s)} (V)	I _C (mA)	P _C (mW)	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	V _{CE} (V)	I _C (mA)			
MPSA62	-	-20	-500	625	20,000	-5	-10	-1	-10	-0.01	125	-5	-10	TO-92		
MPSA63	MPSA13	-30	-500	625	5,000	-5	-10	-1.5	-100	-0.1	125	-5	-10			
MPSA64	MPSA14	-30	-500	625	10,000	-5	-10	-1.5	-100	-0.1	125	-5	-10			
MPSA77	-	-60	-500	625	10,000	-5	-100	-1.5	-100	-0.1	-	-	-			
MPSA13	MPSA63	30	500	625	5,000	5	10	1.5	100	0.1	125	5	10			
BC516	-	-30	-500	625	30,000	-2	-100	-1.0	-100	-0.1	220	-2	-100			
BC517	-	30	500	625	30,000	2	100	1	100	1	220	2	100			
MPSA14	MPSA64	30	500	625	10,000	5	10	1.5	100	0.1	125	5	10			

Note) :V_{CEO}, :Typ.

Small Signal High Voltage Transistor

Type No.	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)	
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Min.	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.	Max.	V _{CE} (V)			I _C (mA)
BF423	BF422	-250	-50	625	50	-	-20	-25	-0.6	-30	-5	60	-	-	-10	-10	TO-92	
BF421	BF420	-300	-50	625	50	-	-20	-25	-0.6	-30	-5	60	-	-	-10	-10		
BF422	BF423	250	50	625	50	-	20	25	0.6	30	5	60	-	-	10	10		
BF420	BF421	300	50	625	50	-	20	25	0.6	30	5	60	-	-	10	10		
MPSA93	MPSA43	-200	-500	625	40	-	-10	-10	-0.5	-20	-2	50	-	-	-20	-10		
MPSA92	MPSA42	-300	-500	625	40	-	-10	-10	-0.5	-20	-2	50	-	-	-20	-10		
MPSA94	MPSA44	-400	-300	625	50	300	-10	-10	-0.5	-10	-1	-	-	-	-	-		
MPSA94A	-	-480	-300	625	50	300	-10	-10	-0.5	-20	-2	-	-	-	-	-		
MPSA43	MPSA93	200	500	625	40	-	10	10	0.5	20	2	50	-	-	20	10		
MPSA42	MPSA92	300	500	625	40	-	10	10	0.5	20	2	50	-	-	20	10		
MPSA45	-	350	300	625	50	200	10	10	0.5	10	1	-	-	-	-	-		
MPSA44	MPSA94	400	300	625	50	200	10	10	0.5	10	1	-	-	-	-	-		
2N5400	-	-120	-600	625	40	180	-5	-10	-0.2	-10	-1	100	-	400	-10	-10		
2N5401	-	-150	-600	625	60	240	-5	-10	-0.2	-10	-1	100	-	300	-10	-10		
2N5401C	-	-150	-600	625	60	240	-5	-10	-0.2	-10	-1	100	-	300	-10	-10		
2N5550	-	140	600	625	60	250	5	10	0.15	10	1	100	-	300	10	10		
2N5551	-	160	600	625	80	250	5	10	0.15	10	1	100	-	300	10	10		
2N5551C	-	160	600	625	80	250	5	10	0.15	10	1	100	-	300	10	10		

Small Signal Switching Transistor

Type No.	Complementary	Max. Ratings			h _{FE}				V _{CE(sat)} (V)			f _T (MHz)	t _{on} (ns)	t _{off} (ns)	t _d (ns)	t _r (ns)	t _{stg} (ns)	t _f (ns)	Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Max.	V _{CE} (V)	I _C (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Max.	Max.	Max.	Max.	Max.	Max.			
2N3906	2N3904	-40	-200	625	300	-1	-10	-0.25	-10	-1	250	-	-	35	35	225	75	TO-92		
2N3906C	2N3904C	-40	-200	625	300	-1	-10	-0.25	-10	-1	250	-	-	35	35	225	75			
2N3904	2N3906	40	200	625	300	1	10	0.2	10	1	300	-	-	35	35	200	50			
2N3904C	2N3906C	40	200	625	300	1	10	0.2	10	1	300	-	-	35	35	200	50			
KTH2369	-	15	500	625	120	1	10	0.25	10	1	500	12	-	-	-	-	-			
KTH2369A	-	15	500	625	120	1	10	0.25	10	1	500	12	15	-	-	13	-			

Small Signal Switching Transistor

Type No.	Complementary	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			f _T (MHz)	t _{on} (ns)	t _{off} (ns)	t _d (ns)	t _r (ns)	t _{stg} (ns)	t _f (ns)	Package	Outline (Unit : mm)
		V _{CEO} (V)	I _C (mA)	P _C (mW)	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Max.	Max.	Max.	Max.	Max.		
KTN2907	KTN2222	-40	-600	625	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30	TO-92	
KTN2907A	KTN2222A	-60	-600	625	300	-10	-150	-0.4	-150	-15	200	45	100	10	40	80	30		
KTN2369	-	15	500	625	120	1	10	0.25	10	1	500	12	-	-	-	-			
KTN2369A	-	15	500	625	120	1	10	0.25	10	1	500	12	15	-	-	13	-		
KTN2222	KTN2907	30	600	625	300	10	150	0.4	150	15	250	-	-	10	25	225	60		
KTN2222A	KTN2907A	40	600	625	300	10	150	0.3	150	15	300	-	-	10	25	225	60		

General Purpose Power Transistor

Type No.	Complementary	Max. Ratings				h _{FE}			V _{CE(sat)} (V)			f _T (MHz)				Package	Outline (Unit : mm)	
		V _{CEO} (V)	I _C (A)	P _C (W)	P _C (W)	Min.	Max.	V _{CE} (V)	I _C (mA)	I _B (mA)	Max.	I _C (mA)	I _B (mA)	Min.	Typ.			V _{CE} (V)
TIP34C	TIP33C	-100	-10	-	80	55	160	-4	-2A	-1	-4A	-400	-	20	-12	-500	TO-3P(N)	
TIP36C	TIP35C	-100	-25	-	125	55	160	-5	-1.5A	-1.8	-15A	-1.5A	3	-	-5	-1A		
TIP33C	TIP34C	100	10	-	80	55	160	4	2A	1	4A	400	-	20	12	500		
TIP35C	TIP36C	100	25	-	125	55	160	5	1.5A	1.8	15A	1.5A	3	-	5	1A		
BD135	BD136	45	1.5	1.25	10	40	250	2	150	0.5	500	50	-	190	5	50	TO-126	
BD136	BD135	-45	-1.5	1.25	10	40	250	-2	-150	-0.5	-500	-50	-	160	-5	-50		
BD139	BD140	80	1.5	1.25	10	40	250	2	150	0.5	500	50	-	190	5	50		
BD140	BD139	-80	-1.5	1.25	10	40	250	-2	-150	-0.5	-500	-50	-	160	-5	-50		

Note) : Ta=25 , : Tc=25

Switching Power Transistor

Type No.	Max. Ratings				h _{FE}			V _{CE(sat)} (V)			f _T (MHz)	t _{on} (μs)	t _{stg} (μs)	t _f (μs)	Package	Outline (Unit : mm)				
	V _{CBO} (V)	V _{CEO} (V)	I _C (A)	P _C (W)	Min.	Max.	V _{CE} (V)	I _C (A)	I _B (mA)	Min.	Typ.	Max.	Typ.	Max.			Typ.	Max.		
KTC3003	700	400	1.5	@1.1	9	38	2	0.5	0.5	100	4	-	1.1	-	4	-	0.7	TO-92		
KTC3003HV	900	530	1.5	@1.1	20	50	10	0.4	0.8	100	4	1.1	-	-	4	-	0.7			
MJE13003	700	400	1.5	20	9	38	2	0.5	0.5	100	4	-	1.1	-	4	-	0.7	TO-126		
MJE13003HV	900	530	1.5	20	20	50	10	0.4	0.8	100	4	1.1	-	-	4	-	0.7			
MJE13005F	700	400	4	30	18	39	5	1	0.5	1	200	4	-	0.8	-	4	-	0.9	TO-220IS	
MJE13007F	700	400	8	40	15	50	5	2	1	2	400	4	-	1.6	-	3	-	0.7		
MJE13009F	700	400	12	50	8	28	5	5	1	5	1A	4	-	1.1	-	3	-	0.7		
KTC5027F	1100	800	3	40	10	40	5	0.2	2	1.5	300	15	-	0.5	-	3	-	0.3		
MJE13005	700	400	4	75	18	39	5	1	0.5	1	200	4	-	0.8	-	4	-	0.9	TO-220AB	
MJE13005D	800	400	4	75	18	-	-	0.8	0.5	2	400	4	-	0.15	-	2	-	0.2		
MJE13007	700	400	8	80	15	50	5	2	1	2	400	4	-	1.6	-	3	-	0.7		
MJE13009	700	400	12	100	8	28	5	5	1	5	1A	4	-	1.1	-	3	-	0.7		
KTC5027	1,100	800	3	50	10	40	5	0.2	2	1.5	300	15	-	0.5	-	3	-	0.3		
MJE5555	1,050	400	5	75	20	40	3	0.8	0.5	1	200	-	-	0.2	-	2.5	-	0.3		

Note) : Typ. @ : Ta=25 , : Tc=25

Darlington Power Transistor

Type No.	Complementary	Max. Ratings			h _{FE}			V _{CE(sat)} (V)			Package	Outline (Unit : mm)		
		V _{CE} (V)	I _C (A)	P _C (W)	Min.	Typ.	Max.	V _{CE} (V)	I _C (A)	I _B (mA)				
MJD117L	MJD112L	-100	-2	20	1000	12000	-	-3	-2	-2	-2	-8	IPAK	
MJD112L	MJD117L	100	2	20	1000	12000	-	3	2	2	2	8		

Note) : Tc=25

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2N2222/A	Onsemi	KTN2222/A	2SA1150	Toshiba	KTA1272	2SA1510	Sanyo	KRA110S	2SB546A	NEC	KTB1369
2N2369/A	Onsemi	KTN2369/A	2SA1151	NEC	KTA1266	2SA1511	Sanyo	KRA110M	2SB560	Sanyo	KTA1023
2N2906	Onsemi	2N3906	2SA1156	NEC	KTA1277	2SA1518	Sanyo	KRA224S	2SB561	Renesas	KTA1270
2N2907/A	Onsemi	KTN2907/A	2SA1156	NEC	KTA1703	2SA1519	Sanyo	KRA223S	2SB562	Renesas	KTA1273
2N3904	Onsemi	2N3904	2SA1162	Toshiba	KTA1504S	2SA1520	Sanyo	KRA226S	2SB566	Renesas	KTB1368
2N3906	Onsemi	2N3906	2SA1173	NEC	KTA1660	2SA1521	Sanyo	KRA222S	2SB568	Renesas	KTB1369
2N5400	Onsemi	2N5400	2SA1175	NEC	KTA1267	2SA1522	Sanyo	KRA224M	2SB595	Toshiba	KTA1049
2N5401	Onsemi	2N5401	2SA1179	Sanyo	KTA1504S	2SA1523	Sanyo	KRA223M	2SB596	Toshiba	KTB1368
2N5550	Onsemi	2N5550	2SA1182	Toshiba	KTA1505S	2SA1524	Sanyo	KRA226M	2SB604	Panasonic	KTB1368
2N5551	Onsemi	2N5551	2SA1184	Toshiba	KTA1659A	2SA1525	Sanyo	KRA222M	2SB624	NEC	KTA1298
2SA473	Toshiba	KTA1658	2SA1191	Renesas	KTA1268	2SA1552	Sanyo	KTA1225D	2SB628	NEC	KTA1659A
2SA539	NEC	KTA1266	2SA1200	Toshiba	KTA1660	2SA1552	Sanyo	KTA1225L	2SB631K	Sanyo	KTB631K
2SA555	Fujitsu	KTA1266	2SA1201	Toshiba	KTA1661	2SA1559	Rohm	KTA1270	2SB646A	Renesas	KTA1024
2SA562TM	Toshiba	KTA1270	2SA1202	Toshiba	KTA1662	2SA1563	Sanyo	KRA107S	2SB647/A	Renesas	KTA1023
2SA564A	Panasonic	KTA1266	2SA1203	Toshiba	KTA1663	2SA1564	Sanyo	KRA107M	2SB649/A	Renesas	KTA1700
2SA574	JRC	KTA1266	2SA1204	Toshiba	KTA1001	2SA1576	Rohm	KTA2014	2SB649A	Renesas	KTA1700
2SA608	Sanyo	KTA1266	2SA1208	Sanyo	KTA1024	2SA1577	Rohm	KTA2015	2SB686	Toshiba	KTB688
2SA671	Renesas	KTA1046	2SA1213	Toshiba	KTA1666	2SA1579	Rohm	KTA2017	2SB688	Toshiba	KTB688
2SA673	Renesas	KTA1270	2SA1214	Toshiba	KTB1366	2SA1584	Rohm	KTA2017	2SB698	Sanyo	KTA1271
2SA683	Panasonic	KTA1273	2SA1220	NEC	KTA1704	2SA1586	NEC	KTA2014	2SB703	NEC	KTB1368
2SA684	Panasonic	KTA1281	2SA1222	NEC	KTA1275	2SA1587	Toshiba	KTA2017	2SB708	NEC	KTB1370
2SA715	Renesas	KTA1658	2SA1225	Toshiba	KTA1225D	2SA1588	Toshiba	KTA2015	2SB709A	Panasonic	KTA1504S
2SA719	Panasonic	KTA1270	2SA1225	Toshiba	KTA1225L	2SA1589	Sanyo	KRA113S	2SB710	Panasonic	KTA1505S
2SA733	NEC	KTA1266	2SA1235	Renesas	KTA1504S	2SA1590	Sanyo	KRA113M	2SB719	Renesas	KTB1369
2SA738	Renesas	KTA1658	2SA1241	Toshiba	KTA1718D	2SA1591	Sanyo	KRA106M	2SB720	Renesas	KTB1369
2SA740	Toshiba	KTB1369	2SA1241	Toshiba	KTA1718L	2SA1597	Sanyo	KRA106S	2SB725	Panasonic	KTA1266
2SA769	Sanken	KTB1368	2SA1242	Toshiba	KTA1242L	2SA1603	Renesas	KTA2014	2SB739	Renesas	KTA1273
2SA771	Sanken	KTA1049	2SA1242	Toshiba	KTA1242D	2SA1606	Sanyo	KTA1659A	2SB746	Renesas	KTA1270
2SA777	Panasonic	KTA1274	2SA1244	Toshiba	KTA1385D	2SA1608	NEC	KTA2015	2SB761/A	Panasonic	KTA1046
2SA812	NEC	KTA1504S	2SA1244	Toshiba	KTA1385L	2SA1611	NEC	KTA2014	2SB762	Panasonic	KTB1368
2SA813	NEC	KTA1504S	2SA1246	Sanyo	KTC3198	2SA1612	NEC	KTA2017	2SB764	Sanyo	KTA1281
2SA817A	Toshiba	KTA1274	2SA1252	Sanyo	KTA1504S	2SA1622	Sanyo	KTA2014	2SB766	Panasonic	KTA1663
2SA839	Toshiba	KTB1369	2SA1264N	Toshiba	KTB688	2SA1625	NEC	KTA1277	2SB767	Panasonic	KTA1662
2SA843	Panasonic	KTB1369	2SA1282A	Renesas	KTA1273	2SA1647	NEC	KTA1042L	2SB772	Sanyo	KTB772
2SA844	Renesas	KTA1266	2SA1284	Renesas	KTA1274	2SA1653	Sanyo	KRA119S	2SB776	Sanyo	KTB688
2SA854	Rohm	KTA1270	2SA1285	Renesas	KTA1024	2SA1654	Sanyo	KRA119M	2SB783	Renesas	KTB1368
2SA896	Sony	KTA1024	2SA1286	Renesas	KTA1273	2SA1655	Sanyo	KRA101S	2SB789A	Panasonic	KTA1661
2SA916	Renesas	KTA1024	2SA1296	Toshiba	KTA1273	2SA1656	Sanyo	KRA101M	2SB798	NEC	KTA1663
2SA917	Sony	KTA1024	2SA1304	Toshiba	KTB1369	2SA1676	Sanyo	KRA304	2SB805	NEC	KTA1661
2SA928	Sony	KTA1273	2SA1306	Toshiba	KTA1659A	2SA1677	Sanyo	KRA303	2SB807	Panasonic	KTA1660
2SA933	Rohm	KTA1266	2SA1309A	Panasonic	KTA1267	2SA1678	Sanyo	KRA302	2SB808	Sanyo	KTA1021
2SA933S	Rohm	KTA1267	2SA1312	Toshiba	KTA1517	2SA1689	Sanyo	BF421	2SB810	NEC	KTA1271
2SA934	Rohm	KTA1273	2SA1314	Toshiba	KTA1001	2SA1694	Sanken	KTB688	2SB814	Panasonic	KTA1517
2SA935	Rohm	KTA1023	2SA1317	Sanyo	KTA1267	2SA1694	Sanken	KTA1940	2SB815	Sanyo	KTA1298
2SA940	Toshiba	KTB1369	2SA1318	Sanyo	KTA1266	2SA1695	Sanken	KTA1695	2SB816	Sanyo	KTB688
2SA949	Toshiba	KTA1024	2SA1335	Rohm	KTA1268	2SA1706	Sanyo	KTA1281	2SB817	Sanyo	KTB817
2SA950	Toshiba	KTA1271	2SA1338	Sanyo	KTA1505S	2SA1721	Toshiba	KTA1073T	2SB834	Toshiba	KTA1046
2SA952	NEC	KTA1271	2SA1341	Sanyo	KRA104S	2SA1722	Sanyo	KRA318	2SB849	NEC	KTB688
2SA957	Sanken	KTB1369	2SA1342	Sanyo	KRA103S	2SA1727	Rohm	KTA1703	2SB856	Renesas	KTA1046
2SA958	Sanken	KTB1369	2SA1343	Sanyo	KRA109S	2SA1742	NEC	KTB1370	2SB858	Renesas	KTB1368
2SA965	Toshiba	KTA1023	2SA1344	Sanyo	KRA102S	2SA1745	Sanyo	KTA2015	2SB861	Renesas	KTB1369
2SA966	Toshiba	KTA1273	2SA1345	Sanyo	KRA104M	2SA1767	Panasonic	BF421	2SB864	Renesas	KTA1266
2SA968	Toshiba	KTA1659	2SA1346	Sanyo	KRA103M	2SA1774	Rohm	KTA2014E	2SB874	Renesas	KTA1715
2SA968A	Toshiba	KTA1659A	2SA1347	Sanyo	KRA109M	2SA1774H	Rohm	KTA2014E	2SB887	Sanyo	KTB2510
2SA970	Toshiba	KTA1268	2SA1348	Sanyo	KRA102M	2SA1775	Rohm	KTA1703	2SB890	Rohm	KTA200
2SA973	Panasonic	KTA1266	2SA1358	Toshiba	KTB631K	2SA1788	Rohm	KTB778	2SB892	Sanyo	KTA1281
2SA984	Sanyo	MPSA06	2SA1360	Toshiba	KTA1360	2SA1797	Rohm	KTA1666	2SB899	Renesas	KTA1046
2SA985A	NEC	KTA1659A	2SA1362	Toshiba	KTA1298	2SA1832	Toshiba	KTA2014E	2SB901	Renesas	KTB1368
2SA989	NEC	KTA1266	2SA1363	Renesas	KTA1001	2SA1832F	Toshiba	KTA2014E	2SB920/L	Sanyo	KTA1049
2SA990	NEC	KTA1266L	2SA1366	Rohm	KTA1505S	2SA1832FT	Toshiba	KTA2014V	2SB940A	Panasonic	KTB1369
2SA992	NEC	KTA1268	2SA1368	Renesas	KTA1662	2SA1834	Rohm	KTA1834D	2SB941	Panasonic	KTA1046
2SA1011	Sanyo	KTA1659A	2SA1370L	Sanyo	KTA1070	2SA1859A	Sanken	KTB1369	2SB942/A	Panasonic	KTB1368
2SA1013	Toshiba	KTA1275	2SA1381	Sanyo	KTA1381	2SA1862	Rohm	KTA1862D	2SB946	Panasonic	KTB1370
2SA1015	Toshiba	KTA1266	2SA1384	Rohm	KTA1384D	2SA1868	Panasonic	KTA1277	2SB956	Panasonic	KTA1663
2SA1016K	Sanyo	KTA1268	2SA1385	NEC	KTA1385D	2SA1873	Toshiba	KTA501U	2SB965	Renesas	KTB688
2SA1019	Sanyo	KTA1024	2SA1400	NEC	KTA1277	2SA1900	Rohm	KTA1666	2SB966	Renesas	KTB688
2SA1020	Toshiba	KTA1281	2SA1408	Toshiba	KTA1700	2SA1924	Toshiba	KTA1703	2SB984	NEC	KTA1275
2SA1030	Renesas	KTA1266	2SA1412-Z	NEC	KTA1862D	2SA1940	Toshiba	KTA1940	2SB1010	Rohm	KTA1273
2SA1032	Renesas	KTA1266L	2SA1416	Sanyo	KTA1661	2SA1952	Rohm	KTA1385D	2SB1015	Toshiba	KTA1046
2SA1036K	Rohm	KTA1505S	2SA1470	Sanyo	KTB1370	2SA1962	Toshiba	KTA1962	2SB1016	Toshiba	KTA1049
2SA1037K	Rohm	KTA1504S	2SA1490	Sanken	KTB688	2SA1993E	Renesas	KTA1266	2SB1017	Toshiba	KTB1368
2SA1037AK	Rohm	KTA1504S	2SA1492	Sanken	KTA1962	2SA2029	Rohm	KTA2014V	2SB1018	Toshiba	KTB1370
2SA1038	Rohm	KTA1268	2SA1496	Sanyo	KRA111S	2SA2030	Rohm	KTA2012V	2SB1025	Renesas	KTA1661
2SA1048	Toshiba	KTA1267	2SA1497	Sanyo	KRA111M	2SB434	Toshiba	KTA1046	2SB1030	Panasonic	KTA1271
2SA1049	Toshiba	KTA1268	2SA1498	Panasonic	KTA1703	2SB507	Sanyo	KTA1046	2SB1032K	Renesas	KTB2510
2SA1069	NEC	KTA1049	2SA1502	Sanyo	KRA118S	2SB512	Panasonic	KTA1046	2SB1033	Rohm	KTA1046
2SA1111	Panasonic	KTA1659A	2SA1503	Sanyo	KRA118M	2SB521	Sony	KTA1049	2SB1053	Panasonic	KTA1504S
2SA1121	Renesas	KTA1505S	2SA1507	Sanyo	KTA1700	2SB528	Renesas	KTB1369	2SB1063	Panasonic	KTA1049
2SA1127	Panasonic	KTA1266L	2SA1508	Sanyo	KRA114S	2SB544	Sanyo	KTA1273	2SB1069	Panasonic	KTA1658
2SA1145	Toshiba	KTA1024	2SA1509	Sanyo	KRA114M	2SB546	NEC	KTB1369	2SB1085A	Rohm	KTA1659A

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2SB1095	NEC	KTA1049	2SC1173	Toshiba	KTC4369	2SC2613	Renesas	KTC4419	2SC3396	Sanyo	KRC103S
2SB1096	NEC	KTB1369	2SC1213	Renesas	KTC3202	2SC2618	Renesas	KTC3876S	2SC3397	Sanyo	KRC109S
2SB1111	NEC	KTA1715	2SC1213A	Renesas	KTC200	2SC2620	Renesas	KTC3880S	2SC3398	Sanyo	KRC102S
2SB1114	NEC	KTA1001	2SC1342	Renesas	KTC3194	2SC2621	Sanyo	KTC2801	2SC3399	Sanyo	KRC104M
2SB1119	Sanyo	KTA1664	2SC1371	Panasonic	KTC3202	2SC2655	Toshiba	KTC3209	2SC3400	Sanyo	KRC103M
2SB1120	Sanyo	KTA1001	2SC1384	Renesas	KTC3209	2SC2668	Toshiba	KTC3195	2SC3401	Sanyo	KRC109M
2SB1123	Sanyo	KTA1666	2SC1398	Panasonic	KTC4369	2SC2670	Toshiba	KTC3191	2SC3402	Sanyo	KRC102M
2SB1123	Sanyo	KTA1666	2SC1419	Renesas	KTC2026	2SC2688	NEC	KTC4217	2SC3421	Toshiba	KTD600K
2SB1132	Rohm	KTA1664	2SC1505	NEC	KTC3208	2SC2703	Toshiba	KTD863	2SC3423	Toshiba	KTC3423
2SB1132	Rohm	KTA1664	2SC1569	Toshiba	KTC3208	2SC2705	Toshiba	KTC3206	2SC3440	Renesas	KTC3265
2SB1142	Sanyo	KTA1715	2SC1573	Panasonic	KTC3207	2SC2712	Toshiba	KTC3875S	2SC3444	Renesas	KTC4378
2SB1151	NEC	KTB1151	2SC1623	NEC	KTC3875S	2SC2713	Toshiba	KTC3911S	2SC3446	Sanyo	KTC4520F
2SB1181	Rohm	KTA1045D	2SC1674	NEC	KTC3194	2SC2714	Toshiba	KTC3880S	2SC3447	Sanyo	KTC4521F
2SB1182	Rohm	KTA1718D	2SC1675	NEC	KTC3192	2SC2715	Toshiba	KTC4079	2SC3468	Sanyo	KTC3207
2SB1184	Rohm	KTA1040D	2SC1684	Panasonic	KTC3190	2SC2724	Renesas	KTC3121	2SC3503	Sanyo	KTC3503
2SB1186A	Rohm	KTA1659A	2SC1685	Panasonic	KTC3198	2SC2732	Renesas	KTC3882	2SC3518	NEC	KTC5103D
2SB1187	Rohm	KTA1046	2SC1730	NEC	KTC2347	2SC2736	Renesas	KTC3121	2SC3518-Z	NEC	KTC5103D
2SB1188	Rohm	KTA1663	2SC1740	Rohm	KTC3198	2SC2755	NEC	KTC3880S	2SC3545K	NEC	KTC3121
2SB1189	Rohm	KTA1661	2SC1740S	Rohm	KTC3199	2SC2776	Renesas	KTC3879S	2SC3570	NEC	KTC4419
2SB1197K	Rohm	KTA1298	2SC1741	Rohm	KTC3202	2SC2784P	NEC	KTC3200	2SC3620	Toshiba	KTC2801
2SB1201	Sanyo	KTA1718L	2SC1741S	Rohm	KTC1020	2SC2785	NEC	KTC3199	2SC3621	Toshiba	KTC2800
2SB1201	Sanken	KTA1718D	2SC1809	Rohm	KTC3194	2SC2786	NEC	KTC3195	2SC3623	NEC	KTC3113
2SB1202	Sanyo	KTA1040D	2SC1815	Toshiba	KTC3198	2SC2812	Sanyo	KTC3875S	2SC3624	Toshiba	KTC3295
2SB1202	Sanyo	KTA1040L	2SC1826	Sanken	KTD2026	2SC2814	Sanyo	KTC3881S	2SC3631	NEC	KTC3631D
2SB1203	Sanyo	KTA1385D	2SC1841	NEC	KTC3200	2SC2839	Sanyo	KTC3194	2SC3691	NEC	KTC2028
2SB1203	Sanyo	KTA1385L	2SC1845	NEC	KTC3200	2SC2856	Renesas	KTC3200	2SC3830	Sanken	KTC4521F
2SB1205	Sanyo	KTA1242D	2SC1881	Renesas	KTD2424	2SC2859	Toshiba	KTC3876S	2SC3856	Sanken	KTC5242
2SB1205	Sanyo	KTA1242L	2SC1905	Panasonic	KTC3208	2SC2873	Toshiba	KTC4379	2SC3859	Sanyo	KRC111S
2SB1212	Rohm	KTA1275	2SC1913	Panasonic	KTD2061	2SC2873	Toshiba	KTC4379	2SC3860	Sanyo	KRC111M
2SB1216	Sanyo	KTA1042D	2SC1921	Renesas	KTC3229	2SC2878	Toshiba	KTC2874	2SC3863	Sanyo	KRC118S
2SB1216	Sanyo	KTA1042L	2SC1923	Toshiba	KTC3194	2SC2880	Toshiba	KTC4372	2SC3864	Sanyo	KRC118M
2SB1218	Panasonic	KTA1504S	2SC1959	Toshiba	KTC3202	2SC2881	Toshiba	KTC4373	2SC388A	Toshiba	KTC3197
2SB1218A	Panasonic	KTA2014	2SC1983	Sanken	KTD2092	2SC2882	Toshiba	KTC4374	2SC3898	Sanyo	KRC114S
2SB1219	Panasonic	KTA2015	2SC2001	NEC	KTC3203	2SC2883	Toshiba	KTC4375	2SC3899	Sanyo	KRC114M
2SB1220	Panasonic	KTA2017	2SC2060	Rohm	KTD863	2SC2884	Toshiba	KTC4376	2SC3900	Sanyo	KRC110S
2SB1234	Sanyo	KTB1234T	2SC2061	Rohm	KTC1006	2SC2982	Toshiba	KTC4377	2SC3901	Sanyo	KRC110M
2SB1237	Rohm	KTA1273	2SC2073	Toshiba	KTD2061	2SC2983	Toshiba	KTC2983D	2SC3906K	Rohm	KTC3911S
2SB1240	Rohm	KTA1281	2SC2075	Toshiba	Conserved/Discontinued	2SC2983	Toshiba	KTC2983L	2SC3912	Sanyo	KRC244S
2SB1261	NEC	KTA1040L	2SC2078	Sanyo	Conserved/Discontinued	2SC3068	Sanyo	KTC3112	2SC3913	Sanyo	KRC243S
2SB1261-Z	NEC	KTA1040D	2SC2120	Toshiba	KTC3203	2SC3072	Toshiba	KTC3072D	2SC3914	Sanyo	KRC246S
2SB1274	Sanyo	KTA1046	2SC2167	Sanken	KTD2061	2SC3072	Toshiba	KTC3072L	2SC3915	Sanyo	KRC242S
2SB1275	Rohm	KTA1225D	2SC2168	Sanken	KTD2061	2SC3074	Toshiba	KTC5103L	2SC3916	Sanyo	KRC244M
2SB1290	Rohm	KTB1370	2SC2210	Sanyo	KTC3193	2SC3074	Toshiba	KTC5103D	2SC3917	Sanyo	KRC243M
2SB1293	Rohm	KTA1049	2SC2228	Sanyo	KTC1026	2SC3076	Toshiba	KTC2815L	2SC3918	Sanyo	KRC246M
2SB1294	Rohm	KTA1049	2SC2229	Toshiba	KTC3206	2SC3112	Toshiba	KTC3112	2SC3919	Sanyo	KRC242M
2SB1315	NEC	KTB688	2SC2230	Toshiba	KTC1026	2SC3113	Toshiba	KTC3113	2SC3920	Sanyo	KTC2800
2SB1316	Rohm	MJD117	2SC2233	Toshiba	KTC1003	2SC3121	Toshiba	KTC3121	2SC3930	Panasonic	KTC4079
2SB1328	Rohm	KTA1700	2SC2235	Toshiba	KTC1027	2SC3124	Toshiba	KTC3882	2SC3931	Panasonic	KTC4081
2SB1364	Renesas	KTA1663	2SC2236	Toshiba	KTC3205	2SC3125	Toshiba	KTC3881S	2SC3932	Panasonic	KTC4021
2SB1371	Panasonic	KTB688	2SC2238	Toshiba	KTC4370A	2SC3134	Sanyo	KTC3875S	2SC3938	Panasonic	KTC4076
2SB1374	Rohm	KTA1281	2SC2239	Toshiba	KTD2061	2SC3142	Sanyo	KTC3880S	2SC3969	Rohm	KTC4520F
2SB1375	Toshiba	KTA1046	2SC2240	Toshiba	KTC3200	2SC3142A	Renesas	KTC3205	2SC4002	Sanyo	MPSA44
2SB1385	NEC	KTA1385L	2SC2274	Sanyo	KTC200	2SC3181N	Toshiba	KTD718	2SC4008	Rohm	KTD2060
2SB1409L	Renesas	KTA1225L	2SC2275A	NEC	KTC4370A	2SC3187	Panasonic	KTC3207	2SC4047	Sanyo	KRC107S
2SB1409S	Renesas	KTA1225D	2SC2295	Panasonic	KTC3879S	2SC3225	Toshiba	KTC3209	2SC4048	Sanyo	KRC107M
2SB1412	Rohm	KTA1242D	2SC2320/L	Renesas	KTC3198/L	2SC3243	Renesas	KTD863	2SC4051	Shindengen	KTC4520F
2SB1417	Panasonic	KTA1046	2SC2344	Sanyo	KTD2061	2SC3246	Renesas	KTC3209	2SC4053	Shindengen	KTC4521F
2SB1421	Panasonic	KTB688	2SC2347	Toshiba	KTC2347	2SC3247	Renesas	KTD863	2SC4061K	Rohm	MMBTA42
2SB1455	Sanyo	KTA1049	2SC2349	Toshiba	KTC2347	2SC3248	Renesas	KTC1026	2SC4062	NEC	KTD1937
2SB1475	NEC	KTA2015	2SC2362	Sanyo	KTC3200	2SC3249	Renesas	KTC3207	2SC4068	Panasonic	KTC4080
2SB1530	Renesas	KTB1369	2SC2371	NEC	KTC2801	2SC3252	Sanyo	KTC4369	2SC4081	Rohm	KTC4075
2SB1560	Sanken	KTB2510	2SC2383	Toshiba	KTC3228	2SC3258	Toshiba	KTC2028	2SC4082	Rohm	KTC4082
2SB1561	Rohm	KTA1666	2SC2389	Rohm	KTC3200	2SC3266	Toshiba	KTC3205	2SC4097	Rohm	KTC4076
2SB1565	Rohm	KTA1046	2SC2404	Panasonic	KTC3880S	2SC3269	Rohm	KTC3207	2SC4099	Rohm	KTC4080
2SB1650	Rohm	KTA1700	2SC2410	Rohm	KTC3192	2SC3271F	Rohm	KTC2801	2SC4100	Rohm	KTC4021
2SB1725	Sanken	KTB1370	2SC2411K	Rohm	KTC3876S	2SC3295	Toshiba	KTC3295	2SC4102	Rohm	KTC4077
2SB1859A	Sanken	KTB1369	2SC2412K	Rohm	KTC3875S	2SC3296	Toshiba	KTD2061	2SC4116	Toshiba	KTC4075
2SB1891	Toshiba	KTA1715	2SC2413K	Rohm	KTC3879S	2SC3297	Toshiba	KTC4369	2SC4117	Toshiba	KTC4077
2SC380TM	Toshiba	KTC3192	2SC2458	Toshiba	KTC3199	2SC3298	Toshiba	KTC4370A	2SC4118	Toshiba	KTC4076
2SC382TM	Toshiba	KTC3197	2SC2459	Toshiba	KTC3200	2SC3303	Toshiba	KTC2022D	2SC4120	Sanyo	KRC113S
2SC458	Renesas	KTC3190	2SC2462	Renesas	KTC3875S	2SC3303	Toshiba	KTC2022L	2SC4121	Sanyo	KRC113M
2SC460	Renesas	KTC3192	2SC2480	Panasonic	KTC3882	2SC3311	Panasonic	KTC3191	2SC4129	Rohm	MJE13007F
2SC535	Renesas	KTC3194	2SC2482	Toshiba	KTC3207	2SC3313	Panasonic	KTC3193	2SC4129	Rohm	KTC4419
2SC536	Sanyo	KTC3198	2SC2500	Toshiba	KTC3226	2SC3315	Panasonic	KTC3195	2SC4133	Sanyo	KRC106M
2SC789	Toshiba	KTD2060	2SC2501	Shindengen	KTC4419	2SC3326	Toshiba	KTD1304	2SC4137	Rohm	KTC3114
2SC790	Toshiba	KTC2026	2SC2517	NEC	KTC2028	2SC3327	Toshiba	KTD1303	2SC4146	Sanyo	KRC106S
2SC829	Panasonic	KTC3192	2SC2535	Toshiba	KTC4419	2SC3330	Sanyo	KTC3199/L	2SC4154	Renesas	KTC4075
2SC945	NEC	KTC3198	2SC2542	Fuji	KTC4419	2SC3331	Sanyo	KTC3198	2SC4155	Renesas	KTC4075
2SC1047	Panasonic	KTC3194	2SC2553	Toshiba	KTC4419	2SC3382	Sanyo	KTC3198L	2SC4177	NEC	KTC4075
2SC1061	Renesas	KTC2026	2SC2610	Renesas	KTC3207	2SC3395	Sanyo	KRC104S	2SC4178	NEC	KTC4080

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2SC4179	NEC	KTC4079	2SC5248	Rohm	KTD2061	2SD722	Sanken	KTD1415	2SD1423	Panasonic	KTC1020
2SC4180	NEC	KTC4077	2SC5658	Rohm	KTC4075V	2SD723	Renesas	KTD2060	2SD1424	Panasonic	KTC3199
2SC4181	NEC	KTC4075	2SC5663	Rohm	KTC4072V	2SD731	Panasonic	KTD718	2SD1436K	Renesas	KTD1510
2SC4182	NEC	KTC4082	2SC5738	Toshiba	KTC3536T	2SD734	Sanyo	KTC3208	2SD1491	NEC	KTC2814
2SC4184	NEC	KTC4021	2SD57	Renesas	KTC2028	2SD743/A	NEC	KTC2028	2SD1504	Renesas	KTC3204
2SC4207	Sanyo	KTC2983D	2SD58	Renesas	KTC2028	2SD759	Renesas	KTC4370A	2SD1505	Rohm	KTC2026
2SC4207	Sanyo	KTC2983L	2SD78	NEC	KTC2028	2SD760	Renesas	KTC4370A	2SD1562A	Rohm	KTC4370A
2SC4211	Sanyo	KTC3875S	2SD122	Renesas	KTD2060	2SD761	Sanyo	KTC4370A	2SD1582	NEC	KTD1028
2SC4215	Toshiba	KTC4080	2SD141	NEC	KTC2028	2SD768	Renesas	KTD1415	2SD1585	NEC	KTC2026
2SC4216	Sanyo	KRC110M	2SD142	NEC	KTC2028	2SD795	NEC	KTC2026	2SD1586	NEC	KTC2028
2SC4217	Sanyo	KTC4217	2SD143	NEC	KTC2028	2SD837	Panasonic	KTD1414	2SD1587	NEC	KTD2061
2SC4239	Panasonic	KTC3121	2SD144	NEC	KTC2028	2SD856/A	Panasonic	KTC2026	2SD1614	NEC	KTC4377
2SC4246	Toshiba	KTC4021	2SD146	Fuji	KTC2028	2SD857/A	Panasonic	KTD2020	2SD1615	NEC	KTC4378
2SC4250	Toshiba	KTC4021	2SD147	Fuji	KTC2028	2SD863	Sanyo	KTD863	2SD1619	Sanyo	KTC4377
2SC4251	Toshiba	KTC4082	2SD148	Fuji	KTC2028	2SD874	Panasonic	KTC4375	2SD1622	Sanyo	KTC4378
2SC4253	Toshiba	KTC4081	2SD150	NEC	KTC2028	2SD874A	Panasonic	KTC4378	2SD1623	Sanyo	KTC4379
2SC4258	Renesas	KTC4080	2SD152	NEC	KTD2060	2SD879	Sanyo	KTD1146	2SD1664	Rohm	KTC4375
2SC4259	Renesas	KTC4080	2SD154	NEC	KTD2060	2SD880	Toshiba	KTC2026	2SD1682	Sanyo	KTC2814
2SC4262	Renesas	KTC4021	2SD155	NEC	KTD2060	2SD882	Sanyo	KTD882	2SD1691	NEC	KTD1691
2SC4265	Renesas	KTC4081	2SD234	Toshiba	KTC2028	2SD887	Panasonic	KTC2026	2SD1733	Rohm	KTC2025D
2SC4269	Sanyo	KTC3121	2SD235	Toshiba	KTC2028	2SD896	Sanyo	KTD718	2SD1758	Rohm	KTC3205
2SC4270	Sanyo	KTC3882	2SD254	NEC	KTC2028	2SD921	Fuji	KTD921	2SD1758	Rohm	KTC2815D
2SC4331	NEC	KTC2022L	2SD255	NEC	KTC2028	2SD965	Panasonic	KTD1146	2SD1760	Rohm	KTC2020L
2SC4338	NEC	MJD112L	2SD256	Sanken	KTC2028	2SD966	Panasonic	KTD1145	2SD1760	Rohm	KTC2020D
2SC4362	Sanyo	KRC101S	2SD288	NEC	KTC2028	2SD968	Panasonic	KTC4373	2SD1763A	Rohm	KTC4370A
2SC4363	Sanyo	KRC101M	2SD289	NEC	KTC2028	2SD972	Sanken	KTD1413	2SD1767	Rohm	KTC4373
2SC4397	Sanyo	KRC403	2SD291	Sony	KTC2028	2SD999	NEC	KTC4375	2SD1770	Panasonic	KTD2061
2SC4398	Sanyo	KRC402	2SD292	Sony	KTC2028	2SD1000	NEC	KTC4378	2SD1772	Panasonic	KTD2061
2SC4400	Sanyo	KTC4080	2SD313	Sanyo	KTC2028	2SD1001	NEC	KTC4374	2SD1778	Rohm	KTD2060
2SC4406	Sanyo	KTC4021	2SD314	Sanyo	KTC2028	2SD1007	NEC	KTC4374	2SD1781	Rohm	KTC3265
2SC4413	Sanyo	KTC4075	2SD315	Sanyo	KTD2060	2SD1010	Panasonic	KTC3112	2SD1801	Sanyo	KTC2815D
2SC4418	Sanken	KTC4419	2SD317/A	Panasonic	KTD2060	2SD1020	NEC	KTC3204	2SD1801	Sanyo	KTC2815L
2SC4448	Toshiba	KTC1001	2SD318/A	Panasonic	KTD2060	2SD1029	Sanyo	KTD2060	2SD1802	Sanyo	KTC2020D
2SC4467	Sanken	KTD718	2SD325	Sanyo	KTC4369	2SD1047	Sanyo	KTD1047	2SD1802	Sanyo	KTC2020D
2SC4467	Sanken	KTC5197	2SD342	Sony	KTC2028	2SD1048	Sanyo	KTC3265	2SD1802	Sanyo	KTC2020L
2SC4468	Sanken	KTC4468	2SD343	Sony	KTC2028	2SD1052	Toshiba	KTC2026	2SD1803	Sanyo	KTC5103D
2SC4497	Toshiba	KTC3207T	2SD344	Sony	KTC2028	2SD1060	Sanyo	KTC2028	2SD1803	Sanyo	KTC5103D
2SC4506	Rohm	KTC3229	2SD345	Sony	KTC2028	2SD1110	NEC	KTD718	2SD1803	Sanyo	KTC5103L
2SC4507	Fuji	KTC4419	2SD346	Sony	KTD2060	2SD1119	Panasonic	KTC4377	2SD1805	Sanyo	KTC3072D
2SC4511	Sanken	KTC2028	2SD347	Sony	KTD2060	2SD1128	Fuji	KTD2066	2SD1805	Sanyo	KTC3727L
2SC4512	Sanken	KTC2028	2SD359	Renesas	KTC2028	2SD1131	Renesas	KTD2060	2SD1816	Sanyo	KTC2022D
2SC4533	Panasonic	KTC4520F	2SD360	Renesas	KTC2028	2SD1132	Renesas	KTD2060	2SD1816	Sanyo	KTC2022L
2SC4544	Toshiba	KTC3229	2SD361	Renesas	KTC2028	2SD1133	Renesas	KTD2060	2SD1819A	Panasonic	KTC4075
2SC4546	Sanken	MJE13007F	2SD365	Panasonic	KTC2028	2SD1134	Renesas	KTD2060	2SD1820	Panasonic	KTC4076
2SC4549	NEC	KTC2028	2SD389	Panasonic	KTD2060	2SD1135	Renesas	KTD2060	2SD1824	Panasonic	KTC4077
2SC4553	NEC	KTD1937	2SD390	Panasonic	KTD2060	2SD1136	Renesas	KTD2060	2SD1851	Sanyo	KTD1854T
2SC4555	Sanyo	KTC4076	2SD401A	NEC	KTD2061	2SD1138	Renesas	KTD2061	2SD1858	Rohm	KTD863
2SC4558	Sanken	KTD2066	2SD415	NEC	KTD600K	2SD1145	Sanyo	KTD1145	2SD1859	Rohm	KTD1863
2SC4573	Rohm	KTD1414	2SD418	Panasonic	KTD2499	2SD1147	Fuji	KTD1413	2SD1863	Rohm	KTD1863
2SC4574	Rohm	KTD1414	2SD438	Sanyo	KTC1027	2SD1157	Fuji	KTD2060	2SD1896	Rohm	KTC2028
2SC4596	Rohm	KTC2028	2SD468	Renesas	KTC3205	2SD1177	Renesas	KTC2814	2SD1897	Rohm	KTC2028
2SC4617	Rohm	KTC4075E	2SD471	NEC	KTC3205	2SD1190	Sanyo	KTD1414	2SD1898	Rohm	KTD1898
2SC4617H	Rohm	KTC4075E	2SD475	Renesas	KTD2060	2SD1195	Sanyo	KTD1413	2SD1898	Rohm	KTD1898
2SC4620	Rohm	MPSA44	2SD476	Renesas	KTD2060	2SD1197	Sanyo	KTD1510	2SD1899	NEC	KTC2020L
2SC4628	Renesas	KTC3195	2SD477	Renesas	KTD2061	2SD1207	Sanyo	KTC3209	2SD1899-Z	NEC	KTC2020D
2SC4662	Sanken	KTC4419	2SD478	Renesas	KTD2061	2SD1207S	Sanyo	KTC3209	2SD1913	Sanyo	KTC2026
2SC4667	Toshiba	2N3904S	2SD488	Onsemi	KTD2060	2SD1218	Panasonic	KTD1414	2SD1918	Rohm	KTC2983D
2SC4672	Rohm	KTC4379	2SD489	Onsemi	KTD2060	2SD1236	Sanyo	KTC2028	2SD1932	Rohm	KTD1414
2SC4680	Renesas	KTC3121	2SD490	Onsemi	KTD2060	2SD1247	Sanyo	KTD1145	2SD1933	Rohm	KTD1414
2SC4688	Toshiba	KTD718	2SD525	Toshiba	KTC2028	2SD1264/A	Panasonic	KTD2061	2SD1944	Rohm	KTD2092
2SC4689	Toshiba	KTD718	2SD526	Toshiba	KTD2060	2SD1268	Panasonic	KTD2060	2SD1960	Rohm	KTD1146
2SC4738	Toshiba	KTC4075E	2SD560	NEC	TIP112F	2SD1270	Panasonic	KTC2028	2SD1972	Panasonic	KTC2026
2SC4738F	Toshiba	KTC4075E	2SD570	Panasonic	KTD2060	2SD1273	Panasonic	KTD2092	2SD1977	NEC	KTD718
2SC4738FT	Toshiba	KTC4075V	2SD580	Toshiba	KTC2026	2SD1276	Panasonic	KTD1414	2SD1980	Rohm	MJD112
2SC4772	Rohm	KTC4081	2SD600K	Sanyo	KTD600K	2SD1280	Panasonic	KTC4375	2SD1990	Panasonic	KTD2060
2SC4828	Renesas	KTC2801	2SD601	Panasonic	KTC3875S	2SD1288	NEC	KTD718	2SD2004	Rohm	KTC2800
2SC4833	Shindengen	KTC4419	2SD602	Panasonic	KTC3876S	2SD1289	NEC	KTD718	2SD2012	Toshiba	KTC2026
2SC4848	Rohm	KTC4511	2SD633	Toshiba	KTD1415	2SD1302	Panasonic	KTC3202	2SD2014	Sanken	KTD1414
2SC4849	Rohm	KTC4511	2SD634	Toshiba	KTD1415	2SD1328	Panasonic	KTC2875	2SD2022	Rohm	KTD2424
2SC4883/A	Sanken	KTD2061	2SD635	Toshiba	KTD1415	2SD1353	Toshiba	KTC2026	2SD2023	Rohm	KTC2026
2SC4915	Toshiba	KTC4080E	2SD667	Renesas	KTD1863	2SD1354	Toshiba	KTC2026	2SD2027	Sanyo	KTC2026
2SC4917	Toshiba	MJE13003	2SD667	Renesas	KTD1863	2SD1369	Toshiba	KTD2424	2SD2032	Rohm	KTD1414
2SC4944	Toshiba	KTC601U	2SD669A	Renesas	KTC2800	2SD1370	Toshiba	KTD1414	2SD2035	Rohm	KTD2060
2SC5001	Rohm	KTC5001D	2SD678A	Panasonic	KTD1415	2SD1383K	Rohm	MMBTA63	2SD2051	Panasonic	KTD2424
2SC5028	Toshiba	KTC2814	2SD679A	Panasonic	KTD1415	2SD1384	Rohm	KTC3205	2SD2061	Rohm	KTC2026
2SC5101	Sanken	KTD718	2SD686	Toshiba	KTD1414	2SD1406	Toshiba	KTC2026	2SD2064	Panasonic	KTD718
2SC5103F5	Rohm	KTC5103D	2SD687	Toshiba	KTD2424	2SD1407	Toshiba	KTC2028	2SD2092	Toshiba	KTD2092
2SC5113	Rohm	KTC4521F	2SD691	Panasonic	KTD1415	2SD1408	Toshiba	KTD2060	2SD2102	Renesas	KTD1414
2SC5197	Toshiba	KTC5197	2SD718	Toshiba	KTD718	2SD1414	Toshiba	KTD1414	2SD2107	Renesas	KTD2060
2SC5242	Toshiba	KTC5242	2SD721	Sanken	KTD1415	2SD1415	Toshiba	KTD1415	2SD2110	Renesas	KTD1414

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Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2SD2118	Rohm	KTC3072	BCW61A/B/D	Onsemi	KTA1504S	CPH3210	Sanyo	KTC3543T	DTA143XKA	Rohm	KRA119S
2SD2118	Rohm	KTC3072D	BCW68	Onsemi	BCW68	CPH3212	Sanyo	KTC3553T	DTA143XM	Rohm	KRA319V
2SD2123L	Renesas	KTC2983L	BCW69	Onsemi	BCW69	CPH3214	Sanyo	KTC3532T	DTA143XSA	Rohm	KRA119M
2SD2123S	Renesas	KTC2983D	BCW70	Onsemi	BCW70	CPH3215	Sanyo	KTC3541T	DTA143XUA	Rohm	KRA319
2SD2128	Renesas	KTD2424	BCW71	Onsemi	BCW71	CPH3216	Sanyo	KTC3551T	DTA143ZE	Rohm	KRA306E
2SD2129	Toshiba	KTD1413	BCW72	Onsemi	BCW72	CPH6701	Sanyo	KTX512T	DTA143ZK	Rohm	KRA106S
2SD2156/A	Panasonic	KTD2092	BCW89	Onsemi	BCW89	CPH6702	Sanyo	KTX511T	DTA143ZM	Rohm	KRA306V
2SD2157/A	Panasonic	KTD1414	BCX52	Onsemi	KTA1666	DTA113ZE	Rohm	KRA316E	DTA143ZS	Rohm	KRA106M
2SD2158/A	Panasonic	KTD2092	BCX70G/H/J/K	Onsemi	KTC3875S	DTA113ZKA	Rohm	KRA116S	DTA143ZU	Rohm	KRA306
2SD2164	NEC	KTD2092	BCX71G/H/J/K	Onsemi	KTA1504S	DTA113ZSA	Rohm	KRA116M	DTA144EE	Rohm	KRA304E
2SD2188	Rohm	KTD2066	BD239/A	Onsemi	KTC2026	DTA113ZUA	Rohm	KRA316	DTA144EK	Rohm	KRA104S
2SD2223	Sanyo	KTD1414	BD239B	Onsemi	KTD2060	DTA114EE	Rohm	KRA302E	DTA144EM	Rohm	KRA304V
2SD2227S	Rohm	KTC3199	BD239C	Onsemi	KTC2028	DTA114EK	Rohm	KRA102S	DTA144ES	Rohm	KRA104M
2SD2228	NEC	KTC4076	BD240/A	Onsemi	KTA1046	DTA114EM	Rohm	KRA302V	DTA144EU	Rohm	KRA304
2SD2241	Toshiba	KTD1413	BD240B	Onsemi	KTA1046	DTA114ES	Rohm	KRA102M	DTA144TE	Rohm	KRA314E
2SD2242	Panasonic	KTD1414	BD240C	Onsemi	KTA1049	DTA114EU	Rohm	KRA302	DTA144TK	Rohm	KRA114S
2SD2257	Toshiba	KTD1413	BD241/A	Onsemi	KTC2026	DTA114TE	Rohm	KRA311E	DTA144TM	Rohm	KRA314V
2SD2264	Rohm	KTD1145	BD241B	Onsemi	KTD2060	DTA114TK	Rohm	KRA111S	DTA144TS	Rohm	KRA114M
2SD2337	Renesas	KTD2061	BD241C	Onsemi	KTC2028	DTA114TM	Rohm	KRA311V	DTA144TU	Rohm	KRA314
2SD2342	Renesas	KTD998	BD242/A	Onsemi	KTC2026	DTA114TS	Rohm	KRA111M	DTA144VKA	Rohm	KRA121S
2SD2343	Rohm	KTC4370A	BD242B	Onsemi	KTB1368	DTA114TU	Rohm	KRA311	DTA144VSA	Rohm	KRA121M
2SD2351	Rohm	KTC4666	BD242C	Onsemi	KTA1049	DTA114WE	Rohm	KRA320E	DTA144VUA	Rohm	KRA321
2SD2389	Sanken	KTD1510	BD243B/C	Onsemi	KTC4511	DTA114WKA	Rohm	KRA120S	DTA144WE	Rohm	KRA309E
2SD2390	Sanken	KTD1510	BD244	Onsemi	KTA1725	DTA114WSA	Rohm	KRA120M	DTA144WK	Rohm	KRA109S
2SD2566	Rohm	KTC2800	BD244A	Onsemi	KTA1725	DTA114WUA	Rohm	KRA320	DTA144WS	Rohm	KRA109M
2SD3076	Toshiba	KTC2815D	BD244B	Onsemi	KTA1725	DTA114YE	Rohm	KRA307E	DTA144WU	Rohm	KRA309
2SD3518	NEC	KTC5103L	BD244C	Onsemi	KTA1725	DTA114YK	Rohm	KRA107S	DTA155EM	Rohm	KRA322V
BA1A3Q	NEC	KRC116M	BD677A	Fairchild	KTD1411	DTA114YM	Rohm	KRA307V	DTB113EK	Rohm	KRA221S
BA1A4M	NEC	KRC102M	BD795	Onsemi	KTC4511	DTA114YS	Rohm	KRA107M	DTB113ES	Rohm	KRA221M
BA1A4P	NEC	KRC107M	BD796	Onsemi	KTA1725	DTA114YU	Rohm	KRA307	DTB113ZK	Rohm	KRA225S
BA1A4Z	NEC	KRC111M	BD797	Onsemi	KTC4511	DTA115EE	Rohm	KRA322E	DTB113ZS	Rohm	KRA225M
BA1F4M	NEC	KRC103M	BD798	Onsemi	KTA1725	DTA115EKA	Rohm	KRA122S	DTB114EK	Rohm	KRA224S
BA1F4N	NEC	KRC108M	BD799	Onsemi	KTC4511	DTA115ESA	Rohm	KRA122M	DTB114ES	Rohm	KRA224M
BA1F4Z	NEC	KRC113M	BD800	Onsemi	KTA1725	DTA115EUA	Rohm	KRA322	DTB123EK	Rohm	KRA222S
BAIL3M	NEC	KRC101M	BD801	Onsemi	KTC4511	DTA115TE	Rohm	KRA312E	DTB123ES	Rohm	KRA222M
BAIL3N	NEC	KRC119M	BD802	Onsemi	KTA1725	DTA115TH	Rohm	KRA312E	DTB123YK	Rohm	KRA226S
BAIL3Z	NEC	KRC110M	BD805	Onsemi	KTC4511	DTA115TK	Rohm	KRA112S	DTB123YS	Rohm	KRA226M
BAIL4L	NEC	KRC109M	BD806	Onsemi	KTA1725	DTA115TM	Rohm	KRA312V	DTB143EK	Rohm	KRA223S
BAIL4M	NEC	KRC104M	BD807	Onsemi	KTC4511	DTA115TS	Rohm	KRA112M	DTB143ES	Rohm	KRA223M
BAIL4Z	NEC	KRC114M	BD808	Onsemi	KTA1725	DTA115TU	Rohm	KRA312	DTB113ZE	Rohm	KRC416E
BC115	STM	KTC1008	BD809	Onsemi	KTC4512	DTA123EE	Rohm	KRA317E	DTC113ZKA	Rohm	KRC116S
BC140	STM	KTC1008	BD810	Onsemi	KTA1726	DTA123EKA	Rohm	KRA117S	DTC113ZSA	Rohm	KRC116M
BC211	STM	KTC1008	BF420	Philips	BF420	DTA123EM	Rohm	KRA317V	DTC113ZUA	Rohm	KRC416
BC237	Onsemi	BC237	BF421	Philips	BF421	DTA123ESA	Rohm	KRA117M	DTC114EE	Rohm	KRC402E
BC238	Onsemi	BC238	BF422	Philips	BF422	DTA123EUA	Rohm	KRA317	DTC114EK	Rohm	KRC102S
BC239	Onsemi	BC239	BF423	Philips	BF423	DTA123JE	Rohm	KRA305E	DTC114EM	Rohm	KRC402V
BC307	Onsemi	BC307	BF599	Onsemi	BF599	DTA123JK	Rohm	KRA105S	DTC114ES	Rohm	KRC102M
BC308	Onsemi	BC308	BFQ31	Onsemi	BFQ31	DTA123JM	Rohm	KRA305V	DTC114EU	Rohm	KRC402
BC309	Onsemi	BC309	BFS17	Onsemi	KTC3121	DTA123JS	Rohm	KRA105M	DTC114TE	Rohm	KRC411E
BC337	STM	BC337	BFS20	Onsemi	BFS20	DTA123JU	Rohm	KRA305	DTC114TK	Rohm	KRC111S
BC340	STM	KTC1008	BN1A3Q	NEC	KRA116M	DTA123YE	Rohm	KRA318E	DTC114TM	Rohm	KRC411V
BC341	STM	KTC1008	BN1A4M	NEC	KRA102M	DTA123YKA	Rohm	KRA118S	DTC114TS	Rohm	KRC111M
BC342	STM	KTC1008	BN1A4P	NEC	KRA107M	DTA123YSA	Rohm	KRA118M	DTC114TU	Rohm	KRC411
BC395	STM	KTC1008	BN1A4Z	NEC	KRA111M	DTA123YUA	Rohm	KRA318	DTC114WE	Rohm	KRC420E
BC550	Onsemi	BC550	BN1F4M	NEC	KRA103M	DTA124EE	Rohm	KRA303E	DTC114WKA	Rohm	KRC120S
BC807	Onsemi	BC807	BN1F4N	NEC	KRA108M	DTA124EK	Rohm	KRA103S	DTA114WSA	Rohm	KRC120M
BC817	Onsemi	BC817	BN1F4Z	NEC	KRA113M	DTA124EM	Rohm	KRA303V	DTA114WUA	Rohm	KRC420
BC846	Onsemi	BC846	BN1L3M	NEC	KRA101M	DTA124ES	Rohm	KRA103M	DTC114YE	Rohm	KRC407E
BC846WLT1	Onsemi	BC846W	BN1L3N	NEC	KRA119M	DTA124EU	Rohm	KRA303	DTC114YK	Rohm	KRC107S
BC847	Onsemi	BC847	BN1L3Z	NEC	KRA110M	DTA124TE	Rohm	KRA313E	DTA114YM	Rohm	KRC407V
BC847WLT1	Onsemi	BC847W	BN1L4L	NEC	KRA109M	DTA124TH	Rohm	KRA313E	DTC114YS	Rohm	KRC107M
BC848	Onsemi	BC848	BN1L4M	NEC	KRA104M	DTA124TK	Rohm	KRA113S	DTC114YU	Rohm	KRC407
BC848WLT1	Onsemi	BC848W	BN1L4Z	NEC	KRA114M	DTA124TM	Rohm	KRA313V	DTC115EE	Rohm	KRC422E
BC849	Onsemi	BC849	BSS63	Onsemi	BSS63	DTA124TS	Rohm	KRA113M	DTC115EKA	Rohm	KRC122S
BC850	Onsemi	BC850	BSS64	Onsemi	BSS64	DTA124TU	Rohm	KRA313	DTC115ESA	Rohm	KRC122M
BC856	Onsemi	BC856	BUV46	STM	KTC4520F	DTA124XE	Rohm	KRA308E	DTC115EUA	Rohm	KRC422
BC856WLT1	Onsemi	BC856W	BUX84	Onsemi	KTC4419	DTA124XK	Rohm	KRA108S	DTC115TH	Rohm	KRC412E
BC857	Onsemi	BC857	CPH3101	Sanyo	KTA1544T	DTA124XM	Rohm	KRA308V	DTC115TK	Rohm	KRC112S
BC857WLT1	Onsemi	BC857W	CPH3105	Sanyo	KTA1552T	DTA124XS	Rohm	KRA108M	DTC115TM	Rohm	KRC412V
BC858	Onsemi	BC858	CPH3106	Sanyo	KTA1535T	DTA124XU	Rohm	KRA308	DTC115TS	Rohm	KRC112M
BC858WLT1	Onsemi	BC858W	CPH3109	Sanyo	KTA1542T	DTA143EE	Rohm	KRA301E	DTC115TU	Rohm	KRC412
BC859	Onsemi	BC859	CPH3110	Sanyo	KTA1543T	DTA143EK	Rohm	KRA101S	DTC123EE	Rohm	KRC417E
BC860	Onsemi	BC860	CPH3112	Sanyo	KTA1553T	DTA143EM	Rohm	KRA301V	DTC123EKA	Rohm	KRC117S
BCV71	Onsemi	BCV71	CPH3114	Sanyo	KTA1532T	DTA143ES	Rohm	KRA101M	DTC123EM	Rohm	KRC417V
BCV72	Onsemi	BCV72	CPH3115	Sanyo	KTA1541T	DTA143EU	Rohm	KRA301	DTC123ESA	Rohm	KRC117M
BCW29	Onsemi	BCW29	CPH3116	Sanyo	KTA1551T	DTA143TE	Rohm	KRA310E	DTC123EUA	Rohm	KRC417
BCW30	Onsemi	BCW29	CPH3201	Sanyo	KTC3544T	DTA143TK	Rohm	KRA110S	DTC123JE	Rohm	KRC405E
BCW31	Onsemi	BCW31	CPH3205	Sanyo	KTC3552T	DTA143TM	Rohm	KRA310V	DTC123JK	Rohm	KRC105S
BCW32	Onsemi	BCW32	CPH3206	Sanyo	KTC3535T	DTA143TS	Rohm	KRA110M	DTC123JM	Rohm	KRC405V
BCW60A/B/D	Onsemi	KTC3875S	CPH3209	Sanyo	KTC3542T	DTA143XE	Rohm	KRA319E	DTC123JS	Rohm	KRC105M

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
DTC123JU	Rohm	KRC405	EMA7	Rohm	KRA569E	GA1L4M	NEC	KRC404	MMBT390AWT1	Onsemi	2N3906U
DTC123YE	Rohm	KRC418E	EMA8	Rohm	KRA557E	GA1L4Z	NEC	KRC414	MMBT4124	Onsemi	KTC3876S
DTC123YKA	Rohm	KRC118S	EMA11	Rohm	KRA556E	GN1A3Q	NEC	KRA316	MMBT4126	Onsemi	KTA1505S
DTC123YSA	Rohm	KRC118M	EMB2	Rohm	KRA754E	GN1A4M	NEC	KRA302	MMBT4401	Onsemi	KTN2222AS
DTC123YUA	Rohm	KRC418	EMB3	Rohm	KRA760E	GN1A4P	NEC	KRA307	MMBT4403	Onsemi	KTN2907AS
DTC124EE	Rohm	KRC403E	EMB4	Rohm	KRA761E	GN1A4Z	NEC	KRA311	MMBT5087	Onsemi	KTA1504S
DTC124EK	Rohm	KRC103S	EMB6	Rohm	KRA724E	GN1F4M	NEC	KRA303	MMBT5088	Onsemi	KTC3875S
DTC124EM	Rohm	KRC403V	EMB9	Rohm	KRA757E	GN1F4N	NEC	KRA308	MMBT5089	Onsemi	KTC3295
DTC124ES	Rohm	KRC103M	EMB10	Rohm	KRA755E	GN1F4Z	NEC	KRA313	MMBTA05	Onsemi	MMBTA43
DTC124EU	Rohm	KRC403	EMB11	Rohm	KRA752E	GN1L3M	NEC	KRA301	MMBTA06	Onsemi	MMBTA43
DTC124TE	Rohm	KRC413E	EMD2	Rohm	KRX202E	GN1L3N	NEC	KRA319	MMBTA13	Onsemi	MMBTA517
DTC124TH	Rohm	KRC413E	EMD3	Rohm	KRX201E	GN1L3Z	NEC	KRA310	MMBTA14	Onsemi	MMBTA517
DTC124TK	Rohm	KRC113S	EMD6	Rohm	KRX205E	GN1L4L	NEC	KRA309	MMBTA20	Onsemi	KTN2222AS
DTC124TM	Rohm	KRC413V	EMD12	Rohm	KRX203E	GN1L4M	NEC	KRA304	MMBTA42	Onsemi	MMBTA42
DTC124TS	Rohm	KRC113M	EMG1	Rohm	KRC653E	GN1L4Z	NEC	KRA314	MMBTA43	Onsemi	MMBTA43
DTC124TU	Rohm	KRC413	EMG2	Rohm	KRC654E	HN1A01FE	Toshiba	KTA701E	MMBTA55	Onsemi	MMBTA92
DTC124XE	Rohm	KRC408E	EMG3	Rohm	KRC660E	HN1A01FU	Toshiba	KTA701U	MMBTA56	Onsemi	MMBTA92
DTC124XK	Rohm	KRC108S	EMG4	Rohm	KRC661E	HN1B04FE	Toshiba	KTX101E	MMBTA63	Onsemi	MMBTA63
DTC124XM	Rohm	KRC408V	EMG5	Rohm	KRC657E	HN1B04FU	Toshiba	KTX101U	MMBTA64	Onsemi	MMBTA64
DTC124XS	Rohm	KRC108M	EMG6	Rohm	KRC664E	HN1C01FE	Toshiba	KTC801E	MMBTA70	Onsemi	BCW69
DTC124XU	Rohm	KRC408	EMG8	Rohm	KRC656E	HN1C01FU	Toshiba	KTC801U	MMBTA92	Onsemi	MMBTA92
DTC143EE	Rohm	KRC401E	EMG9	Rohm	KRC652E	HN1C03F	Toshiba	KTC812T	MMBTA93	Onsemi	MMBTA93
DTC143EK	Rohm	KRC101S	EMG11	Rohm	KRC655E	HN2A01FE	Toshiba	KTA711E	MMBTA390AWT1	Onsemi	2N3904U
DTC143EM	Rohm	KRC401V	EMH1	Rohm	KRC853E	HN2A01FU	Toshiba	KTA711U	MPS404A	Onsemi	KTC9015
DTC143ES	Rohm	KRC101M	EMH2	Rohm	KRC854E	HN2C01FE	Toshiba	KTC811E	MPS918	Onsemi	KTC9011
DTC143EU	Rohm	KRC401	EMH3	Rohm	KRC860E	HN2C01FU	Toshiba	KTC811U	MPS2222/A	Onsemi	KTN2222/A
DTC143TE	Rohm	KRC410E	EMH4	Rohm	KRC861E	HN3B02FU	Toshiba	KTX102U	MPS2369	Onsemi	KTN2369
DTC143TK	Rohm	KRC110S	EMH6	Rohm	KRC824E	IMX9	Rohm	KTC812T	MPS2907/A	Onsemi	KTN2907/A
DTC143TM	Rohm	KRC410V	EMH9	Rohm	KRC857E	IMZ4	Rohm	KTX111T	MPS3702	Onsemi	KTN2907
DTC143TS	Rohm	KRC110M	EMH10	Rohm	KRC855E	LM8050	Onsemi	KTC8050	MPS3704	Onsemi	KTN2222
DTC143TU	Rohm	KRC410	EMH11	Rohm	KRC852E	LM8550	Onsemi	KTC8550	MPS4249	Onsemi	MPSA05
DTC143XE	Rohm	KRC419E	EMT1	Rohm	KTA701E	MJD112	Onsemi	MJD112	MPS5172	Onsemi	KTC9014
DTC143XKA	Rohm	KRC119S	EMT2	Rohm	KTA711E	MJD112-1	Onsemi	MJD112L	MPS6514	Onsemi	KTC9014
DTC143XM	Rohm	KRC419V	EMT3	Rohm	KTA712E	MJD117	Onsemi	MJD117	MPS6517	Onsemi	KTC9015
DTC143XSA	Rohm	KRC119M	EMT18	Rohm	KTA702E	MJD117-1	Onsemi	MJD117L	MPS6523	Onsemi	KTC9015
DTC143XUA	Rohm	KRC419	EMX1	Rohm	KTC801E	MJD41C-1	Onsemi	KTC2022L	MPS6560	Onsemi	KTN2222
DTC143ZE	Rohm	KRC406E	EMX2	Rohm	KTC811E	MJE122	Onsemi	KTD1413	MPS6562	Onsemi	KTN2907
DTC143ZK	Rohm	KRC106S	EMX3	Rohm	KTC812E	MJE127	Onsemi	KTB1423	MPS8098	Onsemi	MPSA05
DTC143ZM	Rohm	KRC406V	EMX18	Rohm	KTC802E	MJE800T	Onsemi	KTD1414	MPS8099	Onsemi	MPSA06
DTC143ZS	Rohm	KRC106M	EMY1	Rohm	KTX201E	MJE6107	Onsemi	KTB1368	MPS8598	Onsemi	MPSA55
DTC143ZU	Rohm	KRC406	EMZ1	Rohm	KTX101E	MJE13003	Mospec	MJE13003	MPS8599	Onsemi	MPSA56
DTC144EE	Rohm	KRC404E	FA1A3Q	NEC	KRC116S	MJE13003	Onsemi	MJE13003	MPSA05	Onsemi	MPSA05
DTC144EK	Rohm	KRC104S	FA1A4M	NEC	KRC102S	MJE13003	STM	MJE13003	MPSA06	Onsemi	MPSA06
DTC144EM	Rohm	KRC404V	FA1A4P	NEC	KRC107S	MJE13004	Onsemi	KTC4419	MPSA12	Onsemi	BC517
DTC144ES	Rohm	KRC104M	FA1A4Z	NEC	KRC111S	MJE13005	Mospec	MJE13005F	MPSA13	Onsemi	MPSA13
DTC144EU	Rohm	KRC404	FA1F4M	NEC	KRC103S	MJE13005	Onsemi	MJE13005F	MPSA14	Onsemi	MPSA14
DTC144TE	Rohm	KRC414E	FA1F4N	NEC	KRC108S	MJE13005	STM	MJE13005F	MPSA20	Onsemi	2N3904
DTC144TK	Rohm	KRC114S	FA1F4Z	NEC	KRC113S	MJE13007	Onsemi	MJE13007F	MPSA42	Onsemi	MPSA42
DTC144TM	Rohm	KRC414V	FA1L3M	NEC	KRC101S	MJE16002	Onsemi	KTC4419	MPSA43	Onsemi	MPSA43
DTC144TS	Rohm	KRC114M	FA1L3N	NEC	KRC119S	MJE16004	Onsemi	KTC4419	MPSA44	Onsemi	MPSA44
DTC144TU	Rohm	KRC414	FA1L3Z	NEC	KRC110S	MMBA811C5	Onsemi	KTA1504S	MPSA45	Onsemi	MPSA45
DTC144VKA	Rohm	KRC121S	FA1L4L	NEC	KRC109S	MMBA811C6	Onsemi	KTA1504S	MPSA62	Onsemi	MPSA62
DTC144VSA	Rohm	KRC121M	FA1L4M	NEC	KRC104S	MMBA811C7	Onsemi	KTA1504S	MPSA63	Onsemi	MPSA63
DTC144VUA	Rohm	KRC421	FA1L4Z	NEC	KRC114S	MMBA811C8	Onsemi	KTA1504S	MPSA64	Onsemi	MPSA64
DTC144WE	Rohm	KRC409E	FMMT618	Zetex	KTC3534T	MMBA812M5	Onsemi	KTA1504S	MPSA70	Onsemi	2N3906
DTC144WK	Rohm	KRC109S	FMMT718	Zetex	KTA1532T	MMBA812M6	Onsemi	KTA1504S	MPSA93	Onsemi	MPSA93
DTC144WS	Rohm	KRC109M	FN1A3Q	NEC	KRA116S	MMBA812M7	Onsemi	KTA1504S	MPSH07	Onsemi	KTC9011
DTC144WU	Rohm	KRC409	FN1A4M	NEC	KRA102S	MMBC1009F1	Onsemi	KTC3875S	MPSL01	Onsemi	MPSA43
DTC155EM	Rohm	KRC422V	FN1A4P	NEC	KRA107S	MMBC1009F2	Onsemi	KTC3875S	MPS-U01/A	Onsemi	KTD1351
DTC314TK	Rohm	KRC233S	FN1A4Z	NEC	KRA111S	MMBC1009F3	Onsemi	KTC3875S	PDTA114EK	Philips	KRA102S
DTC314TK	Rohm	KRC233M	FN1F4M	NEC	KRA103S	MMBC1009F4	Onsemi	KTC3875S	PDTA114ES	Philips	KRA102M
DTC323TK	Rohm	KRC231S	FN1F4N	NEC	KRA108S	MMBC1009F5	Onsemi	KTC3875S	PDTA114EU	Philips	KRA302
DTC323TS	Rohm	KRC231M	FN1F4Z	NEC	KRA113S	MMBC1321Q2	Onsemi	KTC3882	PDTA114TK	Philips	KRA111S
DTD113EK	Rohm	KRC241S	FN1L3M	NEC	KRA101S	MMBC1321Q3	Onsemi	KTC3882	PDTA114TS	Philips	KRA111M
DTD113ES	Rohm	KRC241M	FN1L3N	NEC	KRA119S	MMBC1321Q4	Onsemi	KTC3882	PDTA114TU	Philips	KRA311
DTD113ZK	Rohm	KRC245S	FN1L3Z	NEC	KRA110S	MMBC1321Q5	Onsemi	KTC3882	PDTA124EK	Philips	KRA103S
DTD113ZS	Rohm	KRC245M	FN1L4L	NEC	KRA109S	MMBC1622D6	Onsemi	KTC3875S	PDTA124ES	Philips	KRA103M
DTD114EK	Rohm	KRC244S	FN1L4M	NEC	KRA104S	MMBC1622D7	Onsemi	KTC3875S	PDTA124EU	Philips	KRA303
DTD114ES	Rohm	KRC244M	FN1L4Z	NEC	KRA114S	MMBC1622D8	Onsemi	KTC3875S	PDTA143EK	Philips	KRA101S
DTD123EK	Rohm	KRC242S	GA1A3Q	NEC	KRC416	MMBC1623L3	Onsemi	KTC3875S	PDTA143ES	Philips	KRA101M
DTD123ES	Rohm	KRC242M	GA1A4M	NEC	KRC402	MMBC1623L4	Onsemi	KTC3875S	PDTA143EU	Philips	KRA301
DTD123YK	Rohm	KRC246S	GA1A4P	NEC	KRC407	MMBC1623L5	Onsemi	KTC3875S	PDTA144EK	Philips	KRA104S
DTD123YS	Rohm	KRC246M	GA1A4Z	NEC	KRC411	MMBC1623L6	Onsemi	KTC3875S	PDTA144ES	Philips	KRA104M
DTD143EK	Rohm	KRC243S	GA1F4M	NEC	KRC403	MMBC1623L7	Onsemi	KTC3875S	PDTA144EU	Philips	KRA304
DTD143ES	Rohm	KRC243M	GA1F4N	NEC	KRC408	MMBT2222/A	Onsemi	KTN2222S/AS	PDTB114EK	Philips	KRA224S
EMA2	Rohm	KRA554E	GA1F4Z	NEC	KRC413	MMBT2369	Onsemi	KTN2369S	PDTB114ES	Philips	KRA224M
EMA3	Rohm	KRA560E	GA1L3M	NEC	KRC401	MMBT2907/A	Onsemi	KTN2907S/AS	PDTC114EK	Philips	KRC102S
EMA4	Rohm	KRA561E	GA1L3N	NEC	KRC419	MMB207AWT1	Onsemi	KTN2907AU	PDTC114ES	Philips	KRC102M
EMA5	Rohm	KRA555E	GAIL3Z	NEC	KRC410	MMBT3904	Onsemi	2N3904S	PDTC114EU	Philips	KRC402
EMA6	Rohm	KRA564E	GAIL4L	NEC	KRC409	MMBT3906	Onsemi	2N3906S	PDTC114TK	Philips	KRC111S

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
PDT114TS	Philips	KRC111M	RN1242	Toshiba	KRC233M	RN1906FE	Toshiba	KRC856E	RN2117FT	Toshiba	KRA320V
PDT114TU	Philips	KRC411	RN1244	Toshiba	KRC231M	RN1907	Toshiba	KRC857U	RN2118	Toshiba	KRA321E
PDT124EK	Philips	KRC103S	RN1301	Toshiba	KRC401	RN1907FE	Toshiba	KRC857E	RN2118FT	Toshiba	KRA321V
PDT124ES	Philips	KRC103M	RN1302	Toshiba	KRC402	RN1908	Toshiba	KRC858U	RN2201	Toshiba	KRA101M
PDT124EU	Philips	KRC403	RN1303	Toshiba	KRC403	RN1908FE	Toshiba	KRC858E	RN2202	Toshiba	KRA102M
PDT134EK	Philips	KRC101S	RN1304	Toshiba	KRC404	RN1909	Toshiba	KRC859U	RN2203	Toshiba	KRA103M
PDT134ES	Philips	KRC101M	RN1305	Toshiba	KRC405	RN1909FE	Toshiba	KRC859E	RN2204	Toshiba	KRA104M
PDT134EU	Philips	KRC401	RN1306	Toshiba	KRC406	RN1910	Toshiba	KRC860U	RN2205	Toshiba	KRA105M
PDT144EK	Philips	KRC104S	RN1307	Toshiba	KRC407	RN1910FE	Toshiba	KRC860E	RN2206	Toshiba	KRA106M
PDT144ES	Philips	KRC104M	RN1308	Toshiba	KRC408	RN1911	Toshiba	KRC861U	RN2207	Toshiba	KRA107M
PDT144EU	Philips	KRC404	RN1309	Toshiba	KRC409	RN1911FE	Toshiba	KRC861E	RN2208	Toshiba	KRA108M
PDTD114EK	Philips	KRC244S	RN1310	Toshiba	KRC410	RN1961	Toshiba	KRC821U	RN2209	Toshiba	KRA109M
PDTD114ES	Philips	KRC244M	RN1311	Toshiba	KRC411	RN1961FE	Toshiba	KRC821E	RN2210	Toshiba	KRA110M
RN1101	Toshiba	KRC401E	RN1312	Toshiba	KRC413	RN1962	Toshiba	KRC822U	RN2211	Toshiba	KRA111M
RN1101F	Toshiba	KRC401E	RN1313	Toshiba	KRC414	RN1962FE	Toshiba	KRC822E	RN2221	Toshiba	KRA221M
RN1101FT	Toshiba	KRC401V	RN1314	Toshiba	KRC416	RN1963	Toshiba	KRC823U	RN2222	Toshiba	KRA222M
RN1102	Toshiba	KRC402E	RN1315	Toshiba	KRC418	RN1963FE	Toshiba	KRC823E	RN2223	Toshiba	KRA223M
RN1102F	Toshiba	KRC402E	RN1316	Toshiba	KRC419	RN1964	Toshiba	KRC824U	RN2224	Toshiba	KRA224M
RN1102FT	Toshiba	KRC402V	RN1317	Toshiba	KRC420	RN1964FE	Toshiba	KRC824E	RN2226	Toshiba	KRA225M
RN1103	Toshiba	KRC403E	RN1318	Toshiba	KRC421	RN1965	Toshiba	KRC825U	RN2227	Toshiba	KRA226M
RN1103F	Toshiba	KRC403E	RN1401	Toshiba	KRC101S	RN1965FE	Toshiba	KRC825E	RN2301	Toshiba	KRA301
RN1103FT	Toshiba	KRC403V	RN1402	Toshiba	KRC102S	RN1966	Toshiba	KRC826U	RN2302	Toshiba	KRA302
RN1104	Toshiba	KRC404E	RN1403	Toshiba	KRC103S	RN1966FE	Toshiba	KRC826E	RN2303	Toshiba	KRA303
RN1104F	Toshiba	KRC404E	RN1404	Toshiba	KRC104S	RN1967	Toshiba	KRC827U	RN2304	Toshiba	KRA304
RN1104FT	Toshiba	KRC404V	RN1405	Toshiba	KRC105S	RN1967FE	Toshiba	KRC827E	RN2305	Toshiba	KRA305
RN1105	Toshiba	KRC405E	RN1406	Toshiba	KRC106S	RN1968	Toshiba	KRC828U	RN2306	Toshiba	KRA306
RN1105F	Toshiba	KRC405E	RN1407	Toshiba	KRC107S	RN1968FE	Toshiba	KRC828E	RN2307	Toshiba	KRA307
RN1105FT	Toshiba	KRC405V	RN1408	Toshiba	KRC108S	RN1969	Toshiba	KRC829U	RN2308	Toshiba	KRA308
RN1106	Toshiba	KRC406E	RN1409	Toshiba	KRC109S	RN1969FE	Toshiba	KRC829E	RN2309	Toshiba	KRA309
RN1106F	Toshiba	KRC406E	RN1410	Toshiba	KRC110S	RN1970	Toshiba	KRC830U	RN2310	Toshiba	KRA310
RN1106FT	Toshiba	KRC406V	RN1411	Toshiba	KRC111S	RN1970FE	Toshiba	KRC830E	RN2311	Toshiba	KRA311
RN1107	Toshiba	KRC407E	RN1412	Toshiba	KRC113S	RN1971	Toshiba	KRC831U	RN2312	Toshiba	KRA313
RN1107F	Toshiba	KRC407E	RN1413	Toshiba	KRC114S	RN1971FE	Toshiba	KRC831E	RN2313	Toshiba	KRA314
RN1107FT	Toshiba	KRC407V	RN1414	Toshiba	KRC116S	RN1973	Toshiba	KRC834U	RN2314	Toshiba	KRA316
RN1108	Toshiba	KRC408E	RN1415	Toshiba	KRC118S	RN2101	Toshiba	KRA301E	RN2315	Toshiba	KRA318
RN1108F	Toshiba	KRC408E	RN1416	Toshiba	KRC119S	RN2101F	Toshiba	KRA301E	RN2316	Toshiba	KRA319
RN1108FT	Toshiba	KRC408V	RN1417	Toshiba	KRC120S	RN2101FT	Toshiba	KRA301V	RN2317	Toshiba	KRA320
RN1109	Toshiba	KRC409E	RN1418	Toshiba	KRC121S	RN2102	Toshiba	KRA302E	RN2318	Toshiba	KRA321
RN1109F	Toshiba	KRC409E	RN1421	Toshiba	KRC241S	RN2102F	Toshiba	KRA302E	RN2401	Toshiba	KRA101S
RN1109FT	Toshiba	KRC409V	RN1422	Toshiba	KRC242S	RN2102FT	Toshiba	KRA302V	RN2402	Toshiba	KRA102S
RN1110	Toshiba	KRC410E	RN1423	Toshiba	KRC243S	RN2103	Toshiba	KRA303E	RN2403	Toshiba	KRA103S
RN1110F	Toshiba	KRC410E	RN1424	Toshiba	KRC244S	RN2103F	Toshiba	KRA303E	RN2404	Toshiba	KRA104S
RN1110FT	Toshiba	KRC410V	RN1426	Toshiba	KRC245S	RN2103FT	Toshiba	KRA303V	RN2405	Toshiba	KRA105S
RN1111	Toshiba	KRC411E	RN1427	Toshiba	KRC246S	RN2104	Toshiba	KRA304E	RN2406	Toshiba	KRA106S
RN1111F	Toshiba	KRC411E	RN1441	Toshiba	KRC232S	RN2104F	Toshiba	KRA304E	RN2407	Toshiba	KRA107S
RN1111FT	Toshiba	KRC411V	RN1442	Toshiba	KRC233S	RN2104FT	Toshiba	KRA304V	RN2408	Toshiba	KRA108S
RN1112	Toshiba	KRC413E	RN1444	Toshiba	KRC231S	RN2105	Toshiba	KRA305E	RN2409	Toshiba	KRA109S
RN1112F	Toshiba	KRC413E	RN1544	Toshiba	KRC681T	RN2105F	Toshiba	KRA305E	RN2410	Toshiba	KRA110S
RN1112FT	Toshiba	KRC413V	RN1701	Toshiba	KRC651U	RN2105FT	Toshiba	KRA305V	RN2411	Toshiba	KRA111S
RN1113	Toshiba	KRC414E	RN1702	Toshiba	KRC652U	RN2106	Toshiba	KRA306E	RN2412	Toshiba	KRA113S
RN1113F	Toshiba	KRC414E	RN1702JE	Toshiba	KRC651E	RN2106F	Toshiba	KRA306E	RN2413	Toshiba	KRA114S
RN1113FT	Toshiba	KRC414V	RN1703	Toshiba	KRC653U	RN2106FT	Toshiba	KRA306V	RN2414	Toshiba	KRA116S
RN1114	Toshiba	KRC416E	RN1703JE	Toshiba	KRC652E	RN2107	Toshiba	KRA307E	RN2415	Toshiba	KRA118S
RN1114FT	Toshiba	KRC416V	RN1704	Toshiba	KRC654U	RN2107F	Toshiba	KRA307E	RN2416	Toshiba	KRA119S
RN1115	Toshiba	KRC418E	RN1704JE	Toshiba	KRC653E	RN2107FT	Toshiba	KRA307V	RN2417	Toshiba	KRA120S
RN1115FT	Toshiba	KRC418V	RN1705	Toshiba	KRC655U	RN2108	Toshiba	KRA308E	RN2418	Toshiba	KRA121S
RN1116	Toshiba	KRC419E	RN1705JE	Toshiba	KRC654E	RN2108F	Toshiba	KRA308E	RN2421	Toshiba	KRA221S
RN1116FT	Toshiba	KRC419V	RN1706	Toshiba	KRC656U	RN2108FT	Toshiba	KRA308V	RN2422	Toshiba	KRA222S
RN1117	Toshiba	KRC420E	RN1706JE	Toshiba	KRC655E	RN2109	Toshiba	KRA309E	RN2423	Toshiba	KRA223S
RN1117FT	Toshiba	KRC420V	RN1707	Toshiba	KRC657U	RN2109F	Toshiba	KRA309E	RN2424	Toshiba	KRA224S
RN1118	Toshiba	KRC421E	RN1707JE	Toshiba	KRC656E	RN2109FT	Toshiba	KRA309V	RN2426	Toshiba	KRA225S
RN1118FT	Toshiba	KRC421V	RN1708	Toshiba	KRC658U	RN2110	Toshiba	KRA310E	RN2427	Toshiba	KRA226S
RN1201	Toshiba	KRC101M	RN1708JE	Toshiba	KRC657E	RN2110F	Toshiba	KRA310E	RN2701	Toshiba	KRA551U
RN1202	Toshiba	KRC102M	RN1709	Toshiba	KRC659U	RN2110FT	Toshiba	KRA310V	RN2701JE	Toshiba	KRA551E
RN1203	Toshiba	KRC103M	RN1709JE	Toshiba	KRC658E	RN2111	Toshiba	KRA311E	RN2702	Toshiba	KRA552U
RN1204	Toshiba	KRC104M	RN1710	Toshiba	KRC660U	RN2111F	Toshiba	KRA311E	RN2702JE	Toshiba	KRA552E
RN1205	Toshiba	KRC105M	RN1710JE	Toshiba	KRC659E	RN2111FT	Toshiba	KRA311V	RN2703	Toshiba	KRA553U
RN1206	Toshiba	KRC106M	RN1711	Toshiba	KRC661U	RN2112	Toshiba	KRA313E	RN2703JE	Toshiba	KRA553E
RN1207	Toshiba	KRC107M	RN1711JE	Toshiba	KRC660E	RN2112F	Toshiba	KRA313E	RN2704	Toshiba	KRA554U
RN1208	Toshiba	KRC108M	RN1901	Toshiba	KRC851U	RN2112FT	Toshiba	KRA313V	RN2704JE	Toshiba	KRA554E
RN1209	Toshiba	KRC109M	RN1901FE	Toshiba	KRC851E	RN2113	Toshiba	KRA314E	RN2705	Toshiba	KRA555U
RN1210	Toshiba	KRC101M	RN1902	Toshiba	KRC852U	RN2113F	Toshiba	KRA314E	RN2705JE	Toshiba	KRA555E
RN1211	Toshiba	KRC111M	RN1902FE	Toshiba	KRC852E	RN2113FT	Toshiba	KRA314V	RN2706	Toshiba	KRA556U
RN1221	Toshiba	KRC241M	RN1903	Toshiba	KRC853U	RN2114	Toshiba	KRA316E	RN2706JE	Toshiba	KRA556E
RN1222	Toshiba	KRC242M	RN1903FE	Toshiba	KRC853E	RN2114FT	Toshiba	KRA316V	RN2707	Toshiba	KRA557U
RN1223	Toshiba	KRC243M	RN1904	Toshiba	KRC854U	RN2115	Toshiba	KRA318E	RN2707JE	Toshiba	KRA557E
RN1224	Toshiba	KRC244M	RN1904FE	Toshiba	KRC854E	RN2115FT	Toshiba	KRA318V	RN2708	Toshiba	KRA558U
RN1226	Toshiba	KRC245M	RN1905	Toshiba	KRC855U	RN2116	Toshiba	KRA319E	RN2708JE	Toshiba	KRA558E
RN1227	Toshiba	KRC246M	RN1905FE	Toshiba	KRC855E	RN2116FT	Toshiba	KRA319V	RN2709	Toshiba	KRA559U
RN1241	Toshiba	KRC232M	RN1906	Toshiba	KRC856U	RN2117	Toshiba	KRA320E	RN2709JE	Toshiba	KRA559E

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
RN2710	Toshiba	KRA560U	RT1P430S	Renesas	KRA110M	UMH14N	Rohm	KRC834U	UN4113	Panasonic	KRA104M
RN2710JE	Toshiba	KRA560E	RT1P441S	Renesas	KRA104M	UML1N	Rohm	KTX301U	UN4114	Panasonic	KRA107M
RN2711	Toshiba	KRA561U	S2Z79	Toshiba	KTA1536T	UML2N	Rohm	KTX401U	UN4115	Panasonic	KRA111M
RN2711JE	Toshiba	KRA561E	S3C92	Toshiba	KTC3532T	UM51N	Rohm	KTA501U	UN4116	Panasonic	KRA110M
RN2901	Toshiba	KRA751U	SSTA64	Rohm	MMBTA64	UMT1N	Rohm	KTA701U	UN4117	Panasonic	KRA113M
RN2901FE	Toshiba	KRA751E	TIP31C	Mospec	TIP31CF	UMT2N	Rohm	KTA711U	UN4117	Panasonic	KRA113M
RN2902	Toshiba	KRA752U	TIP31C	Onsemi	TIP31CF	UMT2222A	Rohm	KTN2222AU	UN4121	Panasonic	KRA222M
RN2902FE	Toshiba	KRA752E	TIP31C	STM	TIP33C	UMT2907A	Rohm	KTN2907AU	UN4122	Panasonic	KRA223M
RN2903	Toshiba	KRA753U	TIP32C	Mospec	TIP32CF	UMT3904	Rohm	2N3904U	UN4123	Panasonic	KRA224M
RN2903FE	Toshiba	KRA753E	TIP32C	Onsemi	TIP32CF	UMT3906	Rohm	2N3906U	UN4124	Panasonic	KRA226M
RN2904	Toshiba	KRA754U	TIP32C	STM	TIP32CF	UMW1N	Rohm	KTC601U	UN4210	Panasonic	KRC114M
RN2904FE	Toshiba	KRA754E	TIP33C	STM	TIP33C	UMX1N	Rohm	KTC801U	UN4211	Panasonic	KRC102M
RN2905	Toshiba	KRA755U	TIP33C	Onsemi	TIP33C	UMX2N	Rohm	KTC811U	UN4212	Panasonic	KRC103M
RN2905FE	Toshiba	KRA755E	TIP34C	STM	TIP34C	UMX3N	Rohm	KTC812U	UN4213	Panasonic	KRC104M
RN2906	Toshiba	KRA756U	TIP34C	Onsemi	TIP34C	UMX4N	Rohm	KTC813U	UN4214	Panasonic	KRC107M
RN2906FE	Toshiba	KRA756E	TIP35C	Mospec	TIP35C	UMY1N	Rohm	KTX201U	UN4215	Panasonic	KRC111M
RN2907	Toshiba	KRA757U	TIP35C	Onsemi	TIP35C	UMZ1N	Rohm	KTX101U	UN4216	Panasonic	KRC110M
RN2907FE	Toshiba	KRA757E	TIP35C	STM	TIP35C	UMZ2N	Rohm	KTX102U	UN4217	Panasonic	KRC113M
RN2908	Toshiba	KRA758U	TIP36C	Mospec	TIP36C	UN211E	Panasonic	KRA109S	UN4221	Panasonic	KRA242M
RN2908FE	Toshiba	KRA758E	TIP36C	Onsemi	TIP36C	UN211F	Panasonic	KRA119S	UN4222	Panasonic	KRA243M
RN2909	Toshiba	KRA759U	TIP36C	STM	TIP36C	UN211H	Panasonic	KRA118S	UN4223	Panasonic	KRA244M
RN2909FE	Toshiba	KRA759E	TIP41C	Mospec	TIP41CF	UN211L	Panasonic	KRA101S	UN4224	Panasonic	KRA246M
RN2910	Toshiba	KRA760U	TIP41C	Onsemi	TIP41CF	UN211M	Panasonic	KRA105S	UN5110	Panasonic	KRA314
RN2910FE	Toshiba	KRA760E	TIP41C	STM	TIP41CF	UN211N	Panasonic	KRA106S	UN5111	Panasonic	KRA302
RN2911	Toshiba	KRA761U	TIP42C	Mospec	TIP42CF	UN221E	Panasonic	KRC109S	UN5112	Panasonic	KRA303
RN2911FE	Toshiba	KRA761E	TIP42C	Onsemi	TIP42CF	UN221F	Panasonic	KRC119S	UN5113	Panasonic	KRA304
RN2961	Toshiba	KRA721U	TIP42C	STM	TIP42CF	UN221H	Panasonic	KRC118S	UN5114	Panasonic	KRA307
RN2961FE	Toshiba	KRA721E	TIP112	STM	TIP112F	UN221L	Panasonic	KRC101S	UN5115	Panasonic	KRA311
RN2962	Toshiba	KRA722U	TIP112	Onsemi	TIP112F	UN221M	Panasonic	KRC105S	UN5116	Panasonic	KRA310
RN2962FE	Toshiba	KRA722E	TIP117	STM	TIP117F	UN221N	Panasonic	KRC106S	UN5117	Panasonic	KRA313
RN2963	Toshiba	KRA723U	TIP117	Onsemi	TIP117F	UN411E	Panasonic	KRA109M	UN5210	Panasonic	KRC414
RN2963FE	Toshiba	KRA723E	TIP122	Onsemi	KTD1413	UN411L	Panasonic	KRA101M	UN5211	Panasonic	KRC402
RN2964	Toshiba	KRA724U	TIP127	Onsemi	KTB1423	UN421E	Panasonic	KRC109M	UN5212	Panasonic	KRC403
RN2964FE	Toshiba	KRA724E	UMA1N	Rohm	KRA553U	UN421F	Panasonic	KRC119M	UN5213	Panasonic	KRC404
RN2965	Toshiba	KRA725U	UMA2N	Rohm	KRA554U	UN421H	Panasonic	KRC118M	UN5214	Panasonic	KRC407
RN2965FE	Toshiba	KRA725E	UMA3N	Rohm	KRA560U	UN421L	Panasonic	KRC101M	UN5215	Panasonic	KRC411
RN2966	Toshiba	KRA726U	UMA4N	Rohm	KRA561U	UN421M	Panasonic	KRC105M	UN5216	Panasonic	KRC410
RN2966FE	Toshiba	KRA726E	UMA5N	Rohm	KRA555U	UN421N	Panasonic	KRC106M	UN5217	Panasonic	KRC413
RN2967	Toshiba	KRA727U	UMA6N	Rohm	KRA564U	UN511E	Panasonic	KRA309	XP05501	Panasonic	KTC812U
RN2967FE	Toshiba	KRA727E	UMA7N	Rohm	KRA569U	UN511F	Panasonic	KRA319	XP05601	Panasonic	KTX102U
RN2968	Toshiba	KRA728U	UMA8N	Rohm	KRA557U	UN511H	Panasonic	KRA318	XP06111	Panasonic	KRA722U
RN2968FE	Toshiba	KRA728E	UMA9N	Rohm	KRA552U	UN511L	Panasonic	KRA301	XP06112	Panasonic	KRA723U
RN2969	Toshiba	KRA729U	UMA10N	Rohm	KRA566U	UN511M	Panasonic	KRA305	XP06113	Panasonic	KRA724U
RN2969FE	Toshiba	KRA729E	UMA11N	Rohm	KRA556U	UN511N	Panasonic	KRA306	XP06114	Panasonic	KRA727U
RN2970	Toshiba	KRA730U	UMB1N	Rohm	KRA753U	UN511T	Panasonic	KRA308	XP06115	Panasonic	KRA731U
RN2970FE	Toshiba	KRA730E	UMB2N	Rohm	KRA754U	UN521E	Panasonic	KRC409	XP06116	Panasonic	KRA730U
RN2971	Toshiba	KRA731U	UMB3N	Rohm	KRA760U	UN521F	Panasonic	KRC419	XP06210	Panasonic	KRC834U
RN2971FE	Toshiba	KRA731E	UMB4N	Rohm	KRA761U	UN521H	Panasonic	KRC418	XP06211	Panasonic	KRC822U
RN47A1JE	Toshiba	KRX105E	UMB6N	Rohm	KRA724U	UN521L	Panasonic	KRC401	XP06212	Panasonic	KRC823U
RN47A2JE	Toshiba	KRX103E	UMB8N	Rohm	KRA731U	UN521M	Panasonic	KRC405	XP06213	Panasonic	KRC824U
RN47A3JE	Toshiba	KRX101E	UMB9N	Rohm	KRA757U	UN521N	Panasonic	KRC406	XP06214	Panasonic	KRC827U
RN47A4JE	Toshiba	KRX102E	UMB10N	Rohm	KRA755U	UN521T	Panasonic	KRC408	XP06215	Panasonic	KRC831U
RN47A5JE	Toshiba	KRX104E	UMB11N	Rohm	KRA752U	UN2110	Panasonic	KRA114S	XP06216	Panasonic	KRC830U
RN4982FE	Toshiba	KRX201E	UMC1N	Rohm	KRX105U	UN2111	Panasonic	KRA102S	XP06401	Panasonic	KTA711U
RN4983FE	Toshiba	KRX202E	UMC2N	Rohm	KRX103U	UN2112	Panasonic	KRA103S	XP06501	Panasonic	KTC811U
RN4984FE	Toshiba	KRX203E	UMC3N	Rohm	KRX101U	UN2113	Panasonic	KRA104S			
RN4985FE	Toshiba	KRX204E	UMC4N	Rohm	KRX102U	UN2114	Panasonic	KRA107S			
RN4990FE	Toshiba	KRX205E	UMC5N	Rohm	KRX104U	UN2115	Panasonic	KRA111S			
RT1N140C	Renesas	KRC111S	UMG1N	Rohm	KRC653U	UN2116	Panasonic	KRA110S			
RT1N140S	Renesas	KRC111M	UMG2N	Rohm	KRC654U	UN2117	Panasonic	KRA113S			
RT1N141C	Renesas	KRC102S	UMG3N	Rohm	KRC660U	UN2121	Panasonic	KRA222S			
RT1N141S	Renesas	KRC102M	UMG4N	Rohm	KRC661U	UN2122	Panasonic	KRA223S			
RT1N144C	Renesas	KRC107S	UMG5N	Rohm	KRC657U	UN2123	Panasonic	KRA224S			
RT1N144S	Renesas	KRC107M	UMG6N	Rohm	KRC664U	UN2124	Panasonic	KRA226S			
RT1N241C	Renesas	KRC103S	UMG8N	Rohm	KRC669U	UN2210	Panasonic	KRC114S			
RT1N241S	Renesas	KRC103M	UMG9N	Rohm	KRC652U	UN2211	Panasonic	KRC102S			
RT1N430C	Renesas	KRC110S	UMG10N	Rohm	KRC666U	UN2212	Panasonic	KRC103S			
RT1N430S	Renesas	KRC110M	UMG11N	Rohm	KRC655U	UN2213	Panasonic	KRC104S			
RT1N441C	Renesas	KRC104S	UMH1N	Rohm	KRC853U	UN2214	Panasonic	KRC107S			
RT1N441S	Renesas	KRC104M	UMH2N	Rohm	KRC854U	UN2215	Panasonic	KRC111S			
RT1P140C	Renesas	KRA111S	UMH3N	Rohm	KRC860U	UN2216	Panasonic	KRC110S			
RT1P140S	Renesas	KRA111M	UMH4N	Rohm	KRC861U	UN2217	Panasonic	KRC113S			
RT1P141C	Renesas	KRA102S	UMH5N	Rohm	KRC823U	UN2221	Panasonic	KRC242S			
RT1P141S	Renesas	KRA102M	UMH6N	Rohm	KRC824U	UN2222	Panasonic	KRC243S			
RT1P144C	Renesas	KRA107S	UMH7N	Rohm	KRC830U	UN2223	Panasonic	KRC244S			
RT1P144S	Renesas	KRA107M	UMH8N	Rohm	KRC831U	UN2224	Panasonic	KRC246S			
RT1P241C	Renesas	KRA103S	UMH9N	Rohm	KRC857U	UN4110	Panasonic	KRA114M			
RT1P241S	Renesas	KRA103M	UMH10N	Rohm	KRC855U	UN4111	Panasonic	KRA102M			
RT1P430C	Renesas	KRA110S	UMH11N	Rohm	KRC852U	UN4112	Panasonic	KRA103M			

BJT

Small Signal Switching Diode

Type No.	Mark	Max. Ratings							V _{F1} (V)		V _{F2} (V)		V _{F3} (V)		I _R (μA)		C _T (pF)			trr (ns)		Package	Outline (Unit : mm)	
		V _{RM} (V)	V _R (V)	I _{FM} (mA)	I _O (mA)	I _{FSM} (A)	P _D (mW)	Typ.	I _F (mA)	Typ.	I _F (mA)	Typ.	Max.	I _F (mA)	Max.	V _R (V)	Max.	V _R (V)	f (MHz)	Max.	I _F (mA)			
KDS160F		4	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	TFSC	
KDS160V		UF	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	VSC	
KDS160E		UF	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	ESC	
KDS135		JA	300	250	300	100	2	200	-	-	-	-	1	1.2	100	0.2	250	3	0	1	100	30	USC	
KDS160		UF	85	80	300	100	2	200	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS4148U		UH	100	75	450	150	2	-	0.6	1	0.72	10	0.9	1.2	100	0.5	75	2	0	1	4	10		
KDS120V		A3	85	80	300	100	2	100	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	VSM	
KDS121V		B3	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS123V		OS	80	80	300	100	2	100	-	-	-	-	-	1.2	100	0.1	80	3.5	6	1	-	-		
KDS221V		DS	20	20	200	100	0.3	100	-	-	-	-	-	1.0	10	0.1	15	-	-	-	-	-		
KDS120E		A3	85	80	300	100	2	100	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	ESM	
KDS121E		B3	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS123E		US	80	80	300	100	2	100	-	-	-	-	-	1.2	100	0.1	80	3.5	6	1	-	-		
KDS221E		DS	20	20	200	100	0.3	100	-	-	-	-	-	1.0	10	0.1	15	-	-	-	-	-		
KDS120		A3	85	80	300	100	2	100	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	USM	
KDS121		B3	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS122		C3	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS123U		US	80	80	300	100	2	100	-	-	-	-	-	1.2	100	0.1	80	3.5	6	1	-	-		
KDS123S		US	80	80	300	100	2	150	-	-	-	-	-	1.2	100	0.1	80	3.5	6	1	-	-	SOT-23	
KDS135S		JA	300	250	300	100	2	150	-	-	-	-	1	1.2	100	0.2	250	3	0	1	100	30		
KDS181		A3	85	80	300	100	2	150	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10		
KDS184		B3	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS187		D3	85	80	300	100	2	150	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10		
KDS190		E3	85	80	300	100	2	150	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10		
KDS193		F3	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS196		G3	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS226		C3	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
BAV23C		U4	250	200	625	225	9	250	1.0	100	1.25	200	-	-	-	0.1	200	2	0	1	50	10		
BAV23		JK	250	200	625	225	9	250	1.0	100	1.25	200	-	-	-	0.1	200	2	0	1	50	10		
BAV23A		JD	250	200	625	225	9	250	1.0	100	1.25	200	-	-	-	0.1	200	2	0	1	50	10		
BAV23S		JC	250	200	625	225	9	250	1.0	100	1.25	200	-	-	-	0.1	200	2	0	1	50	10		
KDS165F		HA	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	TFSQ	
KDS165U		HA	85	80	300	100	2	200	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	USQ	
KDS165T		G3	85	80	300	100	2	900	0.6	1	0.74	10	0.9	1.2	100	0.5	80	4	0	1	4	10	TSQ	

Note) ◇ : Typ.

Small Signal Switching Diode

Type No.	Mark	Max. Ratings							V _{F1} (V)		V _{F2} (V)		V _{F3} (V)		I _R (μA)		C _T (pF)			trr (ns)		Package	Outline (Unit : mm)	
		V _{RM} (V)	V _R (V)	I _{FM} (mA)	I _O (mA)	I _{FSM} (A)	P _D (mW)	Typ.	I _F (mA)	Typ.	I _F (mA)	Typ.	Max.	I _F (mA)	Max.	V _R (V)	Max.	V _R (V)	f (MHz)	Max.	I _F (mA)			
KDS166E		SC	85	80	300	100	2	200	0.6	1	0.74	10	0.9	1.2	100	0.5	80	4	0	1	4	10	TESV	
KDS166U		SC	85	80	300	100	2	200	0.6	1	0.74	10	0.9	1.2	100	0.5	80	4	0	1	4	10	USV	
KDS166T		SC	85	80	300	100	2	900	0.6	1	0.74	10	0.9	1.2	100	0.5	80	4	0	1	4	10	TSV	
KDS125E		S5	85	80	200	100	2	200	0.6	1	0.74	10	0.9	1.2	100	0.5	80	4	0	1	4	10	TBS6	
KDS126E		UB	85	80	200	100	2	200	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS127E		US	80	80	300	100	2	200	-	-	-	-	-	1.2	100	0.1	80	3.5	6	1	-	-		
KDS128E		S8	85	80	200	100	2	200	0.6	1	0.74	10	0.9	1.2	100	0.5	80	4	0	1	4	10	US6	
KDS125U		S5	85	80	200	100	2	200	0.6	1	0.74	10	0.9	1.2	100	0.5	80	4	0	1	4	10		
KDS126U		UB	85	80	200	100	2	200	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS127U		S7	80	80	300	100	2	200	-	-	-	-	-	1.2	100	0.1	80	3.5	6	1	-	-		
KDS128U		S8	85	80	200	100	2	200	0.6	1	0.74	10	0.9	1.2	100	0.5	80	4	0	1	4	10	TS6	
KDS125T		S5	85	80	300	100	2	900	0.6	1	0.74	10	0.9	1.2	100	0.5	80	4	0	1	4	10		
KDS126T		UB	85	80	200	100	2	900	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS128T		S8	85	80	200	100	2	900	0.6	1	0.74	10	0.9	1.2	100	0.5	80	4	0	1	4	10		

Small Signal Band Switch Diode

Type No.	Mark	Max. Ratings		V _F (V)		I _R (μA)		V _R (V)		C _T (pF)				r _S (Ω)				Package	Outline (Unit : mm)	
		V _R (V)	I _F (mA)	Max.	I _F (mA)	Max.	V _R (V)	Min.	I _R (μA)	Typ.	Max.	V _R (V)	f (MHz)	Typ.	Max.	I _F (mA)	f (MHz)			
KDS114V		P1	35	100	0.85	2	0.1	15	35	1	0.7	1.2	6	1	0.5	0.9	2	100	VSC	
KDS114E		UD	35	100	0.85	2	0.1	15	35	1	0.7	1.2	6	1	0.5	0.9	2	100	ESC	
KDS114		UD	35	100	0.85	2	0.1	15	35	1	0.7	1.2	6	1	0.5	0.9	2	100	USC	
KDS112V		BF	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100	VSM	
KDS112E		BF	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100	ESM	
KDS112		BF	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100	USM	
KDS113		T3	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100		
KDS115		R3	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100		

Diode

■ PIN Diode

Type No.	Mark	Max. Ratings		V _F (V)		V _R (V)		C _T (pF)			r _S (Ω)			Package	Outline (Unit : mm)
		V _R (V)	I _F (mA)	Max	I _F (mA)	Min.	I _R (μA)	Max.	V _R (V)	f (MHz)	Typ.	I _F (mA)	f (MHz)		
KDV142EL		-	30	100	Max. 1.0	10	-	-	Max. 0.35	1	1	Max. 1.3	10	100	ELP-2
KDV143EL		-	30	100	Max. 0.9	2	-	-	Max. 0.43	1	1	Max. 1.8	2	100	
KDV144EL		-	30	100	Max. 1.0	10	-	-	Max. 0.3	1	1	Max. 1.3	10	100	
KDV142F		P	30	100	Max. 1.0	10	-	-	Max. 0.35	1	1	Max. 1.3	10	100	TFSC
KDV143F		Y	30	100	Max. 0.9	2	-	-	Max. 0.43	1	1	Max. 1.8	2	100	
KDV144F		A1	30	100	Max. 1.0	10	-	-	Max. 0.3	1	1	Max. 1.3	10	100	
KDV142V		PA	30	100	Max. 1.0	10	-	-	Max. 0.35	1	1	Max. 1.3	10	100	VSC
KDV143V		V7	30	100	Max. 0.9	2	-	-	Max. 0.43	1	1	Max. 1.8	2	100	
KDV175E		UE	50	50	0.95	50	50	10	0.25	50	1	7	10	100	ESC
KDV141E		EE	30	100	Max. 1.0	10	-	-	Max. 0.82	1	1	Max. 0.8	10	100	
KDV142E		EF	30	100	Max. 1.0	10	-	-	Max. 0.35	1	1	Max. 1.3	10	100	
KDV175		UE	50	50	0.95	50	50	10	0.25	50	1	7	10	100	USC
KDV174		M3	50	50	0.95	50	50	10	0.25	50	1	7	10	100	USM
KDV173		M3	50	50	0.95	50	50	10	0.25	50	1	7	10	100	SOT-23
KDV176U		F1	50	50	0.95	50	50	10	0.25	50	1	7	10	100	USQ
KDP600UL		P0	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100	ULP-8
KDP610UL		PA	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100	
KDP602UL		P2	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100	
KDP604UL		P4	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100	
KDP606UL		P6	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100	
KDP620UL		P0	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100	ULP-12
					0.9	2	-	-	0.43			Max. 1.8	2	100	
KDP621UL	P1	30	100	1	10	-	-	0.35	1	1	Max. 1.3	10	100		
				0.9	2	-	-	0.43			Max. 1.8	2	100		
KDP622UL	P2	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100		
				0.9	2	-	-	0.43			Max. 1.8	2	100		
KDP623UL	P3	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100		
				0.9	2	-	-	0.43			Max. 1.8	2	100		
KDP626UL	P6	30	100	1	10	-	-	0.35	1	1	Max. 1.3	10	100		
KDP628UL	P8	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100		
KDP629UL	P9	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100		
KDP630UL	PA	30	100	1	10	-	-	0.3	1	1	Max. 1.3	10	100		
				0.9	2	-	-	0.43			Max. 1.8	2	100		

FM Tuning (Varactor Diode)

Type No.	Mark	Max. Ratings V _R (V)	V _R (V)			C _A (pF)				C _B (pF)				C _A / C _B		r _S (Ω)				Package	Outline (Unit : mm : Max.)
			Min.	I _R (μA)	Typ.	Max.	V _R (V)	f (MHz)	Typ.	Max.	V _R (V)	f (MHz)	Typ.	Max.	Typ.	Max.	f (MHz)	C (pF)			
KDV202E		FA	6	-	-	28.2	33.5	0.1	1	7.2	11.2	2.3	1	2.5	-	0.35	0.6	100	30	ESC	
KDV804S		K3	15	15	10	42	47.5	2	1	24	28.8	8	1	1.65	1.8	0.3	0.4	100	38	SOT-23	
KDV804KS		T3	15	15	10	42	47.5	2	1	24	28.8	8	1	1.74	1.25	0.3	0.4	100	38		
KDV1480		CA	16	16	10	36.92	43.03	3	1	12.77	16.84	8	1	2.5	3.0	-	-	-	-		

AFC Application for FM (Varactor Diode)

Type No.	Mark	Max. Ratings V _R (V)	C _T (pF)				K★		Q				Package	Outline (Unit : mm)	
			Typ.	Max.	V _R (V)	f (MHz)	Min.	Max.	Typ.	Max.	V _R (V)	f (MHz)			
KDS2236S		J3	15	7	14	4	1	0.21	0.5	70	120	4	50	SOT-23	

Note) ★: K = [C_T(v_R=2V, f=1MHz) - C_T(v_R=4V, f=1MHz)] / C_T(v_R=4V, f=1MHz)

VCO for UHF Band (Varactor Diode)

Type No.	Mark	Max. Ratings V _R (V)	V _R (V)			C _A (pF)				C _B (pF)				C _A / C _B		r _S (Ω)				Package	Outline (Unit : mm)		
			Min.	I _R (μA)	Min.	Max.	V _R (V)	f (MHz)	Min.	Max.	V _R (V)	f (MHz)	Min.	Max.	Max.	V _R (V)	f (MHz)						
KDV350F		E	15	-	-	15.5	17.0	1	1	5.0	6.0	4	1	2.8	-	0.5	1	470	TFSC				
KDV355F		1	15	-	-	6.4	7.2	1	1	2.55	2.95	4	1	2.2	-	0.6	1	470					
KDV358F		G	15	-	-	19.5	21.0	1	1	8.0	9.3	4	1	2.2	-	0.4	1	470					
KDV359F		J	15	-	-	24.8	29.8	1	1	6.0	8.3	4	1	3.0	-	1.5	4	100					
KDV365F		K	15	-	-	27.05	28.55	1	1	6.05	7.55	4	1	3.0	-	1.5	4	100					
KDV368F		2	10	-	-	15	16.5	1	1	5.0	6.0	3	1	2.2	-	1.1	2	470					
KDV375F		F	10	-	-	15.0	16.5	1	1	3.3	4.0	4	1	4.0	-	1.1	2	470					
KDV381F		C	15	-	-	10.0	11.0	1	1	5.8	6.4	3	1	1.65	-	0.5	1	470					
KDV385F		A	15	-	-	7.2	7.7	0.5	1	2.7	3.2	2.5	1	2.43	2.57	0.75	1	470					
KDV386F		D	15	-	-	43.0	49.0	1	1	18.5	25.5	4	1	1.8	-	0.85	5	470					
KDV396F		L	10	-	-	14.5	17.5	1	1	5.2	6.5	4	1	2.3	-	0.4	1	470					
KDV397F		H	15	-	-	27.0	28.5	1	1	6.8	8.5	4	1	2.9	-	1.2	1	470					
KDV154E			UA	20	20	1	13.9	16.1	2	1	4.5	6	10	1	2.5	-	0.6	5			470	ESC	
KDV239E			UJ	15	15	1	3.8	4.7	2	1	1.5	2	10	1	2	-	0.6	1			470		
KDV240E	TL		10	-	-	3.8	5.0	0.5	1	1.1	1.3	3	1	2.6	-	1.5	0.5	470					
KDV241E	TM		10	-	-	7.2	8.9	0.5	1	1.8	2.0	3	1	3.5	-	1.3	0.5	470					
KDV273E	U5		10	10	1	15	17	1	1	7.3	8.7	4	1	1.8	-	0.5	1	470					
KDV348E	VT		10	10	1	38.5	44.5	1	1	14	17.6	3	1	2.15	-	0.5	1	470					
KDV350E	UK		15	15	1	15	17.5	1	1	5.3	6.3	4	1	2.8	-	0.5	1	470					
KDV355E	VA		15	-	-	6.4	7.2	1	1	2.55	2.95	4	1	2.2	-	0.6	1	470					
KDV368E	VB		10	-	-	15	16.5	1	1	5	6	3	1	2.2	-	1.1	2	470					
KDV375E	VH		10	-	-	15.0	16.5	1	1	3.3	4.0	4	1	4.0	-	1.1	2	470					
KDV154			UA	20	20	1	13.9	16.1	2	1	4.5	6	10	1	2.5	-	0.6	5	470	USC			
KDV239			UJ	15	15	1	3.8	4.7	2	1	1.5	2	10	1	2	-	0.6	1	470				
KDV273			U5	10	10	1	15	17	1	1	7.3	8.7	4	1	1.8	-	0.5	1	470				
KDV358			VJ	15	-	-	7.2	7.7	0.5	1	2.7	3.2	2.5	1	2.43	2.57	0.75	1	470				
KDV153		H3	20	20	1	14.16	16.25	2	1	4.5	6	10	1	2.5	-	0.6	5	470	SOT-23				
KDV251S		Q3	12	12	10	23	38	1.6	1	11	19	5	1	1.7	2.2	0.6	1	50					

Diode

TV Tuning (Varactor Diode)

Type No.	Mark	Max. Ratings V _R (V)	C _A (pF)				C _B (pF)				C _A / C _B		r _S (Ω)			Package	Outline (Unit : mm)
			Min.	Max.	V _R (V)	f (MHz)	Min.	Max.	V _R (V)	f (MHz)	Min.	Max.	Max.	V _R (V)	f (MHz)		
KDV214V	V1	32	14.15	15.75	2	1	2.06	2.35	25	1	6.3	-	0.57	5	470	VSC	
KDV269V	V4	34	29	34	2	1	2.5	2.9	25	1	11	-	0.75	5	470		
KDV214E	UO	32	14.15	15.75	2	1	2.06	2.35	25	1	6.3	-	0.57	5	470	ESC	
KDV214EA	UZ	32	14.15	15.75	2	1	1.96	2.25	25	1	6.3	-	0.57	5	470		
KDV215E	TA	30	14.16	16.25	2	1	2.11	2.43	25	1	5.9	7.15	0.55	5	470		
KDV216E	V3	32	19.0	21.0	1	1	1.8	2.2	28	1	9.2	-	0.7	5	470		
KDV269E	UR	34	29	34	2	1	2.5	2.9	25	1	11	-	0.75	5	470		
KDV270E	V4	32	39.0	43.0	1	1	2.3	2.6	28	1	15.7	-	0.85	5	470		
KDV300E	VC	32	39.5	47.4	2	1	2.6	3.03	25	1	14.5	-	1.1	5	470		
KDV301E	VQ	32	39.5	47.4	2	1	2.6	3.03	25	1	14.5	-	1.1	5	470		
KDV302E	V5	32	56.0	62.0	1	1	2.45	2.8	28	1	21.6	-	1.15	5	470		
KDV214	UO	32	14.15	15.75	2	1	2.06	2.35	25	1	6.3	-	0.57	5	470	USC	
KDV269	UR	34	29	34	2	1	2.5	2.9	25	1	11	-	0.75	5	470		
KDV300	VC	32	39.5	47.4	2	1	2.60	3.03	25	1	14.5	-	1.1	5	470		

Low Capacitance Zener Diode

Type No.	Mark	P _D (mW)	V _Z (V)		Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		f (MHz)		Package	Outline (Unit : mm)		
			Min.	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	V _R (V)	Max.			V _R (V)	
KDZ5.6CF	3	100	5.49	5.73	5.0	60	5.0	200	0.5	1.0	2.5	25	0.5	1	TFSC	
KDZ6.8CF	Z		6.65	6.93	5.0	40	5.0	60	0.5	0.5	3.5	17	0.5	1		
KDZ7.5CF	FF		7.28	7.60	5.0	30	5.0	60	0.5	0.5	4.0	30	0	1		
KDZ5.6CV	LP	100	5.49	5.73	5.0	60	5.0	200	0.5	1.0	2.5	25	0.5	1	VSC	
KDZ6.8CV	LM		6.65	6.93	5.0	40	5.0	60	0.5	0.5	3.5	17	0.5	1		
KDZ5.6CE	ZM	150	5.49	5.73	5.0	60	5.0	200	0.5	1.0	2.5	25	0.5	1	ESC	
KDZ6.8CE	ZP		6.65	6.93	5.0	40	5.0	60	0.5	0.5	3.5	17	0.5	1		
KDZ6.8DE	D1		6.65	7.45	5.0	40	5.0	60	0.5	0.5	3.5	5	0	1		

Dual Zener Diode

Type No.	Mark	P _D (mW)	V _Z (V)		Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		Package	Outline (Unit : mm)	
			Min.	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.			V _R (V)
KDZ5.6DU	ZM	200☆	5.49	5.73	5	40	5	900	0.5	1	2.5	USQ	
KDZ6.2DU	ZN		6.06	6.33	5	30	5	500	0.5	1	3		

Note) ☆ : Mounted on a glass epoxy circuit board of 20×20mm, pad dimension of 4×4mm.

High Voltage Zener Diode

Type No.	Mark	P _D (mW)	V _Z (V)		Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		Package	Outline (Unit : mm)	
			Min.	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.			V _R (V)
KDZ100V	AQ	200☆	95.0	105.0	1	700	1	-	-	0.2	76	USC	
★KDZ100VW	AW		95.0	105.0	1	700	1	-	-	0.2	76		
★KDZ110VW	BW		104.5	115.5	1	700	1	-	-	0.2	84		
Z02W100V	10A	200	95.0	105.0	1	700	1	-	-	0.2	76	SOT-23	

Note) ☆ : Mounted on a glass epoxy circuit board of 20×20mm, pad dimension of 4×4mm.

Note) ★: Bi-directional Zener Diode.

100mW Zener Diode

Type No.	Grade	Mark	P _D (mW)	V _Z (V)			Z _Z (Ω)		Z _{zk} (Ω)		I _R (μA)		Package	Package Outline (Unit : mm)
				Min.	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	V _R (V)		
KDZ4.3FV	-	4F	100★	4.00	4.50	5.0	130	5	1000	0.5	5	1	TFSC	
	Y	4P		4.17	4.43		130	5	1000		5	1		
KDZ4.7FV	-	5F		4.40	4.90		130	5	1000		5	1		
	Y	5P		4.55	4.75		130	5	1000		5	1		
KDZ5.1FV	-	6F		4.80	5.40		70	5	1000		1	1.5		
	Y	6P		4.98	5.20		70	5	1000		1	1.5		
KDZ5.6FV	-	8		5.30	6.00		40	5	900		1	2.5		
	Y	8P		5.49	5.73		40	5	900		1	2.5		
KDZ6.2FV	-	9F		5.80	6.60		30	5	500		1	3		
	Y	9P		6.06	6.33		30	5	500		1	3		
KDZ6.8FV	-	BF		6.40	7.20		25	5	150		0.5	5		
	Y	BP		6.65	6.93		25	5	150		0.5	5		
KDZ7.5FV	-	PF		7.00	7.90		23	5	120		0.5	6		
	Y	PP		7.28	7.60		23	5	120		0.5	6		
KDZ8.2FV	-	DF		7.70	8.70		20	5	120		0.5	6.5		
	Y	DP		8.02	8.3		20	5	120		0.5	6.5		
KDZ9.1FV	-	EF		8.50	9.60		18	5	120		0.5	7		
	Y	EP		8.85	9.23		18	5	120		0.5	7		
KDZ10FV	-	UF		9.40	10.60		15	5	120		0.5	8		
	Y	UP		9.77	10.21		15	5	120		0.5	8		
KDZ11FV	-	GF	10.40	11.60	15	5	120	0.5	8.5					
	Y	GP	10.76	11.22	15	5	120	0.5	8.5					
KDZ12FV	-	HF	11.40	12.60	15	5	110	0.5	9					
	Y	HP	11.74	12.24	15	5	110	0.5	9					
KDZ13FV	-	JF	12.40	14.10	15	5	110	0.5	10					
	Y	JP	12.91	13.49	15	5	110	0.5	10					
KDZ15FV	-	KF	13.80	15.60	15	5	110	0.5	11					
	Y	KP	14.34	14.98	15	5	110	0.5	11					
KDZ16FV	-	9	15.30	17.10	18	5	150	0.5	12					
	Y	91	15.85	16.51	18	5	150	0.5	12					
KDZ18FV	-	LF	16.80	19.10	20	5	150	0.5	13					
	Y	LP	17.56	18.35	20	5	150	0.5	13					
KDZ20FV	-	MF	18.80	21.20	25	5	200	0.5	15					
	Y	MP	19.52	20.39	25	5	200	0.5	15					
KDZ22FV	-	NF	20.80	23.30	30	5	200	0.5	17					
	Y	NP	21.54	22.47	30	5	200	0.5	17					
KDZ24FV	-	QF	22.80	25.60	40	5	200	0.5	19					
	Y	QP	23.72	24.78	40	5	200	0.5	19					
KDZ27FV	-	RF	25.10	28.90	150	2.0	150	0.1	21					
	Y	RP	26.19	27.53	150	2.0	150	0.1	21					
KDZ30FV	-	SF	28.00	32.00	200	2.0	200	0.1	23					
	Y	SP	29.19	30.69	200	2.0	200	0.1	23					
KDZ33FV	-	AF	31.00	35.00	250	2.0	250	0.1	25					
	Y	AP	32.15	33.79	250	2.0	250	0.1	25					
KDZ36FV	-	TF	34.00	38.00	300	2.0	300	0.1	27					
	Y	TP	35.07	36.87	300	2.0	300	0.1	27					

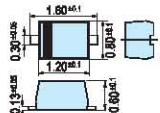
Diode

100mW Zener Diode

Type No.	Grade	Mark	P _D (mW)	V _Z (V)		I _Z (mA)	Z _Z (Ω)		Z _{zk} (Ω)		I _R (μA)		Package	Package Outline (Unit : mm)
				Min.	Max.		Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	V _R (V)		
KDZ4.3VV	-	ZJ	100☆	4.00	4.50	5.0	130	5	1000	0.5	5	1	VSC	
	Y	JY		4.17	4.43		130	5	1000		5	1		
KDZ4.7VV	-	ZK		4.40	4.90		130	5	1000		5	1		
	Y	KY		4.55	4.75		130	5	1000		5	1		
KDZ5.1VV	-	ZL		4.80	5.40		70	5	1000		1	1.5		
	Y	LY		4.98	5.20		70	5	1000		1	1.5		
KDZ5.6VV	-	ZM		5.30	6.00		40	5	900		1	2.5		
	Y	MY		5.49	5.73		40	5	900		1	2.5		
KDZ6.2VV	-	ZN		5.80	6.60		30	5	500		1	3		
	Y	NY		6.06	6.33		30	5	500		1	3		
KDZ6.8VV	-	ZP		6.40	7.20		25	5	150		0.5	5		
	Y	PY		6.65	6.93		25	5	150		0.5	5		
KDZ7.5VV	-	ZQ		7.00	7.90		23	5	120		0.5	6		
	Y	QY		7.28	7.60		23	5	120		0.5	6		
KDZ8.2VV	-	ZR		7.70	8.70		20	5	120		0.5	6.5		
	Y	RY		8.02	8.3		20	5	120		0.5	6.5		
KDZ9.1VV	-	ZS		8.50	9.60		18	5	120		0.5	7		
	Y	SY		8.85	9.23		18	5	120		0.5	7		
KDZ10VV	-	10		9.40	10.60		15	5	120		0.5	8		
	Y	0Y		9.77	10.21		15	5	120		0.5	8		
KDZ11VV	-	11		10.40	11.60		15	5	120		0.5	8.5		
	Y	1Y		10.76	11.22		15	5	120		0.5	8.5		
KDZ12VV	-	12		11.40	12.60		15	5	110		0.5	9		
	Y	2Y		11.74	12.24		15	5	110		0.5	9		
KDZ13VV	-	13		12.40	14.10		15	5	110		0.5	10		
	Y	3Y		12.91	13.49		15	5	110		0.5	10		
KDZ15VV	-	15		13.80	15.60		15	5	110		0.5	11		
	Y	5Y		14.34	14.98		15	5	110		0.5	11		
KDZ16VV	-	16	15.30	17.10	18	5	150	0.5	12					
	Y	6Y	15.85	16.51	18	5	150	0.5	12					
KDZ18VV	-	18	16.80	19.10	20	5	150	0.5	13					
	Y	8Y	17.56	18.35	20	5	150	0.5	13					
KDZ20VV	-	20	18.80	21.20	25	5	200	0.5	15					
	Y	4Y	19.52	20.39	25	5	200	0.5	15					
KDZ22VV	-	22	20.80	23.30	30	5	200	0.5	17					
	Y	7Y	21.54	22.47	30	5	200	0.5	17					
KDZ24VV	-	24	22.80	25.60	40	5	200	0.5	19					
	Y	9Y	23.72	24.78	40	5	200	0.5	19					
KDZ27VV	-	27	25.10	28.90	150	2.0	150	0.1	21					
	Y	TY	26.19	27.53	150	2.0	150	0.1	21					
KDZ30VV	-	30	28.00	32.00	200	2.0	200	0.1	23					
	Y	UY	29.19	30.69	200	2.0	200	0.1	23					
KDZ33VV	-	33	31.00	35.00	250	2.0	250	0.1	25					
	Y	VY	32.15	33.79	250	2.0	250	0.1	25					
KDZ36VV	-	36	34.00	38.00	300	2.0	300	0.1	27					
	Y	WY	35.07	36.87	300	2.0	300	0.1	27					

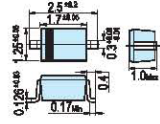
Note) ☆ : Mounted on a glass epoxy circuit board of 20×20mm, pad dimension of 4×4mm.

150mW Zener Diode

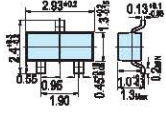
Type No.	Grade	Mark	Max. Ratings F _D (mW)	V _Z (V)		I _Z (mA)	Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		Package	Outline (Unit : mm)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
				Min.	Max.		Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	V _R (V)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
KDZ2.0EV	-	2A	150☆	1.85	2.15	5	100	5	1000	0.5	120	1.0	ESC																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	Y	2A ●		1.95	2.15										KDZ2.2EV	-	2B	2.05	2.38	5	100	5	1000	0.5	120	1.0	Y	2B ●	2.16	2.38	KDZ2.4EV	-	2C	2.28	2.60	5	100	5	1000	0.5	120	1.0	Y	2C ●	2.40	2.60	KDZ2.7EV	-	2D	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D ●	2.65	2.90	KDZ3.0EV	-	30	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30 ●	2.95	3.20	KDZ3.3EV	-	33	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33 ●	3.25	3.50	KDZ3.6EV	-	36	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36 ●	3.60	3.845	KDZ3.9EV	-	39	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39 ●	3.890	4.160	KDZ4.3EV	-	43	4.00	4.50	5	130	5	1000	0.5	5	1.0	Y	43 ●	4.170	4.430	KDZ4.7EV	-	47	4.40	4.90	5	120	5	1000	0.5	5	1.0	Y	47 ●	4.550	4.750	KDZ5.1EV	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5	Y	51 ●	4.980	5.200	KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2
KDZ2.2EV	-	2B		2.05	2.38	5	100	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	2B ●		2.16	2.38										KDZ2.4EV	-	2C	2.28	2.60	5	100	5	1000	0.5	120	1.0	Y	2C ●	2.40	2.60	KDZ2.7EV	-	2D	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D ●	2.65	2.90	KDZ3.0EV	-	30	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30 ●	2.95	3.20	KDZ3.3EV	-	33	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33 ●	3.25	3.50	KDZ3.6EV	-	36	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36 ●	3.60	3.845	KDZ3.9EV	-	39	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39 ●	3.890	4.160	KDZ4.3EV	-	43	4.00	4.50	5	130	5	1000	0.5	5	1.0	Y	43 ●	4.170	4.430	KDZ4.7EV	-	47	4.40	4.90	5	120	5	1000	0.5	5	1.0	Y	47 ●	4.550	4.750	KDZ5.1EV	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5	Y	51 ●	4.980	5.200	KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87								
KDZ2.4EV	-	2C		2.28	2.60	5	100	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	2C ●		2.40	2.60										KDZ2.7EV	-	2D	2.50	2.90	5	110	5	1000	0.5	120	1.0	Y	2D ●	2.65	2.90	KDZ3.0EV	-	30	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30 ●	2.95	3.20	KDZ3.3EV	-	33	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33 ●	3.25	3.50	KDZ3.6EV	-	36	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36 ●	3.60	3.845	KDZ3.9EV	-	39	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39 ●	3.890	4.160	KDZ4.3EV	-	43	4.00	4.50	5	130	5	1000	0.5	5	1.0	Y	43 ●	4.170	4.430	KDZ4.7EV	-	47	4.40	4.90	5	120	5	1000	0.5	5	1.0	Y	47 ●	4.550	4.750	KDZ5.1EV	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5	Y	51 ●	4.980	5.200	KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																								
KDZ2.7EV	-	2D		2.50	2.90	5	110	5	1000	0.5	120	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	2D ●		2.65	2.90										KDZ3.0EV	-	30	2.80	3.20	5	120	5	1000	0.5	50	1.0	Y	30 ●	2.95	3.20	KDZ3.3EV	-	33	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33 ●	3.25	3.50	KDZ3.6EV	-	36	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36 ●	3.60	3.845	KDZ3.9EV	-	39	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39 ●	3.890	4.160	KDZ4.3EV	-	43	4.00	4.50	5	130	5	1000	0.5	5	1.0	Y	43 ●	4.170	4.430	KDZ4.7EV	-	47	4.40	4.90	5	120	5	1000	0.5	5	1.0	Y	47 ●	4.550	4.750	KDZ5.1EV	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5	Y	51 ●	4.980	5.200	KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																								
KDZ3.0EV	-	30		2.80	3.20	5	120	5	1000	0.5	50	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	30 ●		2.95	3.20										KDZ3.3EV	-	33	3.10	3.50	5	130	5	1000	0.5	20	1.0	Y	33 ●	3.25	3.50	KDZ3.6EV	-	36	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36 ●	3.60	3.845	KDZ3.9EV	-	39	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39 ●	3.890	4.160	KDZ4.3EV	-	43	4.00	4.50	5	130	5	1000	0.5	5	1.0	Y	43 ●	4.170	4.430	KDZ4.7EV	-	47	4.40	4.90	5	120	5	1000	0.5	5	1.0	Y	47 ●	4.550	4.750	KDZ5.1EV	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5	Y	51 ●	4.980	5.200	KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																								
KDZ3.3EV	-	33		3.10	3.50	5	130	5	1000	0.5	20	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	33 ●		3.25	3.50										KDZ3.6EV	-	36	3.40	3.80	5	130	5	1000	0.5	10	1.0	Y	36 ●	3.60	3.845	KDZ3.9EV	-	39	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39 ●	3.890	4.160	KDZ4.3EV	-	43	4.00	4.50	5	130	5	1000	0.5	5	1.0	Y	43 ●	4.170	4.430	KDZ4.7EV	-	47	4.40	4.90	5	120	5	1000	0.5	5	1.0	Y	47 ●	4.550	4.750	KDZ5.1EV	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5	Y	51 ●	4.980	5.200	KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																								
KDZ3.6EV	-	36		3.40	3.80	5	130	5	1000	0.5	10	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	36 ●		3.60	3.845										KDZ3.9EV	-	39	3.70	4.10	5	130	5	1000	0.5	10	1.0	Y	39 ●	3.890	4.160	KDZ4.3EV	-	43	4.00	4.50	5	130	5	1000	0.5	5	1.0	Y	43 ●	4.170	4.430	KDZ4.7EV	-	47	4.40	4.90	5	120	5	1000	0.5	5	1.0	Y	47 ●	4.550	4.750	KDZ5.1EV	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5	Y	51 ●	4.980	5.200	KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																								
KDZ3.9EV	-	39		3.70	4.10	5	130	5	1000	0.5	10	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	39 ●		3.890	4.160										KDZ4.3EV	-	43	4.00	4.50	5	130	5	1000	0.5	5	1.0	Y	43 ●	4.170	4.430	KDZ4.7EV	-	47	4.40	4.90	5	120	5	1000	0.5	5	1.0	Y	47 ●	4.550	4.750	KDZ5.1EV	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5	Y	51 ●	4.980	5.200	KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																								
KDZ4.3EV	-	43		4.00	4.50	5	130	5	1000	0.5	5	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	43 ●		4.170	4.430										KDZ4.7EV	-	47	4.40	4.90	5	120	5	1000	0.5	5	1.0	Y	47 ●	4.550	4.750	KDZ5.1EV	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5	Y	51 ●	4.980	5.200	KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																								
KDZ4.7EV	-	47		4.40	4.90	5	120	5	1000	0.5	5	1.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	47 ●		4.550	4.750										KDZ5.1EV	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5	Y	51 ●	4.980	5.200	KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																								
KDZ5.1EV	-	51		4.80	5.40	5	70	5	1000	0.5	1	1.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	51 ●		4.980	5.200										KDZ5.6EV	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5	Y	56 ●	5.490	5.730	KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																								
KDZ5.6EV	-	56		5.30	6.00	5	40	5	900	0.5	1	2.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	56 ●		5.490	5.730										KDZ6.2EV	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0	Y	62 ●	6.060	6.330	KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																																								
KDZ6.2EV	-	62		5.80	6.60	5	30	5	500	0.5	1	3.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	62 ●		6.060	6.330										KDZ6.8EV	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0	Y	68 ●	6.650	6.930	KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																																																								
KDZ6.8EV	-	68		6.40	7.20	5	25	5	150	0.5	0.5	5.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Y	68 ●		6.650	6.930										KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0	Y	75 ●	7.280	7.600	KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																																																																								
KDZ7.5EV	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Y	75 ●	7.280	7.600								KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5	Y	82 ●	8.020	8.360	KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																																																																																											
KDZ8.2EV	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Y	82 ●	8.020	8.360								KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0	Y	91 ●	8.850	9.230	KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																																																																																																											
KDZ9.1EV	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Y	91 ●	8.850	9.230								KDZ10EV	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0	Y	10 ●	9.770	10.210	KDZ11EV	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5	Y	11 ●	10.760	11.220	KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																																																																																																																											
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	Y	11 ●	10.760	11.220								KDZ12EV	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0	Y	12 ●	11.740	12.240	KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																																																																																																																																																											
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	Y	12 ●	11.740	12.240								KDZ13EV	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10	Y	13 ●	12.910	13.490	KDZ15EV	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11	Y	15 ●	14.340	14.980	KDZ16EV	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12	Y	16 ●	15.850	16.510	KDZ18EV	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14	Y	18 ●	17.560	18.350	KDZ20EV	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15	Y	20 ●	19.520	20.390	KDZ22EV	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17	Y	22 ●	21.540	22.470	KDZ24EV	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19	Y	24 ●	23.720	24.780	KDZ27EV	-	27	25.10	28.90	2	150	2	150	0.5	0.1	21	Y	27 ●	26.19	27.53	KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23	Y	A2 ●	29.19	30.69	KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																																																																																																																																																																											
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KDZ30EV	-	A2	28.00	32.00	2	200	2	200	0.5	0.1	23																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Y	A2 ●	29.19	30.69								KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25	Y	A3 ●	32.15	33.79	KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																																																																																																																																																																																																																																																																																																																											
KDZ33EV	-	A3	31.00	35.00	2	250	2	250	0.5	0.1	25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Y	A3 ●	32.15	33.79								KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27	Y	A4 ●	35.07	36.87																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
KDZ36EV	-	A4	34.00	38.00	2	300	2	300	0.5	0.1	27																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Y	A4 ●	35.07	36.87																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

Note) ☆ : Mounted on a glass epoxy circuit board of 20×20mm, pad dimension of 4×4mm.

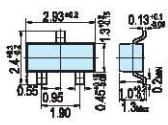
200mW Zener Diode

Type No.	Grade	Mark	Max. Ratings P _D (mW)	V _Z (V)		I _Z (mA)	Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		Package	Outline (Unit : mm)
				Min.	Max.		Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	V _R (V)		
KDZ2.0V	-	2A	200☆	1.85	2.15	5	100	5	1000	0.5	120	1.0	USC	
	Y	2A●		1.95	2.15									
KDZ2.2V	-	2B		2.05	2.38	5	100	5	1000	0.5	120	1.0		
	Y	2B●		2.16	2.38									
KDZ2.4V	-	2C		2.28	2.60	5	100	5	1000	0.5	120	1.0		
	Y	2C●		2.40	2.60									
KDZ2.7V	-	2D		2.50	2.90	5	110	5	1000	0.5	120	1.0		
	Y	2D●		2.65	2.90									
KDZ3.0V	-	30		2.80	3.20	5	120	5	1000	0.5	50	1.0		
	Y	30●		2.95	3.20									
KDZ3.3V	-	33		3.10	3.50	5	130	5	1000	0.5	20	1.0		
	Y	33●		3.25	3.50									
KDZ3.6V	-	36		3.40	3.80	5	130	5	1000	0.5	10	1.0		
	Y	36●		3.60	3.845									
KDZ3.9V	-	39		3.70	4.10	5	130	5	1000	0.5	10	1.0		
	Y	39●		3.890	4.160									
KDZ4.3V	-	43		4.00	4.50	5	130	5	1000	0.5	5	1.0		
	Y	43●		4.170	4.430									
KDZ4.7V	-	47		4.40	4.90	5	120	5	1000	0.5	5	1.0		
	Y	47●		4.550	4.750									
KDZ5.1V	-	51	4.80	5.40	5	70	5	1000	0.5	1	1.5			
	Y	51●	4.980	5.200										
KDZ5.6V	-	56	5.30	6.00	5	40	5	900	0.5	1	2.5			
	Y	56●	5.490	5.730										
KDZ6.2V	-	62	5.80	6.60	5	30	5	500	0.5	1	3.0			
	Y	62●	6.060	6.330										
KDZ6.8V	-	68	6.40	7.20	5	25	5	150	0.5	0.5	5.0			
	Y	68●	6.650	6.930										
KDZ7.5V	-	75	7.00	7.90	5	23	5	120	0.5	0.5	6.0			
	Y	75●	7.280	7.600										
KDZ8.2V	-	82	7.70	8.70	5	20	5	120	0.5	0.5	6.5			
	Y	82●	8.020	8.360										
KDZ9.1V	-	91	8.50	9.60	5	18	5	120	0.5	0.5	7.0			
	Y	91●	8.850	9.230										
KDZ10V	-	10	9.40	10.60	5	15	5	120	0.5	0.5	8.0			
	Y	10●	9.770	10.210										
KDZ11V	-	11	10.40	11.60	5	15	5	120	0.5	0.5	8.5			
	Y	11●	10.760	11.220										
KDZ12V	-	12	11.40	12.60	5	15	5	110	0.5	0.5	9.0			
	Y	12●	11.740	12.240										
KDZ13V	-	13	12.40	14.10	5	15	5	110	0.5	0.5	10			
	Y	13●	12.910	13.490										
KDZ15V	-	15	13.80	15.60	5	15	5	110	0.5	0.5	11			
	Y	15●	14.340	14.980										
KDZ16V	-	16	15.30	17.10	5	18	5	150	0.5	0.5	12			
	Y	16●	15.850	16.510										
KDZ18V	-	18	16.80	19.10	5	20	5	150	0.5	0.5	14			
	Y	18●	17.560	18.350										
KDZ20V	-	20	18.80	21.20	5	25	5	200	0.5	0.5	15			
	Y	20●	19.520	20.390										
KDZ22V	-	22	20.80	23.30	5	30	5	200	0.5	0.5	17			
	Y	22●	21.540	22.470										
KDZ24V	-	24	22.80	25.60	5	40	5	200	0.5	0.5	19			
	Y	24●	23.720	24.780										
KDZ27EV	-	A1	26.19	27.53	2	150	2	150	0.5	0.1	21			
KDZ30EV	-	A2	29.19	30.69	2	200	2	200	0.5	0.1	23			
KDZ33EV	-	A3	32.15	33.79	2	250	2	250	0.5	0.1	25			
KDZ36EV	-	A4	35.07	36.87	2	300	2	300	0.5	0.1	27			

200mW Zener Diode

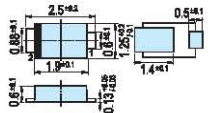
Type No.	Grade	Mark	Max. Ratings P _D (mW)	V _Z (V)			Z _Z (Ω)		Z _{ZK} (Ω)		I _R (μA)		Package	Outline (Unit : mm)
				Min.	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	V _R (V)		
Z02W2.0V	-	2A	200	1.85	2.15	5	100	5	1000	0.5	120	1	SOT-23	
	X	2AX		1.85	2.05	5	100	5	1000	0.5	120	1		
	Z	2AZ		1.95	2.15	5	100	5	1000	0.5	120	1		
Z02W2.2V	-	2B		2.05	2.38	5	100	5	1000	0.5	120	1		
	X	2BX		2.05	2.26	5	100	5	1000	0.5	120	1		
	Z	2BZ		2.16	2.38	5	100	5	1000	0.5	120	1		
Z02W2.4V	-	2C		2.28	2.6	5	100	5	1000	0.5	120	1		
	X	2CX		2.28	2.5	5	100	5	1000	0.5	120	1		
	Z	2CZ		2.4	2.6	5	100	5	1000	0.5	120	1		
Z02W2.7V	-	2D		2.5	2.9	5	110	5	1000	0.5	120	1		
	X	2DX		2.5	2.75	5	110	5	1000	0.5	120	1		
	Z	2DZ		2.65	2.9	5	110	5	1000	0.5	120	1		
Z02W3.0V	-	30		2.8	3.2	5	120	5	1000	0.5	50	1		
	X	30X		2.8	3.05	5	120	5	1000	0.5	50	1		
	Z	30Z		2.95	3.2	5	120	5	1000	0.5	50	1		
Z02W3.3V	-	33		3.1	3.5	5	130	5	1000	0.5	20	1		
	X	33X		3.1	3.35	5	130	5	1000	0.5	20	1		
	Z	33Z		3.25	3.5	5	130	5	1000	0.5	20	1		
Z02W3.6V	-	36		3.4	3.8	5	130	5	1000	0.5	10	1		
	X	36X		3.4	3.65	5	130	5	1000	0.5	10	1		
	Z	36Z		3.55	3.8	5	130	5	1000	0.5	10	1		
Z02W3.9V	-	39		3.7	4.1	5	130	5	1000	0.5	10	1		
	X	39X		3.7	3.97	5	130	5	1000	0.5	10	1		
	Z	39Z		3.87	4.1	5	130	5	1000	0.5	10	1		
Z02W4.3V	-	43		4	4.5	5	130	5	1000	0.5	5	1		
	Y	43Y		4.13	4.35	5	130	5	1000	0.5	5	1		
Z02W4.7V	-	47		4.4	4.9	5	120	5	1000	0.5	5	1		
	Y	47Y		4.53	4.76	5	120	5	1000	0.5	5	1		
Z02W5.1V	-	5.1		4.8	5.4	5	70	5	1000	0.5	1	1.5		
	Y	5.1Y		4.97	5.24	5	70	5	1000	0.5	1	1.5		
Z02W5.6V	-	5.6	5.3	6	5	40	5	900	0.5	1	2.5			
	Y	5.6Y	5.43	5.81	5	40	5	900	0.5	1	2.5			
Z02W6.2V	-	6.2	5.8	6.6	5	30	5	500	0.5	1	3			
	Y	6.2Y	6	6.39	5	30	5	500	0.5	1	3			
Z02W6.8V	-	6.8	6.4	7.2	5	25	5	150	0.5	0.5	5			
	Y	6.8Y	6.6	7.02	5	25	5	150	0.5	0.5	5			
Z02W7.5V	-	7.5	7	7.9	5	23	5	120	0.5	0.5	6			
	Y	7.5Y	7.23	7.66	5	23	5	120	0.5	0.5	6			
Z02W8.2V	-	8.2	7.7	8.7	5	20	5	120	0.5	0.5	6.5			
	Y	8.2Y	7.96	8.43	5	20	5	120	0.5	0.5	6.5			
Z02W9.1V	-	9.1	8.5	9.6	5	18	5	120	0.5	0.5	7			
	Y	9.1Y	8.8	9.3	5	18	5	120	0.5	0.5	7			
Z02W10V	-	10	9.4	10.6	5	15	5	120	0.5	0.5	8			
	Y	10Y	9.73	10.26	5	15	5	120	0.5	0.5	8			
Z02W11V	-	11	10.4	11.6	5	15	5	120	0.5	0.5	8.5			
	Y	11Y	10.73	11.26	5	15	5	120	0.5	0.5	8.5			
Z02W12V	-	12	11.4	12.6	5	15	5	110	0.5	0.5	9			
	Y	12Y	11.73	12.26	5	15	5	110	0.5	0.5	9			
Z02W13V	-	13	12.4	14.1	5	15	5	110	0.5	0.5	10			
	Y	13Y	12.88	13.57	5	15	5	110	0.5	0.5	10			
Z02W15V	-	15	13.8	15.6	5	15	5	110	0.5	0.5	11			
	Y	15Y	14.33	15.11	5	15	5	110	0.5	0.5	11			
Z02W16V	-	16	15.3	17.1	5	18	5	150	0.5	0.5	12			
	Y	16Y	15.8	16.6	5	18	5	150	0.5	0.5	12			
Z02W18V	-	18	16.8	19.1	5	20	5	150	0.5	0.5	14			
	Y	18Y	17.46	18.43	5	20	5	150	0.5	0.5	14			
Z02W20V	-	20	18.8	21.2	5	25	5	200	0.5	0.5	15			
	Y	20Y	19.48	20.46	5	25	5	200	0.5	0.5	15			
Z02W22V	-	22	20.8	23.3	5	30	5	200	0.5	0.5	17			
	Y	22Y	21.48	22.56	5	30	5	200	0.5	0.5	17			
Z02W24V	-	24	22.8	25.6	5	40	5	200	0.5	0.5	19			
	Y	24Y	23.61	24.92	5	40	5	200	0.5	0.5	19			
Z02W27V	-	27A	26.19	27.53	2	150	2	150	0.5	0.1	21			
Z02W30V	-	30A	29.19	30.69	2	200	2	200	0.5	0.1	23			
Z02W33V	-	33A	32.15	33.79	2	250	2	250	0.5	0.1	25			
Z02W36V	-	36A	35.07	36.87	2	300	2	300	0.5	0.1	27			

300mW☆ Zener Diode

Type No.	Mark	P _D (Max.) (mW)	Zener Voltage V _Z (±2.5%)			Z _Z (Ω)		Z _{ZK} (Ω)		I _R		Package	Outline (Unit : mm)
			Min.	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	I _Z (mA)	Max.	V _R (V)		
BZX84C2V0	2AH	300☆	1.85	2.15	5	100	5	1000	0.5	120	1.0	SOT-23	
BZX84C2V2	2BH		2.05	2.38	5	100	5	1000	0.5	120	1.0		
BZX84C2V4	2CH		2.28	2.60	5	100	5	1000	0.5	120	1.0		
BZX84C2V7	2DH		2.50	2.90	5	100	5	1000	0.5	120	1.0		
BZX84C3V0	30H		2.80	3.20	5	120	5	1000	0.5	50	1.0		
BZX84C3V3	33H		3.10	3.50	5	130	5	1000	0.5	20	1.0		
BZX84C3V6	36H		3.40	3.80	5	130	5	1000	0.5	10	1.0		
BZX84C3V9	39H		3.70	4.10	5	130	5	1000	0.5	10	1.0		
BZX84C4V3	43H		4.13	4.35	5	130	5	1000	0.5	5	1.0		
BZX84C4V7	47H		4.53	4.76	5	120	5	1000	0.5	5	1.0		
BZX84C5V1	51H		4.97	5.24	5	70	5	1000	0.5	1	1.5		
BZX84C5V6	56H		5.43	5.81	5	40	5	900	0.5	1	2.5		
BZX84C6V2	62H		6.00	6.39	5	30	5	500	0.5	1	3.0		
BZX84C6V8	68H		6.60	7.02	5	25	5	150	0.5	0.5	5.0		
BZX84C7V5	75H		7.23	7.66	5	23	5	120	0.5	0.5	6.0		
BZX84C8V2	82H		7.96	8.43	5	20	5	120	0.5	0.5	6.5		
BZX84C9V1	91H		8.80	9.30	5	18	5	120	0.5	0.5	7.0		
BZX84C10	10H		9.73	10.26	5	15	5	120	0.5	0.5	8.0		
BZX84C11	11H		10.73	11.26	5	15	5	120	0.5	0.5	8.5		
BZX84C12	12H		11.73	12.26	5	15	5	110	0.5	0.5	9.0		
BZX84C13	13H		12.88	13.57	5	15	5	110	0.5	0.5	10		
BZX84C15	15H		14.33	15.11	5	15	5	110	0.5	0.5	11		
BZX84C16	16H		15.80	16.60	5	18	5	150	0.5	0.5	12		
BZX84C1	18H		17.46	18.43	5	20	5	150	0.5	0.5	14		
BZX84C20	20H		19.48	20.46	5	25	5	200	0.5	0.5	15		
BZX84C22	22H		21.48	22.56	5	30	5	200	0.5	0.5	17		
BZX84C24	24H		23.61	24.92	5	40	5	200	0.5	0.5	19		
BZX84C27	27B		26.19	27.53	2	150	2	150	0.5	0.1	21		
BZX84C30	30B		29.19	30.69	2	200	2	200	0.5	0.1	23		
BZX84C33	33B		32.15	33.79	2	250	2	250	0.5	0.1	25		
BZX84C36	36B		35.01	36.87	2	300	2	300	0.5	0.1	27		

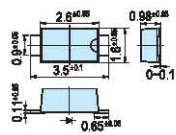
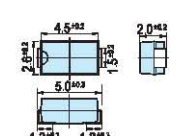
Note) ☆ : Package Mounted on 99.5% alumina 10×8×0.6mm.

■ 500mW Zener Diode

Type No.	Mark	P _D (mW)	Zener Voltage			I _R (μ A)		Package	Outline (Unit : mm)
			Min.	Max.	I _Z (mA)	Max.	V _R (V)		
USFZ4.3V*	43	500	3.9	4.8	10	10	1.0	USF 	
USFZ4.7V*	47	500	4.3	5.2	10	10	1.0		
USFZ5.1V*	51	500	4.6	5.6	10	10	1.5		
USFZ5.6V*	56	500	5.1	6.1	10	10	2.5		
USFZ6.2V*	62	500	5.6	6.8	10	10	3.0		
USFZ6.8V*	68	500	6.2	7.4	10	10	3.5		
USFZ7.5V*	75	500	6.8	8.3	10	10	4.5		
USFZ8.2V*	82	500	7.4	9.0	10	10	4.9		
USFZ9.1V*	91	500	8.2	10.0	10	10	5.5		
USFZ10V*	10	500	9.0	11.0	10	10	6.2		
USFZ11V*	11	500	9.9	12.1	10	10	7.0		
USFZ12V*	12	500	10.8	13.2	10	10	8.0		
USFZ13V*	13	500	11.7	14.3	10	10	9.0		
USFZ15V*	15	500	13.5	16.5	10	10	10.0		
USFZ16V*	16	500	14.4	17.6	10	10	11.0		
USFZ18V*	18	500	16.2	19.8	10	10	12.0		
USFZ20V*	20	500	18.0	22.0	10	10	14.0		
USFZ22V*	22	500	19.8	24.2	10	10	15.0		
USFZ24V*	24	500	21.6	26.4	10	10	16.0		
USFZ27V*	27	500	24.3	29.7	10	10	19.0		
USFZ30V*	30	500	27.0	33.0	10	10	21.0		
USFZ33V*	33	500	29.7	36.3	10	10	23.0		
USFZ36V*	36	500	32.4	39.6	10	10	25.0		

Note) * : Under development.

■ 1W Zener Diode

Type No.	Mark	P _D (W)	Zener Voltage			I _R (mA)		Package	Outline (Unit : mm)
			Min.	Max.	I _Z (mA)	Max.	V _R (V)		
SMFZ3.6V*	Z3.6	1	3.6	4.0	40	20	1.0		
SMFZ3.9V*	Z3.9	1	3.9	4.4	40	20	1.0		
SMFZ4.3V*	Z4.3	1	4.3	4.8	40	20	1.0		
SMFZ4.7V*	Z4.7	1	4.7	5.2	40	20	1.0		
SMFZ5.1V*	Z5.1	1	5.1	5.7	40	20	1.0		
SMFZ5.6V*	Z5.6	1	5.6	6.3	40	20	1.5		
SMFZ6.2V*	Z6.2	1	6.2	7.0	40	20	3.0		
SMFZ6.8V*	Z6.8	1	6.8	7.7	40	20	3.5		
SMFZ7.5V*	Z7.5	1	7.5	8.4	40	20	4.0		
SMFZ8.2V*	Z8.2	1	8.2	9.3	40	20	5.0		
SMFZ9.1V*	Z9.1	1	9.1	10.2	40	20	6.0		
SMFZ10V*	Z10	1	10.0	12.3	40	10	7.0		
SMFZ11V*	Z11	1	11.0	11.2	20	10	8.0		
SMFZ12V*	Z12	1	12.0	13.5	20	10	9.0		
SMFZ13V*	Z13	1	13.3	15.0	20	10	10.0		
SMFZ15V*	Z15	1	14.7	16.5	20	10	11.0		
SMFZ16V*	Z16	1	16.2	18.3	20	10	12.0		
SMFZ18V*	Z18	1	18.0	20.3	20	10	13.0		
SMFZ20V*	Z20	1	20.0	22.4	20	10	15.0		
SMFZ22V*	Z22	1	22.0	24.5	10	10	17.0		
SMFZ24V*	Z24	1	24.0	27.6	10	10	19.0		
SMFZ27V*	Z27	1	27.0	30.8	10	10	21.0		
SMFZ30V*	Z30	1	30.0	34.0	10	10	23.0		
SMFZ33V*	Z33	1	33.0	37.0	10	10	25.0		
SMFZ36V*	Z36	1	36.0	40.0	10	10	27.0		
SMAZ3.6V*	Z3.6	1	3.6	4.0	40	20	1.0		
SMAZ3.9V*	Z3.9	1	3.9	4.4	40	20	1.0		
SMAZ4.3V*	Z4.3	1	4.3	4.8	40	20	1.0		
SMAZ4.7V*	Z4.7	1	4.7	5.2	40	20	1.0		
SMAZ5.1V*	Z5.1	1	5.1	5.7	40	20	1.0		
SMAZ5.6V*	Z5.6	1	5.6	6.3	40	20	1.5		
SMAZ6.2V*	Z6.2	1	6.2	7.0	40	20	3.0		
SMAZ6.8V*	Z6.8	1	6.8	7.7	40	20	3.5		
SMAZ7.5V*	Z7.5	1	7.5	8.4	40	20	4.0		
SMAZ8.2V*	Z8.2	1	8.2	9.3	40	20	5.0		
SMAZ9.1V*	Z9.1	1	9.1	10.2	40	20	6.0		
SMAZ10V*	Z10	1	10.0	12.3	40	10	7.0		
SMAZ11V*	Z11	1	11.0	11.2	20	10	8.0		
SMAZ12V*	Z12	1	12.0	13.5	20	10	9.0		
SMAZ13V*	Z13	1	13.3	15.0	20	10	10.0		
SMAZ15V*	Z15	1	14.7	16.5	20	10	11.0		
SMAZ16V*	Z16	1	16.2	18.3	20	10	12.0		
SMAZ18V*	Z18	1	18.0	20.3	20	10	13.0		
SMAZ20V*	Z20	1	20.0	22.4	20	10	15.0		
SMAZ22V*	Z22	1	22.0	24.5	10	10	17.0		
SMAZ24V*	Z24	1	24.0	27.6	10	10	19.0		
SMAZ27V*	Z27	1	27.0	30.8	10	10	21.0		
SMAZ30V*	Z30	1	30.0	34.0	10	10	23.0		
SMAZ33V*	Z33	1	33.0	37.0	10	10	25.0		
SMAZ36V*	Z36	1	36.0	40.0	10	10	27.0		

Note) * : Under development.


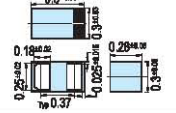

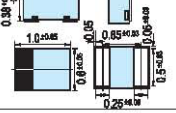

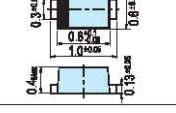

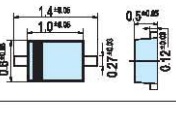

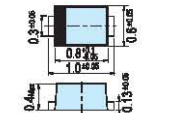

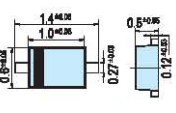

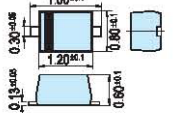

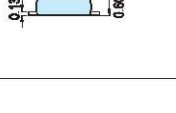

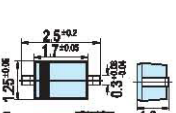



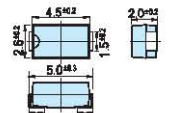

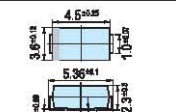

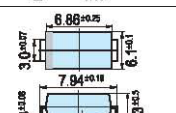
Small Signal Schottky Barrier Diode

Type No.	Mark	Max. Ratings						V _F (V)		I _R (μA)		C _T (pF)			Package	Outline (Unit : mm)
		V _{RM} (V)	V _R (V)	I _{FM} (mA)	I _O (mA)	I _{FSM} (A)	P _D (mW)	Max	I _F (mA)	Max	V _R (V)	Max.	V _R (V)	f (MHz)		
KDR105S		DL	-	50	-	100	2	-	0.55	100	10	25	7.7 (Typ)	10	1	
KDR393S		R9	-	40	-	100	1	-	0.6	100	5	40	20 (Typ)	0	1	
KDR400S		DJ	-	40	-	500	3	-	0.55	500	50	25	25 (Typ)	10	1	
KDR411S		U3	40	20	-	500	3	-	0.5	500	30	10	20 (Typ)	10	1	
KDR505S		DM	-	50	-	500	5	-	0.55	500	20	25	22 (Typ)	10	1	
KDR701S		DK	-	30	-	700	5	-	0.55	700	80	30	190 (Typ)	0	1	
KDR720S		MG	-	30	-	200	1	-	0.55	200	50	30	30 (Typ)	0	1	
KDR731S		UX	-	30	-	70	2	-	0.55	70	5	15	5 (Typ)	10	1	
KDR511T		T1	-	15	-	1A	10	-	0.4	1000	500	10	42 (Typ)	10	1	
KDR521T		T2	-	20	-	1A	3	-	0.45	1000	200	20	-	-	-	
KDR531T		T3	-	30	-	1A	10	-	0.47	1000	500	15	35 (Typ)	10	1	

Power Schottky Barrier Diode

Type No.	Mark	Max. Ratings			V _{FM} (V)		I _{RRM} (mA)		Package	Outline (Unit : mm)
		V _{RRM} (V)	I _O (A)	I _{FSM} (A) (60Hz)	Max.	I _{FM} (A)	Max.	V _R (A)		
USFB13		A3	30	1	5	0.47	1	0.2	30	
USFB13A		BA	30	1	22	0.52	1	0.05	30	
USFB13L		BB	30	1	22	0.39 (Typ)	1	1.0	30	
USFB14		SA	40	1	5	0.55	0.7	0.05	40	
USFB053		S3	30	0.5	5	0.39	0.5	0.2	30	
USFB073		73	30	0.7	5	0.42	0.7	0.2	30	
SMFB13		B13	30	1	22	0.42	1	1.0	30	
SMFB13L		13L	30	1	22	0.36	1	1.0	30	
SMFB16		S16	60	1	30	0.55	1	0.05	60	
SMFB23L		23L	30	1.5	33	0.36	1.5	1.0	30	
SMFB23		B23	30	2	33	0.42	2	1.0	30	
SMFB14		B14	40	1	22	0.50	1	1.0	40	
SMAB13U		B13U	30	1	40	0.47	1	2	VR=30	
SMAB33U		B33U	30	3	70	0.52	3	2	VR=30	
SMAB13		B13	30	1	40	0.42	1	1.0	30	
SMAB33		B33	30	3	70	0.45	3	2.0	30	
SMAB33L		B33L	30	3	70	0.36	3	2.0	30	
SMAB14		B14	40	1	40	0.5	1	1.0	40	
SMAB34		B34	40	3	70	0.52	3	2.0	40	
SMAB16		B16	60	1	30	0.58	1	1.0	60	
SMAB36		B36	60	3	70	0.6	1	2.0	60	
SMAB110		B110	100	1	30	0.8	1	1.0	100	
SMAB210		B210	100	2	50	0.8	2	1.0	100	
SMAB34A		B34A	40	3	70	0.52	3	2.0	40	
SMBB24		B24	40	2	50	0.5	2.0	0.5	40	
SMBB26		B26	60	2	50	0.7	2.0	0.5	60	
SMBB34		B34	40	3	50	0.5	3.0	0.5	40	
SMBB36		B36	60	3	50	0.7	3.0	0.5	60	
SMCB34		B34	40	3	100	0.5	3.0	0.5	40	
SMCB36		B36	60	3	100	0.7	3.0	0.5	60	

TVS

Type No.	Mark	Max. Ratings		V _{RWM}	V _{BR} (V)			V _C (V)			C _J (pF)			Package	Outline (Unit : mm)
		P _{PK} (W)	I _{PP} (A)		Max.	Min.	I _t (mA)	Max.	I _{PP} (A)	t _P (μs)	Max.	V _R (V)	f (MHz)		
PG03ESEL2		J	50	5	3.3	4.2	1	10	5	8/20	50	0	1	ELP-2	
PG05ESEL2	K	50	5	5	6	1	10	5	8/20	50	0	1			
PG05FSUL2		5P	100	10	5	6	1	10	10	8/20	80	0	1	ULP-2	
PG05GSUL2	TA	200	16	5	6	1	12.5	16	8/20	160	0	1			
PG03FSTFC		D1	80	5	3.3	4.2	1	16	5	8/20	80	0	1	TFSC	
PG05FSTFC	E1	80	5	5	6	1	16	5	8/20	70	0	1			
PG03FSVSC		5B	80	5	3.3	4.2	1	16	5	8/20	80	0	1	VSC	
PG05FSVSC	5S	80	5	5	6	1	16	5	8/20	70	0	1			
PG03DBTFC		T	50	-	3.3	4.2	1	17	5	8/20	25	0	1	TFSC	
PG05DBTFC	6	50	-	5	5.8	1	17	5	8/20	25	0	1			
PG03DBVSC		3B	50	-	3.3	4.2	1	17	5	8/20	25	0	1	VSC	
PG05DBVSC	5B	50	-	5	5.8	1	17	5	8/20	25	0	1			
PG03FSESC		3S	50	5	3.3	4	1	10.9	5	8/20	100	0	1	ESC	
PG05FSESC	5S	100	10	5	6	1	9.8	5	8/20	80	0	1			
PG05BSESC	D2	30	1.6	5	6.65	5	12	1	8/20	5	0	1			
PG03FBESC		3B	50	5	3.3	4.2	1	10.9	5	8/20	80	0	1	ESC	
PG05FBESC	5B	50	5	5	5.8	1	9.8	5	8/20	60	0	1			
PG03JSUSC		3J	350	34	3.3	4	1	10.9	34	8/20	500	0	1	USC	
PG05HSUSC	5H	350	24	5	6	1	14.5	24	8/20	350	0	1			
PG08HSUSC	8H	350	21	8	8.5	1	16.9	21	8/20	250	0	1			
PG12GSUSC	2G	350	15	12	13.3	1	25	15	8/20	150	0	1			
PG15GSUSC	SD	350	12	15	16.7	1	29	12	8/20	150	0	1			
PG24FSUSC	4F	350	8	24	26.7	1	45	8	8/20	88	0	1			
PG05GBUSC		5G	350	24	5	6	1	14.5	24	8/20	200	0	1		
PG08GBUSC	8A	350	21	8	8.5	1	16.9	21	8/20	130	0	1			
PG12FBUSC	2F	350	15	12	13.3	1	25	15	8/20	100	0	1	USC		
PG15FBUSC	BD	350	12	15	16.7	1	29	12	8/20	75	0	1			
PG24EBUSC	4E	350	8	24	26.7	1	45	8	8/20	50	0	1			
PG05MSSMA		T05	400	-	5	6.4	10	9.2	43.5	-	-	-	SMA		
PG12MSSMA	T12	400	-	12	13.3	1	19.9	20.1	-	-	-	-			
PG22KSSMA	22S	1500	42.3	22	24.4	1	35.5	42.3	8/20	1000	0	1			
PG24JSSMA	24S	1500	38.6	24	26.7	1	38.9	38.6	8/20	800	0	1			
PG05NSSMB		T05	600	65.2	5	6.4	1	9.2	-	10/1000	-	-	SMB		
PG12NSSMB	T12	600	30.2	12	13.3	1	19.9	30.2	10/1000	-	-	-			
PG24NSSMB	T24	600	15.4	24	26.7	1	38.9	15.4	10/1000	-	-	-			
PG05NSSMC		T05	1500	16.3	5	6.40	0	9.2	16.3	10/1000	-	-	SMC		
PG12NSSMC	T12	1500	75.4	12	13.3	1	19.9	75.4	10/1000	-	-	-			
PG24NSSMC	T24	1500	38.6	24	26.7	1	38.9	38.6	10/1000	-	-	-			

Note) * : Under development

TVS

Type No.	Mark	Max. Ratings		V _{RWM}	V _{BR} (V)			V _C (V)			C _j (pF)			Package	Outline (Unit : mm)
		P _{PK} (W)	I _{pp} (A)		Max.	Min.	I _T (mA)	Max.	I _{pp} (A)	t _p (μs)	Max.	V _R (V)	f (MHz)		
PG03EAESM		E1	60	5	3	5.32	5	15	5	8/20	45	0	1	ESM	
PG05EAESM		EA	60	6.7	5	6.46	5	17	5	8/20	40	0	1		
PG05BAUSM		BA	30	1.6	5	6.65	5	18	1.6	8/20	5	0	1	USM	
PG05HAS23		5HA	350	24	5	6	1	14.5	24	8/20	400	0	1	SOT-23	
PG12GAS23		12G	350	15	12	13.3	1	25	15	8/20	150	0	1		
PG24FAS23		24F	350	8	24	26.7	1	43.5	8	8/20	60	0	1		
PG12GCS23		12	350	15	12	13.3	1	25	15	8/20	120	0	1	SOT-23	
PG05BUS23		5BU	300	24	5	6	1	14.5	24	8/20	5	0	1		
PG12BUS23		12B	300	15	12	13.3	1	25	15	8/20	5	0	1		
PG24BUS23		24B	300	8	24	26.7	1	43.5	8	8/20	5	0	1		
PG2.8CUS23		2P8	400	24	2.8	3	3 μA	3.9	2	8/20	10	0	1	SOT-23	
PG712FBS23		712	400	17	7, 12	7.5, 13.3	1	12, 26	17	8/20	75	0	1		
PG03DXTEV		TA	20	1.6	3.3	5.3	1	13	1.6	8/20	17	0	1		
PG05DXTEV		TE	30	1.6	5	6.47	1	13	1.6	8/20	15	0	1		
PG05DXTET		TF	30	1.6	5	6.47	1	13	1.6	8/20	15	0	1	TESV	
PG05GBUSV		5B	200	24	5	6	1	12.5	24	8/20	175	0	1	USV	
PG12FBUSV		2F	200	8	12	13.3	1	25	8	8/20	75	0	1		
PG05DXTE6		5D	30	-	5	6.1	1	-	-	-	15	0	1	TES6	
PG03GXTE6		3X	150	15	3.3	4.2	1	10.9	15	8/20	120	0	1		
PG05GXTE6		5X	150	10	5	6.3	1	14.5	10	8/20	100	0	1		
PG12FXTE6		2X	150	6	12	13.3	1	25	6	8/20	60	0	1		
PG03GXUS6		3X	100	14.5	3.3	4	1	10.9	14.5	8/20	200	0	1	US6	
PG05GXUS6		5X	100	8	5	6	1	12.5	8	8/20	130	0	1		
PG12FXUS6		2X	100	4.2	12	13.3	1	24	4.2	8/20	60	0	1		
PG24EXUS6		4X	100	1.8	24	26.7	1	55.5	1.8	8/20	40	0	1		
PG05HBTS6		5H	350	24	5	6.3	1	15	24	8/20	350	0	1	TS6	
PG12GBTS6		2G	350	15	12	14	1	23	15	8/20	75	0	1		
PG24FBTS6		4F	350	8	24	27	1	44	8	8/20	75	0	1		
PG05HXTS6		5HX	350	24	5	6	1	14.5	24	8/20	400	0	1	TS6	
PG12GXTS6		2GX	350	15	12	13.3	1	23	15	8/20	150	0	1		
PG24FXTS6		4FX	350	8	24	26.7	1	44	8	8/20	75	0	1		

Low Cap TVS

Type No.	Mark	Max. Ratings		V _{RWM}	V _{BR} (V)		V _C (V)			C _j (pF)			Package	Outline (Unit : mm)	
		P _{PK} (W)	I _{PP} (A)		Max.	Min.	I _T (mA)	Max.	I _{PP} (A)	t _P (μs)	Max.	V _R (V)			f (MHz)
PG05AXUS6		ZE	45	3	5	6	1	15	3	8/20	3	0	1	US6	
PG0506UL2		E5	45	3	5	6	1	15	3	8/20	0.6	0	1	ULP-2	
PG0506US6		E8s	45	3	5	6	1	15	3	8/20	0.6	0	1	US6	
PG0506VSM		Z1	45	3	5	6	1	15	3	8/20	0.6	0	1	VSM	
PG0506DF10		Z1	45	3	5	6	1	15	3	8/20	0.6	0	1	DNF10	

Diode

EMI Filtering TVS

Type No.	P _D (mW)	V _{RWM} (V)	V _{BR} (V)		I _R (μA)		f _{3dB} (MHz)		R ()	C _{2.5V} (pF)		Package	Outline (Unit : mm)
			Min.	I _T (mA)	Max.	V _{RWM} (V)	Typ.	V _R (V)		Typ.	V _R (V)		
PF1015UDF8	400	5	6	1	1	3.3	110	0	100	30	2.5	UDFN-8	
PF2015UDF8	400	5	6	1	1	3.3	100	0	200	30	2.5		
PF1015UDF8B	400	5	6	1	1	3.3	110	0	100	30	2.5	UDFN-8B	
PF2015UDF8B	400	5	6	1	1	3.3	100	0	200	30	2.5		
PF1015UDF12	600	5	6	1	1	3.3	110	0	100	30	2.5	UDFN-12	
PF2015UDF12	600	5	6	1	1	3.3	100	0	200	30	2.5		
PF1015UDF12B	600	5	6	1	1	3.3	110	0	100	30	2.5	UDFN-12B	
PF2015UDF12B	600	5	6	1	1	3.3	100	0	200	30	2.5		
PF1015UDF16	800	5	6	1	1	3.3	110	0	100	30	2.5	UDFN-16	
PF2015UDF16	800	5	6	1	1	3.3	100	0	200	30	2.5		
PF1015UDF16B	800	5	6	1	1	3.3	110	0	100	30	2.5	UDFN-16B	
PF2015UDF16B	800	5	6	1	1	3.3	100	0	200	30	2.5		

EMI Filtering TVS for USB Port

Type No.	P _D (mW)	V _{RWM} (V)	V _{BR} (V)		I _R (μA)		f _{3dB} (MHz)		R ()	R _p ()	C _{2.5V} (pF)		Package	Outline (Unit : mm)
			Min.	I _T (mA)	Max.	V _{RWM} (V)	Typ.	V _R (V)			Typ.	V _R (V)		
PF0224US6	200	5	6	1	0.5	3.3	80	0	22	1500	47	2.5	US6	
PF0314US6	200	5	6	1	0.5	3.3	150	0	33	1500	28	2.5		
PF0314TE6	200	5	6	1	0.5	3.3	150	0	33	1500	28	2.5	TES6	

Surface Mount Glass Passivated Rectifier

Type No.	Mark	Max. Ratings			V _{FM} (V)		I _{RRM} (μA)	trr (μs)			Package	Outline (Unit : mm)	
		V _{RRM} (V)	I _O (A)	I _{FSM} (A)	Max. (Ta=25)	I _{FA} (A)	Max. (@V _{RRM})	Max.	I _F (mA)	I _R (A)			
GN1G		E140	400	1	40	1.1	1	1	1.8	0.5	1	SMA(1)	

Ultra Fast Recovery Rectifier

Type No.	Mark	Max. Ratings			V _{FM} (V)		I _{RRM} (μA)	trr (ns)			Package	Outline (Unit : mm)	
		V _{RRM} (V)	I _O (A)	I _{FSM} (A)	Max. (Ta=25)	I _{FA} (A)	Max. (@V _{RRM})	Max.	I _F (mA)	I _R (A)			
SMAU1G		U1G	400	1	33	1.3	1	5	35	0.5	1	SMA(1)	

Single-Phase Bridge Rectifier

Type No.	Max. Ratings				V _F (V)		I _R (μA)		Package	Outline (Unit: mm)
	V _{RRM} (V)	I _{FSM} (A)	I _{F(AV)} (A)	Pt (A ² sec)	Max.	I _F (A)	Max.	V _R (V)		
MB6S	600	35.0	0.5	5.0	1.0	0.4	5.0	600	MBS	
MB6M	600	35.0	0.5	5.0	1.0	0.4	5.0	600	MBM	
DF06	600	50	1	10	1.0	1.0	5.0	600	DF	
DF06S	600	50	1	10	1.1	1.0	5.0	600	DFS	
GBL2J	600	80	2	-	1.0	1.0	1.0	600	GBL (2S)	
KBJ4J	600	150	4	93	1.0	2.0	5.0	600	KBJ (3S)	
GBJ6J	600	170	6	120	1.0	3.0	5.0	600	GBJ (5S)	

AFC Application for FM (Varactor Diode)

Type No.	Max. Ratings	C _T (pF)				K*		Q				Package	Outline (Unit : mm)	
	V _R (V)	Min.	Max.	V _R (V)	f (MHz)	Min.	Max.	Min.	Typ.	V _R (V)	f (MHz)			
KDS2236M		15	7	14	4	1	0.21	0.5	70	120	4	50	TO-92M	

Note) * :K=[C_T(V_R=2V,f=1MHz)/C_T(V_R=4V,f=1MHz) / C_T(V_R=4V,f=1MHz)]

FM Tuning (Varactor Diode)

Type No.	Max. Ratings	V _R (V)			C _A (pF)				C _B (pF)				C _A / C _B		r _S ()				Package	Outline (Unit : mm)
		V _R (V)	Min.	I _R (μA)	Min.	Max.	V _R (V)	f (MHz)	Min.	Max.	V _R (V)	f (MHz)	Min.	Max.	Typ.	Max.	f (MHz)	C (pF)		
KDV804M		15	15	10	42	47.5	2	1	24	28.8	8	1	1.65	1.8	0.3	0.4	100	38	TO-92M	

VCO for UHF Band Radio (Varactor Diode)

Type No.	Max. Ratings	V _R (V)			C _A (pF)				C _B (pF)				C _A / C _B		r _S ()				Package	Outline (Unit : mm)
		V _R (V)	Min.	I _R (μA)	Min.	Max.	V _R (V)	f (MHz)	Min.	Max.	V _R (V)	f (MHz)	Min.	Max.	Max.	V _R (V)	f (MHz)	C (pF)		
KDV251M		12	12	10	23	38	1.6	1	11	19	5	1	1.7	2.2	0.6	1	50	-	TO-92M	

Alternator Diode

Type No.	Polarity	Max. Ratings					Package	Outline (Unit: mm : Max.)
		V _R (V)	I _O (A)	I _{FM} (A)	R _{th} (/W)	V _{FM} (V)		
E25A2CS	+	200	25	250	1	1.2	MR	
E25A2CR	-	200	25	250	1	1.2		
E30A2CS	+	200	30	350	1	1.2		
E30A2CR	-	200	30	350	1	1.2		
E30A23VS	+	23 ± 3	30	350	1	1.2		
E30A23VR	-	23 ± 3	30	350	1	1.2		
E35A2CS	+	200	35	450	1	1.05		
E35A2CR	-	200	35	450	1	1.05		
E35A23VS	+	23 ± 3	35	450	1	1.05		
E35A23VR	-	23 ± 3	35	450	1	1.05		
E35A2CBS	+	200	35	300	0.8	1.1	B-PF	
E35A2CBR	-	200	35	300	0.8	1.1		
E35A21VBS	+	21 ± 2	35	300	0.8	1.1		
E35A21VBR	-	21 ± 2	35	300	0.8	1.1		
E35A23VBS	+	23 ± 3	35	300	0.8	1.1		
E35A23VBR	-	23 ± 3	35	300	0.8	1.1		
E35A27VBS	+	27 ± 3	35	300	0.8	1.1		
E35A27VBR	-	27 ± 3	35	300	0.8	1.1		
E35A37VBS	+	37 ± 3	35	300	0.8	1.15		
E35A37VBR	-	37 ± 3	35	300	0.8	1.15		
E50A2CBS	+	500	50	380	0.6	1.05		
E50A2CBR	-	200	50	380	0.6	1.05		
E50A21VBS	+	21 ± 2	50	380	0.6	1.05		
E50A21VBR	-	21 ± 2	50	380	0.6	1.05		
E50A23VBS	+	23 ± 3	50	380	0.6	1.05		
E50A23VBR	-	23 ± 3	50	380	0.6	1.05		
E50A27VBS	+	27 ± 3	50	380	0.6	1.05		
E50A27VBR	-	27 ± 3	50	380	0.6	1.05		
E50A37VBS	+	37 ± 3	50	380	0.6	1.1		
E50A37VBR	-	37 ± 3	50	380	0.6	1.1		
E65A27VBS	+	27	65	450	0.6	1.05		
E65A27VBR	-	27	65	450	0.6	1.05		

Ultra Fast Recovery Rectifier Diode

Type No.	Max. Ratings	V _{FM} (V)		I _{RM} (μA)		trr (ns)			Package	Outline (Unit : mm)				
		V _{RM} (V)	I _O (A)	I _{FSM} (A) (50Hz)	I _{FSM} (A) (60Hz)	Max.	I _{FM}	Max.			I _F (mA)	I _R (A)		
U5A2CI		200	5	50	60	0.98	5	10	V _R = V _{RM}	50	100	100	TO-220IS(2P)	
U10A2CI		200	10	50	60	0.98	5	10	V _R = V _{RM}	35	100	200		
U20A2CI		200	20	50	60	0.98	10	10	V _R = V _{RM}	35	100	200		
U5A2CIC		200	5	25	30	0.98	2.5	10	V _R = V _{RM}	50	100	100	TO-220IS	
U10A2CIC		200	10	50	60	0.98	5	10	V _R = V _{RM}	50	100	100		
U10A2CIA		200	10	50	60	0.98	5	10	V _R = V _{RM}	50	100	100		
U10A3CIC		300	10	50	60	1.3	5	5	V _R = V _{RM}	60	100	100	TO-220IS(1)	
U20A3CIC		300	20	50	60	0.98	10	5	V _R = V _{RM}	50	500	500		
U20A4CIC		400	20	50	60	0.98	10	5	V _R = V _{RM}	50	500	500		

Diode

Super Fast Recovery Rectifier Diode

Type No		Max. Ratings				V _{FM} (V)		trr (ns)			R _{th(j-c)} (°/W)	Package	Outline (Unit : mm)
		V _{RM} (V)	I _O (A)	I _{FSM} (A) (50Hz)	I _{FSM} (A) (60Hz)	Max.	I _{FM} (A)	Max.	I _F (A)	I _R (A)	Max.		
S10A2CIA		200	10	50	60	0.98	5	100	0.1	0.1	3.6	TO-220IS	
S10A2CIC		200	10	50	60	0.98	5	100	0.1	0.1	3.6		

Fast Recovery Diode

Type No.		Max. Ratings				V _{FM} (V)		trr (ns)			R _{th(j-c)} (°/W)	Package	Outline (Unit : mm)
		V _{RM} (V)	I _O (A)	I _{FSM} (A) (50Hz)	I _{FSM} (A) (60Hz)	Max.	I _{FM} (A)	Max.	I _F (A)	I _R (A)	Max.		
F1B2CAI		200	10	60	70	1.4	5	400	0.1	0.1	3.5	TO-220IS	
F1B2CCI		200	10	60	70	1.4	5	400	0.1	0.1	3.5		

Power Schottky Barrier Diode (Low Vf Type)

Type No.		Max. Ratings			V _{FM} (V)		I _{RRM} (mA) (V _{RRM} =Rated)	trr (ns)			R _{th(j-c)} (°/W)	Package	Outline (Unit : mm)		
		V _{RM} (V)	I _O (A)	I _{FSM} (A)	Max. (T _C =25 °C)	I _{FM} (A)	Max.	Max.	I _F (A)	di/dt (A/μs)	Max.				
B5A45VI		45	5	100	0.55	5	0.5	35	1	-20	4.5	TO-220IS (2P)			
B5A60VI		60	5	100	0.55	5	0.5	35	1	-20	4.5				
B5A100VI		100	5	100	0.80	5	3	35	1	-20	4.5				
B10A45VI		45	10	150	0.58	10	0.5	35	1	-20	3				
B5A45VIC		45	5	70	0.55	2.5	0.5	35	1	-20	4	TO-220IS			
B5A60VIC		60	5	70	0.55	2.5	0.5	35	1	-20	4				
B10A45VIC		45	10	100	0.55	5	0.5	35	1	-30	4				
B10A60VIC		60	10	100	0.58	5	0.5	35	1	-30	4				
B10A100VIC		100	10	100	0.80	5	3	35	1	-30	3.5				
B10A150VIC		150	10	130	0.85	5	0.3	35	1	-30	3.5				
B10A200VIC		200	10	100	0.85	5	0.3	35	1	-30	3.5				
B15A45VIC		45	15	150	0.58	7.5	0.5	35	1	-50	4				
B15A60VIC		60	15	150	0.58	7.5	0.5	35	1	-30	4				
B20A45VIC		45	20	250	0.58	10	2	35	1	-50	3.5				
B20A60VIC		60	20	250	0.58	10	2	35	1	-30	3.5				
B20A100VIC		100	20	250	0.85	10	0.15	35	1	-30	3.5				
B20A150VIC		150	20	180	0.85	10	0.3	35	1	-30	3.5				
B20A200VIC		200	20	120	0.9	10	0.3	35	1	-30	3.5				
B30A45VIC		45	30	350	0.6	15	3	35	1	-50	2.5				
B30A100VIC		100	30	350	0.85	15	0.5	35	1	-50	2.5				
B20A45VC		45	20	250	0.58	10	0.15	35	1	-50	2			TO-220AB	
B30A45VC		45	30	350	0.6	15	0.15	35	1	-50	1.7				

Power Schottky Barrier Diode (Standard Type)

Type No.	Max. Ratings	V _{FM} (V)		I _{RRM} (mA) (V _{RRM} =Rated)		trr (ns)			R _{th} (j-c) (^o /W)	Package	Outline (Unit : mm)			
		V _{RM} (V)	I _O (A)	I _{FSM} (A)	Max. (T _C =25 ^o)	I _{FM} (A)	Max.	I _{FM} (A)	di/dt (A/ μ s)			Max.		
MBRF545		45	5	100	0.7	5	0.15	35	1	-30	4.5			
MBRF560		60	5	100	0.75	5	0.15	35	1	-30	4.5			
MBRF5100		100	5	100	0.85	5	0.15	35	1	-30	4.5			
MBRF1045		45	10	150	0.7	10	0.15	35	1	-30	3			
MBRF10100		100	10	150	0.85	10	0.15	35	1	-30	4.5			
MBRF10U45CT		45	10	100	0.7	5	0.15	35	1	-30	3.5			
MBRF10U65CT		65	10	100	0.75	5	0.15	35	1	-30	3.5			
MBRF10U100CT		100	10	100	0.85	5	0.15	35	1	-30	3.5			
MBRF10U150CT		150	10	100	0.85	5	0.15	35	1	-30	3.5			
MBRF10U200CT		200	10	100	0.95	5	0.15	35	1	-30	3.5			
MBRF15U45CT		45	15	150	0.7	7.5	0.15	35	1	-30	3.5			
MBRF20U45CT		45	20	250	0.7	10	0.15	35	1	-30	3.5			
MBRF20U65CT		65	20	250	0.75	10	0.15	35	1	-30	3.5			
MBRF20U100CT		100	20	250	0.85	10	0.15	35	1	-30	3.5			
MBRF20U150CT		150	20	250	0.9	10	0.15	35	1	-30	3.5			
MBRF20U200CT		200	20	250	0.9	10	0.15	35	1	-30	3.5			
MBRF30U45CT		45	30	350	0.7	15	0.15	35	1	-30	3.5			
MBRF30U100CT		100	30	350	0.85	15	0.15	35	1	-30	3.5			
MBRF545CT			45	5	70	0.7	2.5	0.15	35	1	-30		4	
MBRF560CT			60	5	70	0.75	2.5	0.15	35	1	-30		4	
MBRF1045CT			45	10	100	0.7	5	0.15	35	1	-30		4	
MBRF1060CT			60	10	100	0.75	5	0.15	35	1	-30		4	
MBRF10100CT			100	10	100	0.85	5	0.15	35	1	-30		3.5	
MBRF10120CT			120	10	100	0.85	5	0.15	35	1	-30		3.5	
MBRF10150CT			150	10	130	0.9	5	0.15	35	1	-30		3	
MBRF10200CT			200	10	100	0.95	5	0.15	35	1	-30		3	
MBRF1545CT			45	15	150	0.7	7.5	0.15	35	1	-50		4	
MBRF1560CT			60	15	150	0.75	7.5	0.15	35	1	-30		4	
MBRF2045CT			45	20	250	0.7	10	0.15	35	1	-30		3.5	
MBRF2060CT	60		20	250	0.75	10	0.15	35	1	-30	3.5			
MBRF20100CT	100		20	250	0.85	10	0.15	35	1	-30	3.5			
MBRF20150CT	150		20	180	0.9	10	0.15	35	1	-30	3			
MBRF20200CT	200		20	120	0.95	10	0.15	35	1	-30	3			
MBRF3045CT	45		30	350	0.7	15	0.15	35	1	-30	2.5			
MBRF30100CT	100		30	350	0.85	15	0.15	35	1	-30	2.5			
MBR545CT			45	5	70	0.7	2.5	0.15	35	1	-30	-		
MBR560CT		60	5	70	0.75	2.5	0.15	35	1	-30	-			
MBR1045CT		45	10	100	0.7	5	0.15	35	1	-30	-			
MBR1060CT		60	10	100	0.75	5	0.15	35	1	-30	-			
MBR10100CT		100	10	100	0.85	5	0.15	35	1	-30	-			
MBR10120CT		120	10	100	0.85	5	0.15	35	1	-30	-			
MBR10150CT		150	10	130	0.9	5	0.15	35	1	-50	-			
MBR10200CT		200	10	100	0.95	5	0.15	35	1	-30	-			
MBR1545CT		45	15	150	0.7	7.5	0.15	35	1	-30	-			
MBR1560CT		60	15	150	0.75	7.5	0.15	35	1	-30	-			
MBR2045CT		45	20	250	0.7	10	0.15	35	1	-30	-			
MBR2060CT		60	20	250	0.75	10	0.15	35	1	-30	-			
MBR20100CT		100	20	250	0.85	10	0.15	35	1	-30	2			
MBR20150CT		150	20	180	0.9	10	0.15	35	1	-30	-			
MBR20200CT		200	20	120	0.95	10	0.15	35	1	-30	-			
MBR3045CT		45	30	350	0.7	15	0.15	35	1	-30	-			
MBR30100CT		100	30	350	0.85	15	0.15	35	1	-30	2			

Diode

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
02CZ2.0	Toshiba	Z02W2.0V	02DZ9.1	Toshiba	KDZ9.1V	DZD6.2	Sanyo	Z02W6.2V	MA3043	Panasonic	Z02W4.3V
02CZ2.2	Toshiba	Z02W2.2V	1S2836	NEC	KDS181	DZD6.8	Sanyo	Z02W6.8V	MA3047	Panasonic	Z02W4.7V
02CZ2.4	Toshiba	Z02W2.4V	1S2838	NEC	KDS184	DZD7.5	Sanyo	Z02W7.5V	MA3051	Panasonic	Z02W5.1V
02CZ2.7	Toshiba	Z02W2.7V	1SS123	NEC	KDS226	DZD8.2	Sanyo	Z02W8.2V	MA3056	Panasonic	Z02W5.6V
02CZ3.0	Toshiba	Z02W3.0V	1SS181	Toshiba	KDS181	DZD9.1	Sanyo	Z02W9.1V	MA3062	Panasonic	Z02W6.2V
02CZ3.3	Toshiba	Z02W3.3V	1SS184	Toshiba	KDS184	DZD10	Sanyo	Z02W10V	MA3068	Panasonic	Z02W6.8V
02CZ3.6	Toshiba	Z02W3.6V	1SS187	Toshiba	KDS187	DZD11	Sanyo	Z02W11V	MA3075	Panasonic	Z02W7.5V
02CZ3.9	Toshiba	Z02W3.9V	1SS190	Toshiba	KDS190	DZD12	Sanyo	Z02W12V	MA3082	Panasonic	Z02W8.2V
02CZ4.3	Toshiba	Z02W4.3V	1SS193	Toshiba	KDS193	DZD13	Sanyo	Z02W13V	MA3091	Panasonic	Z02W9.1V
02CZ4.7	Toshiba	Z02W4.7V	1SS196	Toshiba	KDS196	DZD15	Sanyo	Z02W15V	MA3100	Panasonic	Z02W10V
02CZ5.1	Toshiba	Z02W5.1V	1SS220	NEC	KDS193	DZD16	Sanyo	Z02W16V	MA3110	Panasonic	Z02W11V
02CZ5.6	Toshiba	Z02W5.6V	1SS222	NEC	KDS187	DZD18	Sanyo	Z02W18V	MA3120	Panasonic	Z02W12V
02CZ6.2	Toshiba	Z02W6.2V	1SS226	Toshiba	KDS226	DZD20	Sanyo	Z02W20V	MA3130	Panasonic	Z02W13V
02CZ6.8	Toshiba	Z02W6.8V	1SS300	Toshiba	KDS120	DZD22	Sanyo	Z02W22V	MA3150	Panasonic	Z02W15V
02CZ7.5	Toshiba	Z02W7.5V	1SS301	Toshiba	KDS121	DZD24	Sanyo	Z02W24V	MA3160	Panasonic	Z02W16V
02CZ8.2	Toshiba	Z02W8.2V	1SS312	Toshiba	KDS112	HSM123	Renesas	KDS226	MA3180	Panasonic	Z02W18V
02CZ9.1	Toshiba	Z02W9.1V	1SS314	Toshiba	KDS114	HSM221	Renesas	KDS193	MA3200	Panasonic	Z02W20V
02CZ10	Toshiba	Z02W10V	1SS318	Rohm	KDS114	HSM223	Renesas	KDS187	MA3220	Panasonic	Z02W22V
02CZ11	Toshiba	Z02W11V	1SV147	Toshiba	KDV147	HSM2836	Renesas	KDS181	MA3240	Panasonic	Z02W24V
02CZ12	Toshiba	Z02W12V	1SV149	Toshiba	KDV149	HSM2838	Renesas	KDS184	MMBV432	Onsemi	KDV804S
02CZ13	Toshiba	Z02W13V	1SV153	Toshiba	KDV153	HVM16	Renesas	KDV804S	MMBZ5229B	Onsemi	Z02W4.3V
02CZ15	Toshiba	Z02W15V	1SV160	Toshiba	KDS2236S	HZM5A	Renesas	Z02W4.3V	MMBZ5230B	Onsemi	Z02W4.7V
02CZ16	Toshiba	Z02W16V	1SV172	Rohm	KDV173	HZM5B	Renesas	Z02W4.7V	MMBZ5231B	Onsemi	Z02W5.1V
02CZ18	Toshiba	Z02W18V	BB804	Infineon	KDV804S	HZM5C	Renesas	Z02W5.1V	MMBZ5232B	Onsemi	Z02W5.6V
02CZ20	Toshiba	Z02W20V	DA116	Rohm	KDS187	HZM6A	Renesas	Z02W5.6V	MMBZ5234B	Onsemi	Z02W6.2V
02CZ22	Toshiba	Z02W22V	DA119	Rohm	KDS196	HZM6C	Renesas	Z02W6.2V	MMBZ5235B	Onsemi	Z02W6.8V
02CZ24	Toshiba	Z02W24V	DA204K	Rohm	KDS226	HZM7A	Renesas	Z02W6.8V	MMBZ5236B	Onsemi	Z02W7.5V
02DZ2.0	Toshiba	KDZ2.0V	DAN202K	Rohm	KDS184	HZM7C	Renesas	Z02W7.5V	MMBZ5237B	Onsemi	Z02W8.2V
02DZ2.2	Toshiba	KDZ2.2V	DAN202U	Rohm	KDS121	HZM9A	Renesas	Z02W8.2V	MMBZ5239B	Onsemi	Z02W9.1V
02DZ2.4	Toshiba	KDZ2.4V	DAN209S	Rohm	KDS201	HZM9B	Renesas	Z02W9.1V	MMBZ5240B	Onsemi	Z02W10V
02DZ2.7	Toshiba	KDZ2.7V	DAP202K	Rohm	KDS181	HZM11A	Renesas	Z02W10V	MMBZ5241B	Onsemi	Z02W11V
02DZ3.0	Toshiba	KDZ3.0V	DAP202U	Rohm	KDS120	HZM11B	Renesas	Z02W11V	MMBZ5242B	Onsemi	Z02W12V
02DZ3.3	Toshiba	KDZ3.3V	DCA010	Sanyo	KDS181	HZM12A	Renesas	Z02W12V	MMBZ5243B	Onsemi	Z02W13V
02DZ3.6	Toshiba	KDZ3.6V	DCB010	Sanyo	KDS184	HZM12B	Renesas	Z02W13V	MMBZ5245B	Onsemi	Z02W15V
02DZ3.9	Toshiba	KDZ3.9V	DCC010	Sanyo	KDS226	HZM15	Renesas	Z02W15V	MMBZ5246B	Onsemi	Z02W16V
02DZ4.3	Toshiba	KDZ4.3V	DSA010	Sanyo	KDS187	HZM16	Renesas	Z02W16V	MMBZ5248B	Onsemi	Z02W18V
02DZ4.7	Toshiba	KDZ4.7V	DSB010	Sanyo	KDS193	HZM18	Renesas	Z02W18V	MMBZ5250B	Onsemi	Z02W20V
02DZ5.1	Toshiba	KDZ5.1V	DSC010	Sanyo	KDS190	HZM20	Renesas	Z02W20V	MMBZ5251B	Onsemi	Z02W22V
02DZ5.6	Toshiba	KDZ5.6V	DSD010	Sanyo	KDS196	HZM22	Renesas	Z02W22V	MMBZ5252B	Onsemi	Z02W24V
02DZ6.2	Toshiba	KDZ6.2V	DZD4.3	Sanyo	Z02W4.3V	HZM24	Renesas	Z02W24V	SVC202SPA	Sanyo	KDV147
02DZ6.8	Toshiba	KDZ6.8V	DZD4.7	Sanyo	Z02W4.7V	MA151K	Panasonic	KDS193	SVC212	Sanyo	KDV804S
02DZ7.5	Toshiba	KDZ7.5V	DZD5.1	Sanyo	Z02W5.1V	MA151WA	Panasonic	KDS181	SVC251SPA	Sanyo	KDV251M
02DZ8.2	Toshiba	KDZ8.2V	DZD5.6	Sanyo	Z02W5.6V	MA151WK	Panasonic	KDS184	SVC321SPA	Sanyo	KDV149

SBD

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
1SS357	Toshiba	KDR357	D10SC6M	Shindengen	B10A60VIC	MBR1545CT	Onsemi	B15A45VIC	SBL540	GI	B5A45VI
1SS367	Toshiba	KDR367	D15SCA4M	Shindengen	B15A45VIC	MBRAI30LT3	Onsemi	SMAB13	SFPA-53	Sanken	SMAB13
1SS378	Toshiba	KDR378	ERC62M-004	Fuji	B10A45VI	MBRAI40LT3	Onsemi	SMAB14	SFPA-73	Sanken	SMAB33
1SS385F	Toshiba	KDR378E	ESAD82-004	Fuji	B15A45VIC	MBRF1045	Onsemi	B10A45VI	SFPB-54	Sanken	SMAB14
1SS392	Toshiba	KDR393	F10P048	IR	B10A45VIC	MBRF1545CT	Onsemi	B15A45VIC	SFPJ-53	Sanken	SMAB13
1SS393	Toshiba	KDR322	FMB-24H	Sanken	B15A45VIC	PBYR1045	Philips	B10A45VI	SFPJ-73	Sanken	SMAB33
1SS393	Toshiba	KDR393S	FMB-24L	Sanken	B10A45VIC	PBYR1545CT	Philips	B15A45VIC	SPB-G34S	Sanken	SMAB34
10GWJ2CZ47C	Toshiba	B10A45VIC	FMB-36	Sanken	B15A60VIC	RB053L-30	Rohm	SMAB33	SS13	Fairchild	SMAB13
16GWJ2CZ47	Toshiba	B15A45VIC	FMB-G14L	Sanken	B5A45VI	RB060L-40	Rohm	SMAB34	SS13	GS	SMAB13
5GWJZ47	Toshiba	B5A45VI	FMB-G24H	Sanken	B10A45VI	RB160L-40	Rohm	SMAB14	SS14	Fairchild	SMAB14
B130	Liteon	SMAB13	KDR505S	Sanyo	KDR505S	RB160L-60	Rohm	SMAB16	SS14	GS	SMAB14
B130B	Liteon	SMAB13	MA2S728	Panasonic	KDR728E	RB400D	Rohm	KDR400S	SS16	Fairchild	SMAB16
B140	Liteon	SMAB14	MA721	Panasonic	KDR721S	RB411D	Rohm	KDR411	SS16	GS	SMAB16
B140B	Liteon	SMAB14	MA728	Panasonic	KDR728	RB751S-40	Rohm	KDR377E	STPS1045D	STM	B10A45VI
B160	Liteon	SMAB16	MA729	Panasonic	KDR729	RB751V-40	Rohm	KDR377	STPS1045F	STM	B10A45VI
B160B	Liteon	SMAB16	MB1545CT	Onsemi	B15A45VIC	S15SCA4M	Shindengen	B15A45VIC	STPS16L40CF	STM	B15A45VIC
B330A	Liteon	SMAB33	MBR1045	GI	B10A45VI	SAC82-004	Fuji	B10A45VIC	STPS16L40CT	STM	B15A45VIC
B340A	Liteon	SMAB34	MBR1045	IR	B10A45VI	SB007T03Q	Sanyo	KDR731	U1FWJ44L	Toshiba	SMAB13
D1FH3	Shindengen	SMAB33	MBR1045	Onsemi	B10A45VI	SB007W03Q	Sanyo	KDR732	U1FWJ44M	Toshiba	SMAB13
D5S4M	Shindengen	B5A45VI	MBR1545CT	GI	B15A45VIC	SB01-05CP	Sanyo	KDR105S	U1FWJ44N	Toshiba	SMAB13
D10SC4M	Shindengen	B10A45VIC	MBR1545CT	IR	B15A45VIC	SB01-05Q	Sanyo	KDR105	U1GWJ44	Toshiba	SMAB14

FRD

10DL2CZ47A	Toshiba	U10A2CIC	ESAC25-02C	Fuji	F1B2CC	FML-G14S	Sanken	U5A4CI	SF10LC40U	Shindengen	U10A4CIC
1SR159-200	Rohm	SMAU1D	ESAC25-02N	Fuji	F1B2CA	FMN-G12S	Sanken	U5A2CI	SF5LC40U	Shindengen	U5A4CIC
1SR56-400	Rohm	SMAU1G	ESAC25M-02C	Fuji	F1B2CCI	FMN-G14S	Sanken	U5A4CI	SFPL-62	Sanken	SMAU1D
5DL2CZ47A	Toshiba	U5A2CIC	ESAC25M-02N	Fuji	F1B2CAI	FMP-G12S	Sanken	U5A2CI	U1DL44A	Toshiba	SMAU1D
5DLZ47A	Toshiba	U5A2CI	FMG-12S	Sanken	U5A2CIC	FMU-22R	Sanken	F1B2CAI	U1GU44	Toshiba	SMAU1G
5GL2CZ47A	Toshiba	U5A4CIC	FMG-14S	Sanken	U5A4CIC	FMU-22S	Sanken	F1B2CCI	US1D	Liteon	SMAU1D
5GLZ47A	Toshiba	U5A4CI	FMG-22S	Sanken	U10A2CIC	FMX-12S	Sanken	U5A2CIC	US1D	GS	SMAU1D
D1FL20U	Shindengen	SMAU1D	FML-12S	Sanken	U5A2CIC	FMX-22S	Sanken	U10A2CIC	US1G	Liteon	SMAU1G
D1FL40	Shindengen	SMAU1G	FML-14S	Sanken	U5A4CIC	FMX-G12S	Sanken	U5A2CI	US1G	GS	SMAU1G
D2FL20U	Shindengen	SMAU2D	FML-22S	Sanken	U10A2CIC	FMX-G14S	Sanken	U5A4CI	US1J	Liteon	SMAU1J
D2FL40	Shindengen	SMAU2G	FML-24S	Sanken	U10A4CIC	RS2GA	Liteon	SMAU2G	US1J	GS	SMAU1J
ES2DA	Liteon	SMAU2D	FML-G12S	Sanken	U5A2CI	SF10LC20U	Shindengen	U10A2CIC	US2JA	Liteon	SMAU2J

TVS

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
PSD03	Semtech	PG03JSUSC	MSQA6V1W5T2	Onsemi	PG05GBUSV	PSMF12	Protek	PG12FBUSV	SLVU2.8SK	Micro Semi	PG2.8CUS23
SD05	Semtech	PG05HSUSC	RSA6.1EN	Rohm		SM12	Semtech		SL24	Semtech	PG24BUS23
PSD05	Protek	PG05HSUSC	SM05	Semtech		MMBZ15VALTI	Onsemi	PG12GAS23	PSOT24LC	Protek	
PSD08	Protek	PG08HSUSC	PSOT05C	Protek	PG05HAS23	MMBZ15VDA	GS		SD024C	Semtech	PG24EBUSC
SL05	Semtech	PG05BUS23	MMBZ6V8ALTI	Onsemi		SDC15	Semtech		SM24	Semtech	
PSOT05LC	Protek	PG05BUS23	SM05	Micro Semi		MMBZ15VDLTI	Onsemi	PG12GCS23	PSOT24C	Protek	PG24FAS23
SD05C	Semtech	PG05GBUSC	SL12	Semtech	PG12BUS23	MMBZ15VDC	GS		SM24	Micro Semi	
PSD05C	Protek		PSOT12LC	Protek		SD12	Semtech	PG12GSUSC	MMBZ27VDA	GS	
SMF05	Semtech		SD12C	Semtech	PG12FBUSC	PSD12	Protek				
PSMF05	Protek	PG05GBUSV	PSD12C	Protek		SLVU2.8	Semtech	PG2.8CUS23			
GMF05	Vishay		SMF12	Semtech	PG12FBUSV	SLVU2.8	Protek				
SMS05	Semtech	PG05HBTS6	SMS12	Semtech	PG12GBTS6	SMS24	Semtech				
PSMS05	Protek		PSMS12	Protek		PSMS24	Protek	PG24FBTS6			

Low Voltage MOSFET (SMD Type)

Type No	Internal Circuit	Max. Ratings			V _{th} (V)				R _{DS(ON)} (mΩ)				Q _g (nC)		Package	Outline (Unit: mm)
		BV _{DSS} (V)	I _D (A)	P _D (W)	Min.	Max.	V _{DS} (V)	I _D (A)	Typ.	Max.	V _{GS} (V)	I _D (A)	Typ.	V _{GS} (V)		
KML0D6NP20EA		20 /-20	0.60 /-0.39	0.28	0.45 /-0.45	1.0 /-1.0	V _{GS}	250μA /-250μA	410 /800	700 /1200	4.5 /-4.5	0.6 /-0.35	0.75 /1.50	4.5 /-4.5	TES6	
KMB3D9N40TA		40	3.9	1.25	1.0	3.0	V _{GS}	250μA	29	45	10	3.9	9.3	10	TSM	
KMA2D3P20TA		-20	-2.3	1.25	-0.5	-1.5	V _{GS}	-250μA	115	130	-4.5	-2.3	3.2	-4.5		
KMA3D0N20SA		20	3	1.25	0.5	1.5	V _{GS}	250μA	50	60	4.5	2.5	4.7	4.5	SOT-23	
KMA3D6N20SA		20	3.6	1.25	0.6	1.5	V _{GS}	250μA	32	45	4.5	2.5	9.1	4.5		
KMB4D0N30SA		30	4	1.25	1.0	3.0	V _{GS}	250μA	38	47	10	3.5	6	10		
KMB3D5N40SA		40	3.5	1.25	1.0	3.0	V _{GS}	250μA	45	58	10	3.5	10	10		
KMB2D0N60SA		60	2	1.25	1.5	-	V _{GS}	250μA	125	160	10	2	4.8	10		
KMA2D4P20SA		-20	-2.4	1.25	-0.6	-	V _{GS}	-250μA	83	100	-4.5	-2.4	4	-4.5		
KMA3D7P20SA		-20	-3.7	1.25	-0.40	-0.95	V _{GS}	-250μA	50	65	-4.5	-3.7	8	-5.0		
KMB3D0P30SA		-30	-3	1.25	-1.0	-	V _{GS}	-250μA	64	80	-10	-3.0	10	-10		
KMB8D2N60QA		60	8.2	3.1	1.0	3.0	V _{GS}	250μA	16.3	22	10	8.2	47.6	10	FLP-8	
KMB8D0P30QA		-30	-8	2.5	-1.0	-3.0	V _{GS}	-250μA	15	20	-10	-8.0	28.2	-10		
KMB010P30QA		-30	-10	2	-1.3	-2.5	V _{GS}	-250μA	12	20	-10	-10	44.6	-10		
KMB014P30QA		-30	-14	2.5	-1.4	-2.6	V _{GS}	-250μA	8.5	10	-10	-12	65.5	-10		
KMB6D0DN35QA		35	6	2	1.0	3.0	V _{GS}	250μA	24	28	10	6.0	7	10		
KMB7D0DN40QA		40	7	2	1.0	2.5	V _{GS}	250μA	20	25	10	6.0	18.2	10		
KMB4D5DN60QA		60	4.5	2	1.0	3.0	V _{GS}	250μA	46	56	10	4.5	85	10		
KMB7D1DP30QA		-30	-7.1	1.1	-1.0	-3.0	V _{GS}	-250μA	20	25	-10	-7.1	33	-10		

Low Voltage MOSFET (SMD Type)

Type No	Internal Circuit	Max. Ratings			V _{th} (V)				R _{DS(ON)} (m ²)				Q _g (nC)		Package	Outline (Unit: mm)		
		BV _{DSS} (V)	I _D (A)	P _D (W)	Min.	Max.	V _{DS} (V)	I _D (A)	Typ.	Max.	V _{GS} (V)	I _D (A)	Typ.	V _{GS} (V)				
KMB7D0NP30QA		30	7.0	2.0	1.0	3.0	V _{GS}	250	18	23.5	10	7.0	16.4	10	FLP-8			
KMB6D0NP40QA		40	6.0	2.0	1.0	3.0	V _{GS}	250	23.2	31	10	6.0	8.3	10				
KMD7D5P40QA	-40	-7.5	2.0	-0.8	-2.0	V _{GS}	-250	24	30	-10	-3.8	27	-10					
KMD6D0DN30QA		30	6.0	2.0	1.0	2.5	V _{GS}	250	18	30	10	6.0	9.2	4.5				
KMD9D0DN30QA		30	9.0	2.0	1.0	2.5	V _{GS}	250	12	17	10	9.0	15	10				
KMC6D5CN20CA		20	6.5	1.5	0.5	1.5	V _{GS}	250	21.5	24	4.5	3.0	4.6	4.0			TSSOP-8	
KMC7D0CN20CA		20	7.0	1.5	0.5	1.5	V _{GS}	250	16.5	20.5	4.5	4.0	6.7	4.0				
KMB012N40DA		40	12	45	1.0	3.0	V _{GS}	250	25	33	10	12	14.1	10			DPAK(1)	
KMB035N40DA		40	35	42	1.0	3.0	V _{GS}	250	14	17.5	10	18	12.2	10				
KMB035N40DB		40	35	43	1.7	3.0	V _{GS}	250	8.0	12	10	18	20.2	10				
KMB054N40DA		40	54	45	1.0	3.0	V _{GS}	250	6.5	8.5	10	14	25.4	10				
KMB054N40DB		40	54	45	1.0	3.0	V _{GS}	250	7.0	8.5	10	14	37	10				
KMB054N40DC		40	54	45	1.7	2.6	V _{GS}	250	6.5	8.5	10	14	25.4	10				
KMB054N45DA		45	54	45	1.0	3.0	V _{GS}	250	6.5	8.5	10	14	25.4	10				
KMB060N40BA		40	60	60	1.0	3.0	V _{GS}	250	7.0	8.5	10	14	45	10	D ² PAK			

Low Voltage MOSFET (THD Type)

Type No.	Max. Ratings			R _{DS(ON)} ()				Q _g (nC)		Package	Outline (Unit: mm)		
	BV _{DSS} (V)	I _D (A)	P _D (W)	Typ.	Max.	V _{GS} (V)	I _D (A)	Typ.	V _{GS} (V)				
KMB054N40IA	40	54	45	7.0	8.5	10	14	50	10	IPAK			
KMB050N60PA	60	50	120	0.016	0.018	10	25	49	10			TO-220AB	
KMB060N60PA	60	50	150	0.011	0.014	10	30	70	10				

2nd Generation Low Voltage MOSFET (SMD Type)

Type No	Internal Circuit	Max. Ratings			V _{th} (V)				R _{DS(ON)} (m ²)				Q _g (nC)		Package	Outline (Unit: mm)
		BV _{DSS} (V)	I _D (A)	P _D (W)	Min.	Max.	V _{DS} (V)	I _D (A)	Typ.	Max.	V _{GS} (V)	I _D (A)	Typ.	V _{GS} (V)		
KU2303Q		30	14	2.5	1.0	3.0	V _{GS}	250	6.8	8.2	10	14	18.4	10	FLP-8	
KU2307Q		30	16	2.5	1.0	3.0	V _{GS}	250	5.3	6.3	10	16	24.6	10		
KU2310Q		30	19	2.5	0.8	2.0	V _{GS}	250	3.6	4.3	10	19	70.8	10		
KU2311Q		30	17	2.5	10	3.0	V _{GS}	250	4.7	5.6	10	17	46.4	10		
KU2303K		30	66	54	1.0	3.0	V _{GS}	250	6.2	7.4	10	20	18.4	10	PSOP-8	
KU2307K		30	79	62.5	1.0	3.0	V _{GS}	250	4.0	6.0	10	20	24.6	10		
KU2311K		30	97	78	1.0	3.0	V _{GS}	250	4.0	5.0	10	20	46.4	10		
*KU2751K		30	24	-	1.0	2.5	V _{GS}	250	7.3	11	10	12	21.0	10		
*KU2318K		30	3.8	-	1.0	2.5	V _{GS}	250	2.8	4.2	10	19	50.0	10		
KU2303D		30	68	52	1.0	3.0	V _{GS}	250	5.7	6.8	10	30	18.4	10	DPAK(1)	
KU2307D		30	79	57	1.0	3.0	V _{GS}	250	4.5	5.4	10	30	24.6	10		

Note) * : Under development

SMOS FET (SMD Type)

Type No.	Mark	Internal circuit (Top view)	Max. Ratings				I _{DSS} (μA)		V _{th} (V)				R _{DS(ON)} ()			Package	Outline (Unit: mm)	
			V _{DS} (V)	V _{GSS} (mV)	I _D (mA)	P _D (mW)	Max.	V _{DS} (V)	V _{GS} (V)	Min.	Max.	V _{DS} (V)	I _D (mA)	Max.	V _{GS} (V)			I _D (mA)
KTK5131V	KA		30	±20	50	100	1	30	0	0.5	1.5	3	0.1	40	2.5	10	VSM	
KTK5132V	KB		30	±20	100	100	1	30	0	0.5	1.5	3	0.1	7	2.5	10		
KTK5131E	KA		30	±20	50	100	1	30	0	0.5	1.5	3	0.1	40	2.5	10	ESM	
KTK5132E	KB		30	±20	100	100	1	30	0	0.5	1.5	3	0.1	7	2.5	10		
KTJ6131E	EB		-30	±20	-50	100	-1	-30	0	-0.5	-1.5	-3	-0.1	40	-2.5	-10		
KTK5132U	KB		30	±20	100	200	1	30	0	0.5	1.5	3	0.1	7	2.5	10	USM	
*2N7002U	WA		60	±20	300	100	1	60	0	1.1	2.3	V _{GS}	0.25	2.1	5	50		
*2N7002KU	WC		60	±20	300	100	1	60	0	1.1	2.35	V _{GS}	0.25	2.1	5	50		
KTX321U	BR		-12	-500	150	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10	US6	
KTX421U	BS		12	500	150	270	680	2	10	0.25	200	10	-	320	2	10		
KTK5131S	KA		30	±20	50	200	1	30	0	0.5	1.5	3	0.1	40	2.5	10	SOT-23	
KTK5132S	KB		30	±20	100	200	1	30	0	0.5	1.5	3	0.1	7	2.5	10		
KTK5133S	KC		30	±20	150	200	1	30	0	0.5	1.5	3	0.1	5.2	2.5	40		
KTK5134S	KD		30	±20	200	200	1	30	0	0.5	1.5	3	0.1	2	2.5	50		
KTK5162S	KF		60	±20	100	200	1	60	0	1	2.4	10	0.1	7.5	10	50		
KTK5164S	KM		60	±20	200	200	1	60	0	0.5	1.5	10	1	2	2.5	50		
2N7002	WA			60	±20	300	200	1	60	0	1.1	2.3	V _{GS}	0.25	2.1	5		
2N7002A	WB		60	±20	115	200	1	60	0	1	2.5	V _{GS}	0.25	7.5	5	50		
2N7002K (ESD Protected 2000V)	WC		60	±20	300	200	1	60	0	1.1	2.35	V _{GS}	0.25	2.1	5	50		

Note) * : Under development

SMOS FET (THD Type)

Type No.	Max. Ratings				I _{DSS} (μA)			V _{th} (V)				R _{DS(ON)} ()			Package	Outline (Unit: mm)
	V _{DS} (V)	V _{GSS} (mV)	I _D (mA)	P _D (mW)	Max.	V _{DS} (V)	V _{GS} (V)	Min.	Max.	V _{DS} (V)	I _D (mA)	Max.	V _{GS} (V)	I _D (mA)		
2N7000	60	±20	300	625	1	60	0	1.1	2.3	V _{GS}	250	2.1	5	50	TO-92	
2N7000A	60	±20	200	400	1	48	0	0.8	3	V _{GS}	500	5.3	4.5	75		
2N7000K (ESD Protected 2000V)	60	±20	300	625	1	60	0	1.1	2.35	V _{GS}	250	2.1	5	50		

RF MOSFET (SMD Type)

Type No.	Mark	Max. Ratings			S _{21(ON)} ² (dB)			S _{21(OFF)} ² (dB)			Package	Outline (Unit: mm)
		V _{DG} (V)	I _D (mA)	P _C (mW)	Max.	V _{SC} (V)	f (GHz)	Min	V _{SC} (V)	f (GHz)		
KTK919S	M1	7	10	150	-3	0	0.86	-30	5	0.86	SOT-23	
KTK920U	MA	7	10	200	-2	0	1	-30	5	1	USQ	
KTK921U	MC	7	10	200	-2.5	0	1	-30	3.3	1		
KTK920BU	MB	7	10	200	-2	0	1	-30	5	1		
KTK920T	MA	7	10	900	-2	0	1	-30	5	1	TSQ	
KTK921T	MC	7	10	900	-2.5	0	1	-30	3.3	1		
KTK920BT	MB	7	10	900	-2	0	1	-30	5	1		

MOSFET

High Voltage MOSFET (SMD Type)

Type No.	Max. Ratings			R _{DS(ON)} ()				Q _g (nC)		Package	Outline (Unit: mm)
	BV _{DSS} (V)	I _D (A)	P _D (W)	Typ.	Max.	V _{GS} (V)	I _D (A)	Typ.	V _{GS} (V)		
KHB9D5N20D	200	9.5	54	0.345	0.4	10	4.75	18.5	10	DPAK(1)	
KHB1D0N60D	600	1	28	9.5	12	10	0.5	5.9	10		
KHB1D9N60D	600	1.9	44	3.8	5	10	0.95	10.9	10		

High Voltage MOSFET (THD Type)

Type No.	Max. Ratings			R _{DS(ON)} ()				Q _g (nC)		Package	Outline (Unit: mm)
	BV _{DSS} (V)	I _D (A)	P _D (W)	Typ.	Max.	V _{GS} (V)	I _D (A)	Typ.	V _{GS} (V)		
KHB1D0N60I	600	1	28	9.5	12	10	0.5	5.9	10	IPAK(1)	
KHB1D9N60I	600	1.9	28	3.8	5	10	0.95	10.9	10		
KHB9D5N20P	200	9.5	87	0.345	0.4	10	4.75	18.5	10	TO-220AB	
KHB019N20P1	200	19	140	0.14	0.18	10	9.5	35	10		
KHB8D8N25P	250	8.8	74	0.36	0.45	10	4.4	29.5	10		
KHB6D0N40P	400	6	73	0.9	1	10	3	21	10		
KHB011N40P1	400	10.5	135	0.5	0.53	10	5.25	32.5	10		
KHB5D0N50P	500	5	73	1.24	1.5	10	2.5	21	10		
KHB9D0N50P1	500	9	135	0.65	0.8	10	4.5	34.6	10		
KHB2D0N60P	600	2	54	3.8	5	10	1	10.9	10		
KHB4D5N60P	600	4.5	100	2.2	2.5	10	2.25	17	10		
KHB7D5N60P1	600	7.5	147	1	1.2	10	3.75	32.5	10		
KHB4D0N65P	650	4	106	2.4	3	10	2	20	10		
KHB7D0N65P1	650	7	160	1.2	1.4	10	3.5	32	10		
KHB3D0N70P	700	3	130	3	3.5	10	1.5	20.5	10		
KHB4D0N80P1	800	4	130	3	3.6	10	2	25	10		
KHB7D0N80P1	800	7	167	1.25	1.55	10	3.5	51.5	10		
KHB3D0N90P1	900	3	130	4.0	4.5	10	1.5	25	10		
KHB9D0N90P1	900	9	205	1.12	1.4	10	4.5	75	10		
KHB9D0N90NA	900	9	280	1.05	1.4	10	4.5	75	10		

High Voltage MOSFET (THD Type)

Type No.	Max. Ratings			R _{DS(ON)} ()				Q _g (nC)		Package	Outline (Unit: mm)
	BV _{DSS} (V)	I _D (A)	P _D (W)	Typ.	Max.	V _{GS} (V)	I _D (A)	Typ.	V _{GS} (V)		
KHB9D5N20F	200	9.5	40	0.345	0.4	10	4.75	18.5	10	TO-220IS(1)	
KHB019N20F1	200	19	50	0.14	0.18	10	9.5	35	10		
KHB8D8N25F	250	8.8	38	0.36	0.45	10	4.4	29.5	10		
KHB6D0N40F	400	6	38	0.9	1	10	3	21	10		
KHB011N40F1	400	10.5	44	0.5	0.53	10	5.25	32.5	10		
KHB5D0N50F	500	5	38	1.24	1.5	10	2.5	21	10		
KHB9D0N50F1	500	9	44	0.65	0.8	10	4.5	34.6	10		
KHB2D0N60F	600	2	23	3.8	5	10	1	10.9	10		
KHB4D5N60F	600	4.5	36	2.2	2.5	10	2.25	17	10		
KHB7D5N60F1	600	7.5	48	1	1.2	10	3.75	32.5	10		
KHB4D0N65F	650	4	36	2.4	3	10	2	20	10		
KHB7D0N65F1	650	7	52	1.2	1.4	10	3.5	32	10		
KHB3D0N70F	700	3	50	3	3.5	10	1.5	20.5	10		
KHB4D0N80F1	800	4	43	3	3.6	10	2	25	10		
KHB7D0N80F1	800	7	56	1.25	1.55	10	3.5	51.5	10		
KHB3D0N90F1	900	3	43	4.0	4.5	10	1.5	25	10		
KHB9D0N90F1	900	9	68	1.12	1.4	10	4.5	75	10		
KHB9D5N20F2	200	9.5	40	0.345	0.4	10	4.75	18.5	10		
KHB019N20F2	200	19	50	0.14	0.18	10	9.5	35	10		
KHB8D8N25F2	250	8.8	38	0.36	0.45	10	4.4	29.5	10		
KHB6D0N40F2	400	6	38	0.9	1	10	3	21	10		
KHB011N40F2	400	10.5	44	0.5	0.53	10	5.25	32.5	10		
KHB5D0N50F2	500	5	38	1.24	1.5	10	2.5	21	10		
KHB9D0N50F2	500	9	44	0.65	0.8	10	4.5	34.6	10		
KHB2D0N60F2	600	2	23	3.8	5	10	1	10.9	10		
KHB4D5N60F2	600	4.5	36	2.2	2.5	10	2.25	17	10		
KHB7D5N60F2	600	7.5	48	1	1.2	10	3.75	32.5	10		
KHB4D0N65F2	650	4	36	2.4	3	10	2	20	10		
KHB7D0N65F2	650	7	52	1.2	1.4	10	3.5	32	10		
KHB3D0N70F2	700	3	50	3	3.5	10	1.5	20.5	10		
KHB4D0N80F2	800	4	43	3	3.6	10	2	25	10		
KHB7D0N80F2	800	7	56	1.25	1.55	10	3.5	51.5	10		
KHB3D0N90F2	900	3	43	4.0	4.5	10	1.5	25	10		

MOSFET

High Voltage MOSFET

*DFDET : Fast Recovery Diode

Type No.	Max. Ratings			R _{DS(ON)} ()				Q _g (nC)		Package	Outline (Unit: mm)
	BV _{DSS} (V)	I _D (A)	P _D (W)	Typ.	Max.	V _{GS} (V)	I _D (A)	Typ.	V _{GS} (V)		
* KQ6N40F	400	6	-	-	1	10	3	-	10	TO-220IS	
* KQ11N40F	400	10.5	-	-	0.53	10	5.25	29.5	10		
* KQ5N50F	500	5	-	-	1.5	10	2.5	-	10		
* KQ9N50F	500	9	-	-	0.8	10	4.5	29.5	10		
* KQ6N40P	400	6	-	-	1	10	3	-	10	TO-220AB	
* KQ11N40P	400	10.5	-	-	0.53	10	5.25	29.5	10		
* KQ5N50P	500	5	-	-	1.5	10	2.5	-	10		
* KQ9N50P	500	9	-	-	0.8	10	4.5	29.5	10		

Note) * : Under development

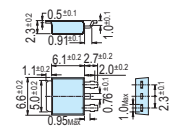
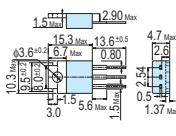
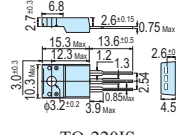
High Voltage MOSFET (DFDET)

*DFDET : Fast Recovery Diode

Type No.	Max. Ratings			R _{DS(ON)} ()				Q _g (nC)		Package	Outline (Unit: mm)
	BV _{DSS} (V)	I _D (A)	P _D (W)	Typ.	Max.	V _{GS} (V)	I _D (A)	Typ.	V _{GS} (V)		
* KF3N50DS	500	2.5	-	2.1	2.5	10	1.5	10	10	DPAK(1)	
KF5N50DS	500	4.3	59.5	1.15	1.4	10	2.5	12	10		
* KF3N50PS	500	2.5	-	2.1	2.5	10	1.5	10	10	TO-220AB	
* KF5N50PS	500	5	83	1.15	1.4	10	2.5	12	10		
* KF3N50FS	500	3	-	2.1	2.5	10	1.5	10	10	TO-220IS	
KF5N50FS	500	5	41.5	1.15	1.4	10	2.5	12	10		

Note) * : Under development

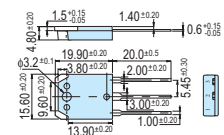
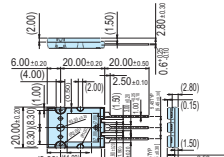
High Voltage MOSFET (FreshFET)

Type No.	Max. Ratings			R _{DS(ON)} ()				Q _g (nC)		Package	Outline (Unit: mm)
	BV _{DSS} (V)	I _D (A)	P _D (W)	Typ.	Max.	V _{GS} (V)	I _D (A)	Typ.	V _{GS} (V)		
* KF3N50/DZ	500	2.5	35	2.1	2.5	10	1.5	10	10	DPAK(1)	
KF5N50DZ	500	4.3	59.5	1.10	1.4	10	2.5	12	10		
* KF3N60/DZ	600	2.3	-	3.0	3.5	10	1.2	10	10		
* KF5N60/DZ	600	3.9	59.5	1.76	2	10	2.5	18.8	10		
KF50N06P	60	50	96	0.014	0.017	10	25	39.5	10	TO-220AB	
KF60N06P	60	60	150	0.012	0.132	10	30	48	10		
KF70N06P	60	70	150	0.01	0.012	10	35	51	10		
KF80N08P	75	80	230	0.0085	0.01	10	40	107	10		
* KF3N50P/PZ	500	3	-	2.1	2.5	10	1.5	10	10		
KF5N50P/PZ	500	5	83	1.15	1.4	10	2.5	12	10		
* KF13N50P	500	13	208	0.35	0.44	10	6.5	35	10		
* KF5N60P/PZ	600	4.5	8.9	1.76	2	10	2.5	18.8	10		
KF8N60P	600	8	154	0.85	1.05	10	4	24	10		
* KF12N60P	600	12	215	0.51	0.6	10	6	36	10		
KF7N65P	650	7	160	1.05	1.2	10	3.5	24	10		
KF70N06F	60	70	51	0.01	0.012	10	35	51	10	TO-220IS(1)	
KF80N08F	75	80	62.5	0.0085	0.01	10	40	107	10	TO-220IS	
* KF3N50F/FZ	500	3	-	2.1	2.5	10	1.5	10	10	TO-220IS	
KF5N50F/FZ	500	5	41.5	1.15	1.4	10	2.5	12	10	TO-220IS(1)	
KF13N50F	500	13	49.8	0.35	0.44	10	6.5	35	10	TO-220IS(1)	
* KF5N60F/FZ	600	4.5	41.5	1.76	2	10	2.5	18.8	10	TO-220IS	
KF8N60F	600	8	50	0.85	1.05	10	4	24	10	TO-220IS(1)	
KF12N60F	600	12	49.8	0.51	0.6	10	6	36	10	TO-220IS(1)	
KF7N65F	650	7	52	1.05	1.2	10	3.5	24	10	TO-220IS(1)	

Note) * : Under development

MOSFET

IGBT

Type No.	BV _{CE} (V)	I _C (A)		V _{CESET} (V)	Application	Package	Outline (Unit: mm)
		@25	@100	Typ.			
KGH25N120NDA	1200	40	25	2.3	IH Cooker	TO-3P(N)-E	
KGH15N120NDA	1200	24	15	2.3	IH Cooker		
* KGT25N120NDA	1200	50	25	1.9	IH Cooker		
* KGT15N120NDA	1200	30	15	1.9	IH Cooker		
* KGT50N60KDA	600	100	50	1.9	Inverter	TO-247	

Note) *: Under development

2 in 1 IGBT Module

Part Name	BV _{CE} (V)	T _C @ I _C		V _{CE(ON)}	I _{CP}	IGBT Type	Package
		@25	@80	V	A		
*Two Pack	GM75HB6BT	600	100	75	1.5	Trench	GMB 01
	GM100HB6BT	600	130	100	1.5		
	GM150HB6BT	600	210	150	1.5		
	GM200HB6BT	600	260	200	1.5		
	GM300HB6CT	600	360	300	1.5		
	GM400HB6CT	600	450	400	1.5		
	GM75HB12BT	1200	100	75	1.7	NPT	GMB 01
	GM100HB12BT	1200	130	100	1.7		
	GM150HB12CT	1200	200	150	1.7		
	GM200HB12CT	1200	260	200	1.7		
	GM300HB12CT	1200	360	300	1.7		
	GM100HB06BL	600	130	100	1.9		

Note) *: Under development

6 in 1, 7 in 1 IGBT Module

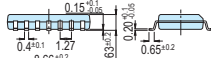
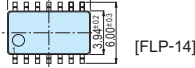
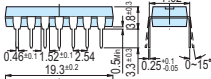

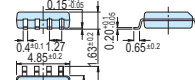

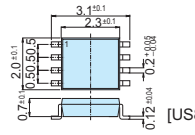
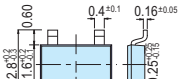
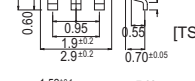
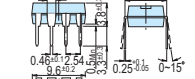

Part Name	Rectifier		Inverter				Brake Chopper		NTC	Package	
	V _{RRM}	I _{FAV} @80	V _{CE}	I _C @80	V _{CESET} (V) Typ	I _F @125	V _{CE}	I _C @80			
	V	A	V	A	V	A	V	A			
*Six Pack	GM10TB06EN	-	-	600	10	1.9	10	-	-	○	GMB 03
	GM15TB06EN	-	-	600	15	2.1	15	-	-	○	GMB 03
	GM30TB06EN	-	-	600	30	2.1	30	-	-	○	GMB 03
	GM40TB06EN	-	-	600	40	1.95	50	-	-	○	GMB 03
*Seven Pack	GM10RTCT06DTN	1600	29	600	10	1.9	10	600	8	○	GMB 03
	GM15RTCT06DTN	1600	29	600	15	2.1	15	600	9.6	○	GMB 03
	GM20RTCT06DTN	1600	29	600	20	2.1	20	600	12	○	GMB 03
	GM30RTCT06DTN	1600	37	600	30	2.1	30	600	16	○	GMB 03
	GM10RTCT12DTN	1600	37	1200	10	2.4	10	1200	12	○	GMB 03
	GM15RTCT12DTN	1600	37	1200	15	2.4	15	1200	12	○	GMB 03

Note) *: Under development

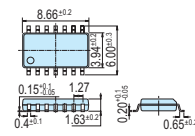
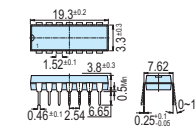
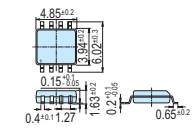
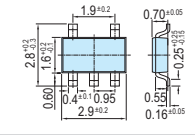
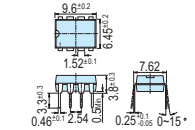
IGBT Power Module

Industrial & General Purpose IC

OP Amp.

Type No.	Function	Operating Voltage(V)	Package	Outline (Unit : mm)
KIA324F	Quad OP Amp.	± 18 or 36	FLP-14	
KIA324P	Quad OP Amp.	± 18 or 36	DIP-14	 [FLP-14]
KIA358F	Dual OP Amp.	± 18 or 36	FLP-8	
KIA358AFK	Dual OP Amp.	± 6 or 12	US8	 [DIP-14]
KIA75S358F	Single OP Amp.	± 18 or 36	TSV	
KIA358P	Dual OP Amp.	± 18 or 36	DIP-8	 [FLP-8]
KIA4558F	Dual Low Noise OP Amp.	± 18 or 36	FLP-8	
KIA75S558F	Single Low Noise OP Amp.	± 18 or 36	TSV	
KIA4558P	Dual Low Noise OP Amp.	± 18 or 36	DIP-8	 [TSV]
KIA4559F	Dual Low Noise OP Amp.	± 18 or 36	FLP-8	
KIA4559P	Dual Low Noise OP Amp.	± 18 or 36	DIP-8	 [DIP-8]

Comparator

Type No.	Function	Operating Voltage (V)	Package	Outline (Unit : mm)
KIA339F	Quad Voltage Comparator	± 18 or 36	FLP-14	
KIA339P	Quad Voltage Comparator	± 18 or 36	DIP-14	
KIA393F	Dual Voltage Comparator	± 18 or 36	FLP-8	
KIA75S393F	Single Voltage Comparator	± 18 or 36	TSV	
KIA393P	Dual Voltage Comparator	± 18 or 36	DIP-8	

Integrated Circuit

Voltage Stabilizer

Type No.		Mark	Function	Voltage Reference Tolerance (%)	Operating Voltage (V)	Package	Outline (Unit : mm)
KIA431B	-	-	Shunt Regulator	0.5	2.5 36	TO-92	
* KIA2431BP	-	-	Shunt Regulator	0.5	1.24 16		
KIA431A	-	-	Shunt Regulator	1	2.5 36		
KIA2431AP	-	-	Shunt Regulator	1	1.24 16		
KIA2431P	-	-	Shunt Regulator	1.5	1.24 16		
KIA431	-	-	Shunt Regulator	2.2	2.5 36		
KIA431BF	3C	3C	Shunt Regulator	0.5	2.5 36	SOT-89	
KIA431AF	3B	3B	Shunt Regulator	1	2.5 36		
KIA431F	3A	3A	Shunt Regulator	2.2	2.5 36		
* KIA2431BS	24C	24C	Shunt Regulator	0.5	1.24 16	TSM	
KIA2431AS	24B	24B	Shunt Regulator	1	1.24 16		
KIA2431S	24A	24A	Shunt Regulator	1.5	1.24 16		
* KIA2431BT	24C	24C	Shunt Regulator	0.5	1.24 16	TSV	
KIA2431AT	24B	24B	Shunt Regulator	1	1.24 16		
KIA2431T	24A	24A	Shunt Regulator	1.5	1.24 16		
KIA431BM	** A-Type (Note1)	43B	Shunt Regulator	0.5	2.5~36	SOT-23	
KIA431AM		43A	Shunt Regulator	1	2.5~36		
KIA431M		43C	Shunt Regulator	2.2	2.5~36		
KIA431BM2	** B-Type (Note2)	43E	Shunt Regulator	0.5	2.5~36		
KIA431AM2		43D	Shunt Regulator	1	2.5~36		
KIA431M2		43F	Shunt Regulator	2.2	2.5~36		

Note) * : Under development

Note2) ** A-Type : 1. Cathode 2. Ref 3. Anode

B-Type : 1. Ref 2. Cathode 3. Anode



Voltage Detector (Active Low)

Type No.	Mark	Max. Ratings		Detecting Volts. V _S (V)			Low-Level Output Volts. Vol (V)	Hysteresis Volts. V _S (mV)			Circuit Current at on. I _{CCL} (μA)		Circuit Current at off. I _{CCH} (μA)		Package	Outline (Unit : mm)	
		V _{CC} (V)	P _D (mW)	(R _L =200 Ω, V _{OL} 0.4V)			R _L =200	R _L =200			V _{CC} = V _S MIN - 0.05V		V _{CC} = 5.25V				
				Min.	Typ.	Max.	Max.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.			
KIA7019AF	6A	-0.3	+15.0	500	1.75	1.9	2.05	0.4	30	50	100	300	500	30	50	SOT-89	
KIA7021AF	6B	-0.3	+15.0	500	1.95	2.1	2.25	0.4	30	50	100	300	500	30	50		
KIA7023AF	6C	-0.3	+15.0	500	2.15	2.3	2.45	0.4	30	50	100	300	500	30	50		
KIA7025AF	6D	-0.3	+15.0	500	2.35	2.5	2.65	0.4	30	50	100	300	500	30	50		
KIA7027AF	6E	-0.3	+15.0	500	2.55	2.7	2.85	0.4	30	50	100	300	500	30	50		
KIA7029AF	6F	-0.3	+15.0	500	2.75	2.9	3.05	0.4	30	50	100	300	500	30	50		
KIA7031AF	6G	-0.3	+15.0	500	2.95	3.1	3.25	0.4	30	50	100	300	500	30	50		
KIA7032AF	6H	-0.3	+15.0	500	3.05	3.2	3.35	0.4	30	50	100	300	500	30	50		
KIA7033AF	6J	-0.3	+15.0	500	3.15	3.3	3.45	0.4	30	50	100	300	500	30	50		
KIA7034AF	6K	-0.3	+15.0	500	3.25	3.4	3.55	0.4	30	50	100	300	500	30	50		
KIA7035AF	6L	-0.3	+15.0	500	3.35	3.5	3.65	0.4	30	50	100	300	500	30	50		
KIA7036AF	6M	-0.3	+15.0	500	3.45	3.6	3.75	0.4	30	50	100	300	500	30	50		
KIA7039AF	6N	-0.3	+15.0	500	3.75	3.9	4.05	0.4	30	50	100	300	500	30	50		
KIA7042AF	6P	-0.3	+15.0	500	4.05	4.2	4.35	0.4	30	50	100	300	500	30	50		
KIA7045AF	6R	-0.3	+15.0	500	4.35	4.5	4.65	0.4	30	50	100	300	500	30	50		
KIA7019AP	-	-0.3	+15.0	400	1.75	1.9	2.05	0.4	30	50	100	300	500	30	50	TO-92	
KIA7021AP	-	-0.3	+15.0	400	1.95	2.1	2.25	0.4	30	50	100	300	500	30	50		
KIA7023AP	-	-0.3	+15.0	400	2.15	2.3	2.45	0.4	30	50	100	300	500	30	50		
KIA7025AP	-	-0.3	+15.0	400	2.35	2.5	2.65	0.4	30	50	100	300	500	30	50		
KIA7027AP	-	-0.3	+15.0	400	2.55	2.7	2.85	0.4	30	50	100	300	500	30	50		
KIA7029AP	-	-0.3	+15.0	400	2.75	2.9	3.05	0.4	30	50	100	300	500	30	50		
KIA7031AP	-	-0.3	+15.0	400	2.95	3.1	3.25	0.4	30	50	100	300	500	30	50		
KIA7032AP	-	-0.3	+15.0	400	3.05	3.2	3.35	0.4	30	50	100	300	500	30	50		
KIA7033AP	-	-0.3	+15.0	400	3.15	3.3	3.45	0.4	30	50	100	300	500	30	50		
KIA7034AP	-	-0.3	+15.0	400	3.25	3.4	3.55	0.4	30	50	100	300	500	30	50		
KIA7035AP	-	-0.3	+15.0	400	3.35	3.5	3.65	0.4	30	50	100	300	500	30	50		
KIA7036AP	-	-0.3	+15.0	400	3.45	3.6	3.75	0.4	30	50	100	300	500	30	50		
KIA7039AP	-	-0.3	+15.0	400	3.75	3.9	4.05	0.4	30	50	100	300	500	30	50		
KIA7042AP	-	-0.3	+15.0	400	4.05	4.2	4.35	0.4	30	50	100	300	500	30	50		
KIA7045AP	-	-0.3	+15.0	400	4.35	4.5	4.65	0.4	30	50	100	300	500	30	50		
KIA7019AT	6A	-0.3	+15.0	350	1.75	1.9	2.05	0.4	30	50	100	300	500	30	50	TSM	
* KIA7021AT	6B	-0.3	+15.0	350	1.95	2.1	2.25	0.4	30	50	100	300	500	30	50		
* KIA7023AT	6C	-0.3	+15.0	350	2.15	2.3	2.45	0.4	30	50	100	300	500	30	50		
KIA7025AT	6D	-0.3	+15.0	350	2.35	2.5	2.65	0.4	30	50	100	300	500	30	50		
KIA7027AT	6E	-0.3	+15.0	350	2.55	2.7	2.85	0.4	30	50	100	300	500	30	50		
KIA7029AT	6F	-0.3	+15.0	350	2.75	2.9	3.05	0.4	30	50	100	300	500	30	50		
KIA7031AT	6G	-0.3	+15.0	350	2.95	3.1	3.25	0.4	30	50	100	300	500	30	50		
KIA7032AT	6H	-0.3	+15.0	350	3.05	3.2	3.35	0.4	30	50	100	300	500	30	50		
KIA7033AT	6J	-0.3	+15.0	350	3.15	3.3	3.45	0.4	30	50	100	300	500	30	50		
KIA7034AT	6K	-0.3	+15.0	350	3.25	3.4	3.55	0.4	30	50	100	300	500	30	50		
KIA7035AT	6L	-0.3	+15.0	350	3.35	3.5	3.65	0.4	30	50	100	300	500	30	50		
KIA7036AT	6M	-0.3	+15.0	350	3.45	3.6	3.75	0.4	30	50	100	300	500	30	50		
KIA7039AT	6N	-0.3	+15.0	350	3.75	3.9	4.05	0.4	30	50	100	300	500	30	50		
KIA7042AT	6P	-0.3	+15.0	350	4.05	4.2	4.35	0.4	30	50	100	300	500	30	50		
KIA7045AT	6R	-0.3	+15.0	350	4.35	4.5	4.65	0.4	30	50	100	300	500	30	50		

Note) * : Under development

Voltage Detector (Active High)

Type No.	Mark	Max. Ratings		Detecting Volts. Vs (V)			Low-Level Output Volts. Vol (V)	Hysteresis Volts. Vs (mV)			Circuit Current at on. I _{CCH} (μA)		Circuit Current at off. I _{CCL} (μA)		Package	Outline (Unit : mm)	
		V _{CC} (V)	P _D (mW)	(R _L =4.7kΩ, V _{OH} Vol-0.4V)			R _L =4.7kΩ	R _L =4.7kΩ			V _{CC} = V _{SMIN} - 0.05V		V _{CC} = 5.25V				
				Min.	Typ.	Max.	Min.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.			
KIA7419F	4A	-0.3	+7.5	500	1.75	1.9	2.05	V _{CC} - 0.4	20	50	100	300	500	30	70	SOT-89	
KIA7421F	4B	-0.3	+7.5	500	1.95	2.1	2.25	V _{CC} - 0.4	20	50	100	300	500	30	70		
KIA7423F	4C	-0.3	+7.5	500	2.15	2.3	2.45	V _{CC} - 0.4	20	50	100	300	500	30	70		
KIA7425F	4D	-0.3	+7.5	500	2.35	2.5	2.65	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7427F	4E	-0.3	+7.5	500	2.55	2.7	2.85	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7429F	4F	-0.3	+7.5	500	2.75	2.9	3.05	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7431F	4G	-0.3	+7.5	500	2.95	3.1	3.25	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7432F	4H	-0.3	+7.5	500	3.05	3.2	3.35	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7433F	4J	-0.3	+7.5	500	3.15	3.3	3.45	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7434F	4K	-0.3	+7.5	500	3.25	3.4	3.55	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7435F	4L	-0.3	+7.5	500	3.35	3.5	3.65	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7436F	4M	-0.3	+7.5	500	3.45	3.6	3.75	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7439F	4N	-0.3	+7.5	500	3.7	3.9	4.1	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7442F	4P	-0.3	+7.5	500	4	4.2	4.4	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7445F	4R	-0.3	+7.5	500	4.3	4.5	4.7	V _{CC} - 0.4	30	50	100	300	500	30	50		

Voltage Detector (Active High)

Type No.	Mark	Max. Ratings		Detecting Volts. Vs (V)			Low-Level Output Volts. Vol (V)	Hysteresis Volts. Vs (mV)			Circuit Current at on. I _{CCH} (μA)		Circuit Current at off. I _{CCL} (μA)		Package	Outline (Unit : mm)	
		V _{CC} (V)	P _D (mW)	(R _L =4.7kΩ, V _{OH} Vol-0.4V)			R _L =4.7kΩ	R _L =4.7kΩ			V _{CC} = V _{SMIN} - 0.05V		V _{CC} = 5.25V				
				Min.	Typ.	Max.	Min.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.			
KIA7419P	-	-0.3	+7.5	400	1.75	1.9	2.05	V _{CC} - 0.4	20	50	100	300	500	30	70	TO-92	
KIA7421P	-	-0.3	+7.5	400	1.95	2.1	2.25	V _{CC} - 0.4	20	50	100	300	500	30	70		
KIA7423P	-	-0.3	+7.5	400	2.15	2.3	2.45	V _{CC} - 0.4	20	50	100	300	500	30	70		
KIA7425P	-	-0.3	+7.5	400	2.35	2.5	2.65	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7427P	-	-0.3	+7.5	400	2.55	2.7	2.85	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7429P	-	-0.3	+7.5	400	2.75	2.9	3.05	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7431P	-	-0.3	+7.5	400	2.95	3.1	3.25	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7432P	-	-0.3	+7.5	400	3.05	3.2	3.35	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7433P	-	-0.3	+7.5	400	3.15	3.3	3.45	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7434P	-	-0.3	+7.5	400	3.25	3.4	3.55	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7435P	-	-0.3	+7.5	400	3.35	3.5	3.65	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7436P	-	-0.3	+7.5	400	3.45	3.6	3.75	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7439P	-	-0.3	+7.5	400	3.7	3.9	4.1	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7442P	-	-0.3	+7.5	400	4	4.2	4.4	V _{CC} - 0.4	30	50	100	300	500	30	50		
KIA7445P	-	-0.3	+7.5	400	4.3	4.5	4.7	V _{CC} - 0.4	30	50	100	300	500	30	50		

1.25V Adjustable Voltage Detector (Active Low)

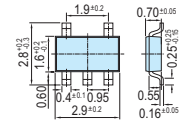
Type No.	Max. Ratings			Detecting Volts. V_S (V)			Supply Voltage Range V_{CC}			Hysteresis Volts. V_S (mV)			Circuit Current at On. I_{CCL} (μA)		Circuit Current at Off. I_{CCH} (μA)		Package	Outline (Unit : mm)				
	V_{CC} (V)	I_{SINK} (mA)	P_D (mW)	Min.	Typ.	Max.	$T_a = -40 \text{ } ^\circ C \text{ } +85 \text{ } ^\circ C$			$V_{CC} = 5V$			$V_{CC} = 5V, V_{IN} = 1.2V$		$V_{CC} = 5V, V_{IN} = 1.5V$							
							Min.	Typ.	Max.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.						
KIA7125F	18	6	240	1.2	1.25	1.3	2	-	17	9	15	23	B	360	B	540	B	360	B	540	FLP-8	
KIA7125P	18	6	500	1.2	1.25	1.3	2	-	17	9	15	23	B	360	B	540	B	360	B	540	DIP-8	

Note) B Type: Open collector type.

150mA CMOS Low Dropout Voltage Regulator (On/Off Controllable) [High PSRR] (Positive)

Type No.	Max. Ratings			V_{OUT} (V)			Reg. Line (%/V)			Reg. Load (%)			V_{DROP} (V)		Package	Outline (Unit : mm)
	V_{IN} (V)	I_O (A)	P_D (W) ($T_a = 25 \text{ } ^\circ C$)	$(T_j = 25 \text{ } ^\circ C)$			V_{IN} (V)	$T_a = 25 \text{ } ^\circ C$		$T_a = 25 \text{ } ^\circ C$	I_{OUT} (mA)	$(T_j = 25 \text{ } ^\circ C)$				
				Min.	Typ.	Max.		Max.	Min.			Max.	Typ.	I_{OUT} (mA)		
KIC3210T-018	6	0.15	0.9	-1(%)	1.80	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-019	6	0.15	0.9	-1(%)	1.90	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-020	6	0.15	0.9	-1(%)	2.00	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-021	6	0.15	0.9	-1(%)	2.10	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-022	6	0.15	0.9	-1(%)	2.20	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-023	6	0.15	0.9	-1(%)	2.30	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-024	6	0.15	0.9	-1(%)	2.40	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-025	6	0.15	0.9	-1(%)	2.50	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-026	6	0.15	0.9	-1(%)	2.60	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-027	6	0.15	0.9	-1(%)	2.70	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-028	6	0.15	0.9	-1(%)	2.80	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-029	6	0.15	0.9	-1(%)	2.90	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-030	6	0.15	0.9	-1(%)	3.00	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-031	6	0.15	0.9	-1(%)	3.10	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-032	6	0.15	0.9	-1(%)	3.20	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-033	6	0.15	0.9	-1(%)	3.30	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-034	6	0.15	0.9	-1(%)	3.40	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	
KIC3210T-035	6	0.15	0.9	-1(%)	3.50	+1(%)	$V_O + 1$	0.2	$V_O + 1$	6	1.5	0.1	150	0.135	150	

T5V

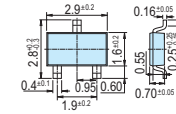


150mA Low Noise CMOS LDO Voltage Regulator (On/Off Controllable)

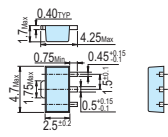
Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (%/V)			Reg. Load (mV)			V _{DROF} (V)		Package	Outline (Unit : mm)			
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Tj=25)			V _{IN} (V)	Ta=25		I _{OUT} (mA)	I _{OUT} (mA)	Typ.	I _{OUT} (mA)						
				Min.	Typ.	Max.		Max.	Min.					Max.					
* KIC3211T-12B	6.5	0.15	0.9	-1(%)	1.2	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150	TSV			
* KIC3211T-13B	6.5	0.15	0.9	-1(%)	1.3	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-14B	6.5	0.15	0.9	-1(%)	1.4	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-15B	6.5	0.15	0.9	-1(%)	1.5	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-16B	6.5	0.15	0.9	-1(%)	1.6	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-17B	6.5	0.15	0.9	-1(%)	1.7	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-18B	6.5	0.15	0.9	-1(%)	1.8	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-19B	6.5	0.15	0.9	-1(%)	1.9	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-20B	6.5	0.15	0.9	-1(%)	2.0	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-21B	6.5	0.15	0.9	-1(%)	2.1	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-22B	6.5	0.15	0.9	-1(%)	2.2	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-23B	6.5	0.15	0.9	-1(%)	2.3	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-24B	6.5	0.15	0.9	-1(%)	2.4	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-25B	6.5	0.15	0.9	-1(%)	2.5	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-26B	6.5	0.15	0.9	-1(%)	2.6	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-27B	6.5	0.15	0.9	-1(%)	2.7	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-28B	6.5	0.15	0.9	-1(%)	2.8	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-29B	6.5	0.15	0.9	-1(%)	2.9	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-30B	6.5	0.15	0.9	-1(%)	3.0	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-31B	6.5	0.15	0.9	-1(%)	3.1	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-32B	6.5	0.15	0.9	-1(%)	3.2	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-33B	6.5	0.15	0.9	-1(%)	3.3	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-34B	6.5	0.15	0.9	-1(%)	3.4	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-35B	6.5	0.15	0.9	-1(%)	3.5	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-36B	6.5	0.15	0.9	-1(%)	3.6	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-37B	6.5	0.15	0.9	-1(%)	3.7	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-38B	6.5	0.15	0.9	-1(%)	3.8	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-39B	6.5	0.15	0.9	-1(%)	3.9	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211T-40B	6.5	0.15	0.9	-1(%)	4.0	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-12A	6.5	0.15	0.5	-1(%)	1.2	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150			SON1612-6	
* KIC3211SN-13A	6.5	0.15	0.5	-1(%)	1.3	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-14A	6.5	0.15	0.5	-1(%)	1.4	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-15A	6.5	0.15	0.5	-1(%)	1.5	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-16A	6.5	0.15	0.5	-1(%)	1.6	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-17A	6.5	0.15	0.5	-1(%)	1.7	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-18A	6.5	0.15	0.5	-1(%)	1.8	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-19A	6.5	0.15	0.5	-1(%)	1.9	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-20A	6.5	0.15	0.5	-1(%)	2.0	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-21A	6.5	0.15	0.5	-1(%)	2.1	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-22A	6.5	0.15	0.5	-1(%)	2.2	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-23A	6.5	0.15	0.5	-1(%)	2.3	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-24A	6.5	0.15	0.5	-1(%)	2.4	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-25A	6.5	0.15	0.5	-1(%)	2.5	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-26A	6.5	0.15	0.5	-1(%)	2.6	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-27A	6.5	0.15	0.5	-1(%)	2.7	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-28A	6.5	0.15	0.5	-1(%)	2.8	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-29A	6.5	0.15	0.5	-1(%)	2.9	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-30A	6.5	0.15	0.5	-1(%)	3.0	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-31A	6.5	0.15	0.5	-1(%)	3.1	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-32A	6.5	0.15	0.5	-1(%)	3.2	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-33A	6.5	0.15	0.5	-1(%)	3.3	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-34A	6.5	0.15	0.5	-1(%)	3.4	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-35A	6.5	0.15	0.5	-1(%)	3.5	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-36A	6.5	0.15	0.5	-1(%)	3.6	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-37A	6.5	0.15	0.5	-1(%)	3.7	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-38A	6.5	0.15	0.5	-1(%)	3.8	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-39A	6.5	0.15	0.5	-1(%)	3.9	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				
* KIC3211SN-40A	6.5	0.15	0.5	-1(%)	4.0	+1(%)	V _O +1	0.1	V _O +1	6	17	1	150	0.15	150				

Note) * : Under development

400mA CMOS Low Dropout Voltage Regulator (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (%/V)			Reg. Load (mV)			V _{DROP} (V)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (T _a =25)	(T _j =25)			V _{IN} (V)	T _a =25		T _a =25		I _{OUT} (mA)	I _{OUT} (mA)			
				Min.	Typ.	Max.		Max.	Min.	Max.	Typ.			Min.		
KIC3201T-12	12	0.4	0.9	-2(%)	1.2	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200	TSM 
KIC3201T-13	12	0.4	0.9	-2(%)	1.3	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200	
KIC3201T-14	12	0.4	0.9	-2(%)	1.4	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200	
KIC3201T-15	12	0.4	0.9	-2(%)	1.5	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200	
KIC3201T-16	12	0.4	0.9	-2(%)	1.6	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200	
KIC3201T-17	12	0.4	0.9	-2(%)	1.7	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200	
KIC3201T-18	12	0.4	0.9	-2(%)	1.8	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200	
KIC3201T-19	12	0.4	0.9	-2(%)	1.9	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200	
KIC3201T-20	12	0.4	0.9	-2(%)	2.0	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200	
KIC3201T-21	12	0.4	0.9	-2(%)	2.1	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200	
KIC3201T-22	12	0.4	0.9	-2(%)	2.2	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200	
KIC3201T-23	12	0.4	0.9	-2(%)	2.3	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200	
KIC3201T-24	12	0.4	0.9	-2(%)	2.4	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200	
KIC3201T-25	12	0.4	0.9	-2(%)	2.5	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	320	200	
KIC3201T-26	12	0.4	0.9	-2(%)	2.6	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	320	200	
KIC3201T-27	12	0.4	0.9	-2(%)	2.7	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	320	200	
KIC3201T-28	12	0.4	0.9	-2(%)	2.8	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	320	200	
KIC3201T-29	12	0.4	0.9	-2(%)	2.9	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	320	200	
KIC3201T-30	12	0.4	0.9	-2(%)	3.0	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-31	12	0.4	0.9	-2(%)	3.1	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-32	12	0.4	0.9	-2(%)	3.2	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-33	12	0.4	0.9	-2(%)	3.3	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-34	12	0.4	0.9	-2(%)	3.4	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-35	12	0.4	0.9	-2(%)	3.5	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-36	12	0.4	0.9	-2(%)	3.6	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-37	12	0.4	0.9	-2(%)	3.7	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-38	12	0.4	0.9	-2(%)	3.8	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-39	12	0.4	0.9	-2(%)	3.9	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-40	12	0.4	0.9	-2(%)	4.0	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-41	12	0.4	0.9	-2(%)	4.1	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-42	12	0.4	0.9	-2(%)	4.2	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-43	12	0.4	0.9	-2(%)	4.3	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-44	12	0.4	0.9	-2(%)	4.4	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-45	12	0.4	0.9	-2(%)	4.5	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-46	12	0.4	0.9	-2(%)	4.6	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-47	12	0.4	0.9	-2(%)	4.7	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-48	12	0.4	0.9	-2(%)	4.8	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-49	12	0.4	0.9	-2(%)	4.9	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200	
KIC3201T-50	12	0.4	0.9	-2(%)	5.0	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	
KIC3201T-51	12	0.4	0.9	-2(%)	5.1	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	
KIC3201T-52	12	0.4	0.9	-2(%)	5.2	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	
KIC3201T-53	12	0.4	0.9	-2(%)	5.3	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	
KIC3201T-54	12	0.4	0.9	-2(%)	5.4	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	
KIC3201T-55	12	0.4	0.9	-2(%)	5.5	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	
KIC3201T-56	12	0.4	0.9	-2(%)	5.6	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	
KIC3201T-57	12	0.4	0.9	-2(%)	5.7	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	
KIC3201T-58	12	0.4	0.9	-2(%)	5.8	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	
KIC3201T-59	12	0.4	0.9	-2(%)	5.9	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	
KIC3201T-60	12	0.4	0.9	-2(%)	6.0	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200	

400mA CMOS Low Dropout Voltage Regulator (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			V _{IN} (V)	Reg. Line (%/V)			Reg. Load (mV)			V _{DROP} (V)		Package	Outline (Unit : mm)
	V _{IN}	I _O	P _D (W) (T _a =25)	(T _j =25)				T _a =25	V _{IN} (V)		T _a =25	I _{OUT} (mA)		(T _j =25)	I _{OUT} (mA)		
				Min.	Typ.	Max			Max.	Min.		Max.	Typ.				
KIC3201S-12	12	0.4	0.9	-2(%)	1.2	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200	SOT-89	
KIC3201S-13	12	0.4	0.9	-2(%)	1.3	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200		
KIC3201S-14	12	0.4	0.9	-2(%)	1.4	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200		
KIC3201S-15	12	0.4	0.9	-2(%)	1.5	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200		
KIC3201S-16	12	0.4	0.9	-2(%)	1.6	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200		
KIC3201S-17	12	0.4	0.9	-2(%)	1.7	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	800	200		
KIC3201S-18	12	0.4	0.9	-2(%)	1.8	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200		
KIC3201S-19	12	0.4	0.9	-2(%)	1.9	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200		
KIC3201S-20	12	0.4	0.9	-2(%)	2.0	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200		
KIC3201S-21	12	0.4	0.9	-2(%)	2.1	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200		
KIC3201S-22	12	0.4	0.9	-2(%)	2.2	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200		
KIC3201S-23	12	0.4	0.9	-2(%)	2.3	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200		
KIC3201S-24	12	0.4	0.9	-2(%)	2.4	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	400	200		
KIC3201S-25	12	0.4	0.9	-2(%)	2.5	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	320	200		
KIC3201S-26	12	0.4	0.9	-2(%)	2.6	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	320	200		
KIC3201S-27	12	0.4	0.9	-2(%)	2.7	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	320	200		
KIC3201S-28	12	0.4	0.9	-2(%)	2.8	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	320	200		
KIC3201S-29	12	0.4	0.9	-2(%)	2.9	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	320	200		
KIC3201S-30	12	0.4	0.9	-2(%)	3.0	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-31	12	0.4	0.9	-2(%)	3.1	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-32	12	0.4	0.9	-2(%)	3.2	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-33	12	0.4	0.9	-2(%)	3.3	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-34	12	0.4	0.9	-2(%)	3.4	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-35	12	0.4	0.9	-2(%)	3.5	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-36	12	0.4	0.9	-2(%)	3.6	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-37	12	0.4	0.9	-2(%)	3.7	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-38	12	0.4	0.9	-2(%)	3.8	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-39	12	0.4	0.9	-2(%)	3.9	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-40	12	0.4	0.9	-2(%)	4.0	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-41	12	0.4	0.9	-2(%)	4.1	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-42	12	0.4	0.9	-2(%)	4.2	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-43	12	0.4	0.9	-2(%)	4.3	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-44	12	0.4	0.9	-2(%)	4.4	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-45	12	0.4	0.9	-2(%)	4.5	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-46	12	0.4	0.9	-2(%)	4.6	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-47	12	0.4	0.9	-2(%)	4.7	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-48	12	0.4	0.9	-2(%)	4.8	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-49	12	0.4	0.9	-2(%)	4.9	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	300	200		
KIC3201S-50	12	0.4	0.9	-2(%)	5.0	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		
KIC3201S-51	12	0.4	0.9	-2(%)	5.1	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		
KIC3201S-52	12	0.4	0.9	-2(%)	5.2	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		
KIC3201S-53	12	0.4	0.9	-2(%)	5.3	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		
KIC3201S-54	12	0.4	0.9	-2(%)	5.4	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		
KIC3201S-55	12	0.4	0.9	-2(%)	5.5	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		
KIC3201S-56	12	0.4	0.9	-2(%)	5.6	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		
KIC3201S-57	12	0.4	0.9	-2(%)	5.7	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		
KIC3201S-58	12	0.4	0.9	-2(%)	5.8	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		
KIC3201S-59	12	0.4	0.9	-2(%)	5.9	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		
KIC3201S-60	12	0.4	0.9	-2(%)	6.0	+2(%)	V _O +1	0.3	V _O +1	8	40	1	200	200	200		

30mA 3-Terminal Low Dropout Voltage Regulator (Positive)

Type No.	Mark	Max. Ratings			V _{OUT} (V)			Reg. Line (mV)			Reg. Load (mV)			V _{DROP} (V)		Package	Outline (Unit : mm)		
		V _{IN} (V)	I _O (A)	P _D (W) (T _a =25 °C)	(T _j =25 °C)			V _{IN} (V)		V _{IN} (V)		I _{OUT} (mA)		(T _j =25 °C)					
					Min.	Typ.	Max.	Min.	Max.	Max.	Min.	Max.	Max.	Min.	Max.			Typ.	I _{OUT} (mA)
KIA78DS05BP	-	29	30	600	4.75	5	5.25	5.35	26	10	9	16	50	5	30	0.1	5	TO-92	

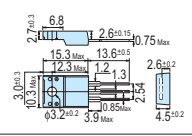
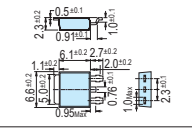
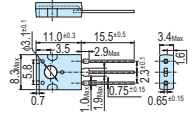
0.15A 3-Terminal Voltage Regulator (Positive)

Type No.	Mark	Max. Ratings			V _{OUT} (V)			Reg. Line (mV)			Reg. Load (mV)			V _{DROP} (V)		Package	Outline (Unit : mm)	
		V _{IN} (V)	I _O (A)	P _D (mW) (T _a =25 °C)	(T _j =25 °C)			V _{IN} (V)		V _{IN} (V)		I _{OUT} (mA)		(T _a =25 °C)				
					Min.	Typ.	Max.	Min.	Max.	Max.	Min.	Max.	Max.	Min.	Max.			Typ.
KIA78L05F	8A	35	0.15	500	4.75	5	5.25	10	150	7	20	60	1	100	1.7	40	SOT-89	
KIA78L06F	8B	35	0.15	500	5.7	6	6.3	11	150	8.1	21	70	1	100	1.7	40		
KIA78L08F	8D	35	0.15	500	7.6	8	8.4	14	175	10.5	23	80	1	100	1.7	40		
KIA78L09F	8E	35	0.15	500	8.55	9	9.45	15	200	11.4	24	90	1	100	1.7	40		
KIA78L10F	8F	35	0.15	500	9.5	10	10.5	16	230	12.5	25	90	1	100	1.7	40		
KIA78L12F	8G	35	0.15	500	11.4	12	12.6	19	250	14.5	27	100	1	100	1.7	40		
KIA78L15F	8I	35	0.15	500	14.25	15	15.75	23	300	17.5	30	150	1	100	1.7	40		
KIA78L18F	8J	40	0.15	500	7.1	18	18.9	27	325	21.4	33	170	1	100	1.7	40		
KIA78L20F	8K	40	0.15	500	19	20	21	29	330	23.5	35	180	1	100	1.7	40		
KIA78L24F	8L	40	0.15	500	22.8	24	25.2	33	350	27.5	38	200	1	100	1.7	40		
KIA78S05P	-	35	0.15	600	4.8	5	5.2	10	150	7	20	60	1	100	1.7	40	TO-92	
KIA78S06P	-	35	0.15	600	5.76	6	6.24	11	150	8.1	21	70	1	100	1.7	40		
KIA78S08P	-	35	0.15	600	7.7	8	8.3	14	175	10.5	23	80	1	100	1.7	40		
KIA78S09P	-	35	0.15	600	8.64	9	9.36	15	200	11.4	24	90	1	100	1.7	40		
KIA78S10P	-	35	0.15	600	9.6	10	10.4	16	230	12.5	25	90	1	100	1.7	40		
KIA78S12P	-	35	0.15	600	11.5	12	12.5	19	250	14.5	27	100	1	100	1.7	40		
KIA78S15P	-	35	0.15	600	14.4	15	15.6	23	300	17.5	30	150	1	100	1.7	40		
KIA78S18P	-	40	0.15	600	17.3	18	18.7	27	325	21.4	33	170	1	100	1.7	40		
KIA78S20P	-	40	0.15	600	19.2	20	20.8	29	330	23.5	35	180	1	100	1.7	40		
KIA78S24P	-	40	0.15	600	23	24	25	33	350	27.5	38	200	1	100	1.7	40		
KIA78L05BP	-	35	0.15	800	4.8	5	5.2	10	150	7	20	60	1	100	1.7	40	TO-92L	
KIA78L06BP	-	35	0.15	800	5.76	6	6.24	11	150	8.1	21	70	1	100	1.7	40		
KIA78L08BP	-	35	0.15	800	7.7	8	8.3	14	175	10.5	23	80	1	100	1.7	40		
KIA78L09BP	-	35	0.15	800	8.64	9	9.36	15	200	11.4	24	90	1	100	1.7	40		
KIA78L10BP	-	35	0.15	800	9.6	10	10.4	16	230	12.5	25	90	1	100	1.7	40		
KIA78L12BP	-	35	0.15	800	11.5	12	12.5	19	250	14.5	27	100	1	100	1.7	40		
KIA78L15BP	-	35	0.15	800	14.4	15	15.6	23	300	17.5	30	150	1	100	1.7	40		
KIA78L18BP	-	40	0.15	800	17.3	18	18.7	27	325	21.4	33	170	1	100	1.7	40		
KIA78L20BP	-	40	0.15	800	19.2	20	20.8	29	330	23.5	35	180	1	100	1.7	40		
KIA78L24BP	-	40	0.15	800	23	24	25	33	350	27.5	38	200	1	100	1.7	40		

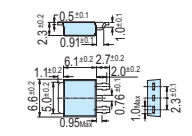
0.25A 3-Terminal Low Dropout Voltage Regulator (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (mV)			Reg. Load (mV)			V _{DROP} (V)		Package	Outline (Unit : mm)		
	V _{IN} (V)	I _O (A)	P _D (W) (T _a =25 °C)	(T _a =40 °C)			V _{IN} (V)		V _{IN} (V)		I _{OUT} (mA)		(T _a =25 °C)					
				Min.	Typ.	Max.	Min.	Max.	Max.	Min.	Max.	Max.	Min.	Max.			Typ.	I _{OUT} (mA)
KIA78DL05F	29	0.25	12	4.5	5	5.5	5.35	26	30	6	26	50	10	200	0.15	50	DPAK	
KIA78DL06F	29	0.25	12	5.4	6	6.6	6.35	26	36	7	26	60	10	200	0.15	50		
KIA78DL08F	29	0.25	12	7.2	8	8.8	8.35	26	45	9	26	80	10	200	0.15	50		
KIA78DL09F	29	0.25	12	8.1	9	9.9	9.35	26	50	10	26	90	10	200	0.15	50		
KIA78DL10F	29	0.25	12	9	10	11	10.35	26	60	11	26	100	10	200	0.15	50		
KIA78DL12F	29	0.25	12	10.8	12	13.2	12.35	26	70	13	26	120	10	200	0.15	50		
KIA78DL15F	29	0.25	12	13.5	15	16.5	15.35	26	80	16	26	150	10	200	0.15	50		
KIA78DL05PI	29	0.25	20	4.5	5	5.5	5.35	26	30	6	26	50	10	200	0.15	50		
KIA78DL06PI	29	0.25	20	5.4	6	6.6	6.35	26	36	7	26	60	10	200	0.15	50		
KIA78DL08PI	29	0.25	20	7.2	8	8.8	8.35	26	45	9	26	80	10	200	0.15	50		
KIA78DL09PI	29	0.25	20	8.1	9	9.9	9.35	26	50	10	26	90	10	200	0.15	50		
KIA78DL10PI	29	0.25	20	9	10	11	10.35	26	60	11	26	100	10	200	0.15	50		
KIA78DL12PI	29	0.25	20	10.8	12	13.2	12.35	26	70	13	26	120	10	200	0.15	50		
KIA78DL15PI	29	0.25	20	13.5	15	16.5	15.35	26	80	16	26	150	10	200	0.15	50		

0.5A 3-Terminal Voltage Regulator (Positive)

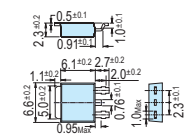
Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (mV)			Reg. Load (mV)			V _{DROP} (V)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Tj=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)	(Ta=25)	I _{OUT} (mA)		(Ta=25)	I _{OUT} (mA)		
				Min.	Typ.	Max.					Max.	Min.				
KIA78M05PI	35	0.5	20.8	4.8	5	5.2	10	100	7.2	25	100	5	500	2	500	
KIA78M08PI	35	0.5	20.8	7.7	8	8.3	14	100	10.5	25	100	5	500	2	500	
KIA78M12PI	35	0.5	20.8	11.5	12	12.5	19	100	14.5	30	240	5	500	2	500	
KIA78M15PI	35	0.5	20.8	14.4	15	15.6	23	100	17.5	30	300	5	500	2	500	
KIA78M05F	35	0.5	12	4.8	5	5.2	10	100	7.2	25	100	5	500	2	500	
KIA78M08F	35	0.5	12	7.7	8	8.3	14	100	10.5	25	100	5	500	2	500	
KIA78M12F	35	0.5	12	11.5	12	12.5	19	100	14.5	30	240	5	500	2	500	
KIA78M15F	35	0.5	12	14.4	15	15.6	23	100	17.5	30	300	5	500	2	500	
KIA78M05T	35	0.5	15	4.8	5	5.2	10	100	7.2	25	100	5	500	2	500	
KIA78M08T	35	0.5	15	7.7	8	8.3	14	100	10.5	25	100	5	500	2	500	
KIA78M12T	35	0.5	15	11.5	12	12.5	19	100	14.5	30	240	5	500	2	500	
KIA78M15T	35	0.5	15	14.4	15	15.6	23	100	17.5	30	300	5	500	2	500	

1A 3-Terminal Voltage Regulator (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (mV)			Reg. Load (mV)			V _{DROP} (V)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Tj=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)	(Ta=25)	I _{OUT}		(Ta=25)	I _{OUT} (A)		
				Min.	Typ.	Max.					Max.	Min.(mA)				
KIA7805AF	35	1	12	4.8	5	5.2	10	100	7	25	100	5	1.4	2	1	
KIA7806AF	35	1	12	5.75	6	6.25	11	120	8	25	120	5	1.4	2	1	
* KIA7807AF	35	1	12	6.72	7	7.28	12	140	9	25	140	5	1.4	2	1	
KIA7808AF	35	1	12	7.7	8	8.3	14	160	10.5	25	160	5	1.4	2	1	
KIA7809AF	35	1	12	8.64	9	9.36	15	180	11.5	26	180	5	1.4	2	1	
KIA7810AF	35	1	12	9.6	10	10.4	16	200	12.5	27	200	5	1.4	2	1	
KIA7812AF	35	1	12	11.5	12	12.5	19	240	14.5	30	240	5	1.4	2	1	
KIA7815AF	35	1	12	14.4	15	15.6	23	300	17.5	30	300	5	1.4	2	1	
KIA7818AF	40	1	12	17.3	18	18.7	27	360	21	33	360	5	1.4	2	1	
KIA7820AF	40	1	12	19.2	20	20.8	29	400	23	35	400	5	1.4	2	1	
KIA7824AF	40	1	12	23	24	25	33	480	27	38	480	5	1.4	2	1	
KIA7805API	35	1	20.8	4.8	5	5.2	10	100	7	25	100	5	1.4	2	1	
KIA7806API	35	1	20.8	5.75	6	6.25	11	120	8	25	120	5	1.4	2	1	
KIA7807API	35	1	20.8	6.72	7	7.28	12	140	9	25	140	5	1.4	2	1	
KIA7808API	35	1	20.8	7.7	8	8.3	14	160	10.5	25	160	5	1.4	2	1	
KIA7809API	35	1	20.8	8.64	9	9.36	15	180	11.5	26	180	5	1.4	2	1	
KIA7810API	35	1	20.8	9.6	10	10.4	16	200	12.5	27	200	5	1.4	2	1	
KIA7812API	35	1	20.8	11.5	12	12.5	19	240	14.5	30	240	5	1.4	2	1	
KIA7815API	35	1	20.8	14.4	15	15.6	23	300	17.5	30	300	5	1.4	2	1	
KIA7818API	40	1	20.8	17.3	18	18.7	27	360	21	33	360	5	1.4	2	1	
KIA7820API	40	1	20.8	19.2	20	20.8	29	400	23	35	400	5	1.4	2	1	
KIA7824API	40	1	20.8	23	24	25	33	480	27	38	480	5	1.4	2	1	

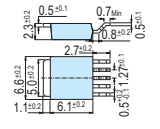
Note) * : Under development

1A SMD Type Low Dropout Voltage Regulator (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (%)			Reg. Load (%)			V _{DROP} (V)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Tj=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)	(Ta=25)	I _{OUT}		(Ta=25)	V _{IN} (V)		
				Min.	Typ.	Max.					Max.	Min.(mA)				
KIA78D25F	35	1	13	2.438	2.5	2.562	4.2	2.5	3.2	10	2	5	1	0.5	0.95V _O	
KIA78D33F	35	1	13	3.22	3.3	3.38	5	2.5	4	10	2	5	1	0.5	0.95V _O	
KIA78D35F	35	1	13	3.413	3.5	3.587	5.2	2.5	4.2	10	2	5	1	0.5	0.95V _O	
KIA78D05F	35	1	13	4.88	5	5.12	7	2.5	6	12	2	5	1	0.5	0.95V _O	
KIA78D06F	35	1	13	5.85	6	6.15	8	2.5	7	15	2	5	1	0.5	0.95V _O	
KIA78D08F	35	1	13	7.8	8	8.2	10	2.5	9	25	2	5	1	0.5	0.95V _O	
KIA78D09F	35	1	13	8.78	9	9.22	15	2.5	10	25	2	5	1	0.5	0.95V _O	
KIA78D10F	35	1	13	9.75	10	10.25	16	2.5	11	26	2	5	1	0.5	0.95V _O	
KIA78D12F	35	1	13	11.7	12	12.3	18	2.5	13	29	2	5	1	0.5	0.95V _O	
KIA78D15F	35	1	13	14.7	15	15.3	21	2.5	16	32	2	5	1	0.5	0.95V _O	

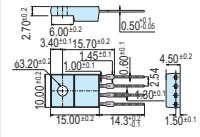
1A 5-Terminal Low Dropout Voltage Regulator (On/Off Controllable) (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (%)			Reg. Load (%)			V _{DROP} (V)		Package	Outline (Unit : mm)	
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)			V _{IN} (V)
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Max.			
KIA78R00F	35	1	13	1.26	1.29	1.32	15	2.5	11	28	2	5	1	0.5	0.95V _O		
KIA78R25F	35	1	13	2.438	2.5	2.562	4.2	2.5	3.2	10	2	5	1	0.5	0.95V _O		
KIA78R33F	35	1	13	3.22	3.3	3.38	5	2.5	4	10	2	5	1	0.5	0.95V _O		
KIA78R35F	35	1	13	3.413	3.5	3.587	5.2	2.5	4.2	10	2	5	1	0.5	0.95V _O		
KIA78R05F	35	1	13	4.88	5	5.12	7	2.5	6	12	2	5	1	0.5	0.95V _O		
KIA78R06F	35	1	13	5.85	6	6.15	8	2.5	7	15	2	5	1	0.5	0.95V _O		
KIA78R08F	35	1	13	7.8	8	8.2	10	2.5	9	25	2	5	1	0.5	0.95V _O		
KIA78R09F	35	1	13	8.78	9	9.22	15	2.5	10	25	2	5	1	0.5	0.95V _O		
KIA78R10F	35	1	13	9.75	10	10.25	16	2.5	11	26	2	5	1	0.5	0.95V _O		
KIA78R12F	35	1	13	11.7	12	12.3	18	2.5	13	29	2	5	1	0.5	0.95V _O		
KIA78R15F	35	1	13	14.7	15	15.3	21	2.5	16	32	2	5	1	0.5	0.95V _O		



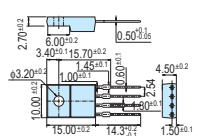
2A 4-Terminal Low Dropout Voltage Regulator (On/Off Controllable) (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (%)			Reg. Load (%)			V _{DROP} (V)		Package	Outline (Unit : mm)	
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)			V _{IN} (V)
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Max.			
KIA278R00PI	35	2	15	1.26	1.29	1.32	15	2.5	11	28	2	5	2	0.5	0.95V _O		
KIA278R25PI	35	2	15	2.438	2.5	2.562	4.2	2.5	3.2	10	2	5	2	0.5	0.95V _O		
KIA278R33PI	35	2	15	3.22	3.3	3.38	5	2.5	4	10	2	5	2	0.5	0.95V _O		
KIA278R35PI	35	2	15	3.413	3.5	3.587	5.2	2.5	4.2	10	2	5	2	0.5	0.95V _O		
KIA278R05PI	35	2	15	4.88	5	5.12	7	2.5	6	12	2	5	2	0.5	0.95V _O		
KIA278R06PI	35	2	15	5.85	6	6.15	8	2.5	7	15	2	5	2	0.5	0.95V _O		
KIA278R08PI	35	2	15	7.8	8	8.2	10	2.5	9	25	2	5	2	0.5	0.95V _O		
KIA278R09PI	35	2	15	8.78	9	9.22	15	2.5	10	25	2	5	2	0.5	0.95V _O		
KIA278R10PI	35	2	15	9.75	10	10.25	16	2.5	11	26	2	5	2	0.5	0.95V _O		
KIA278R12PI	35	2	15	11.7	12	12.3	18	2.5	13	29	2	5	2	0.5	0.95V _O		
KIA278R15PI	35	2	15	14.7	15	15.3	21	2.5	16	32	2	5	2	0.5	0.95V _O		

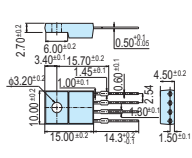
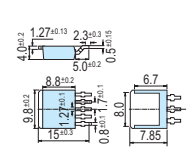


3A Terminal Low Dropout Voltage Regulator (On/Off Controllable) (Positive)

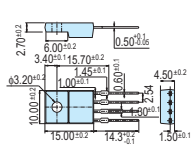
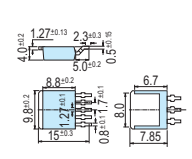
Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (%)			Reg. Load (%)			V _{DROP} (V)		Package	Outline (Unit : mm)	
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)			V _{IN} (V)
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Max.			
KIA378R00PI	35	3	15	1.26	1.29	1.32	15	2.5	11	28	2	5	3	0.5	0.95V _O		
KIA378R25PI	35	3	15	2.438	2.5	2.562	4.2	2.5	3.2	10	2	5	3	0.5	0.95V _O		
KIA378R33PI	35	3	15	3.22	3.3	3.38	5	2.5	4	10	2	5	3	0.5	0.95V _O		
KIA378R35PI	35	3	15	3.413	3.5	3.587	5.2	2.5	4.2	10	2	5	3	0.5	0.95V _O		
KIA378R05PI	35	3	15	4.88	5	5.12	7	2.5	6	12	2	5	3	0.5	0.95V _O		
KIA378R06PI	35	3	15	5.85	6	6.15	8	2.5	7	15	2	5	3	0.5	0.95V _O		
KIA378R08PI	35	3	15	7.8	8	8.2	10	2.5	9	25	2	5	3	0.5	0.95V _O		
KIA378R09PI	35	3	15	8.78	9	9.22	15	2.5	10	25	2	5	3	0.5	0.95V _O		
KIA378R10PI	35	3	15	9.75	10	10.25	16	2.5	11	26	2	5	3	0.5	0.95V _O		
KIA378R12PI	35	3	15	11.7	12	12.3	18	2.5	13	29	2	5	3	0.5	0.95V _O		
KIA378R15PI	35	3	15	14.7	15	15.3	21	2.5	16	32	2	5	3	0.5	0.95V _O		



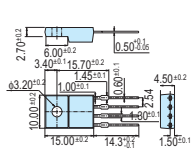
2A 4/5- Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (%)			Reg. Load (%)			I _{Q(OFF)} (μA)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)	(Ta=25)	I _{OUT}		(Ta=25)	V _{IN} (V)		
				Min.	Typ.	Max.					Max.	Min.(mA)				
KIA278R000PI	10	2	15	1.22	1.25	1.28	2.35	1	Vo+1	8.5	2	5	2	5	2.8	TO-220IS-4 
KIA278R015PI	10	2	15	1.45	1.5	1.55	2.35	1	2.5	5.5	2	5	2	5	3.8	
KIA278R018PI	10	2	15	1.75	1.8	1.85	2.35	1	2.5	5.5	2	5	2	5	3.8	
KIA278R020PI	10	2	15	1.95	2	2.05	4	1	3	6	2	5	2	5	4	
KIA278R025PI	10	2	15	2.438	2.5	2.562	4.5	1	3	6.5	2	5	2	5	4.5	
KIA278R030PI	10	2	15	2.925	3	3.075	5	1	3.5	7	2	5	2	5	5	
KIA278R033PI	10	2	15	3.218	3.3	3.382	5.3	1	3.8	7	2	5	2	5	5.3	
KIA278R050PI	10	2	15	4.88	5	5.12	7	1	5.5	7	2	5	2	5	7	
KIA278R000FP	10	2	35	1.225	1.25	1.275	2.35	1	Vo+1	8.5	2	5	2	5	2.8	D ³ PAK-5 
KIA278R015FP	10	2	35	1.45	1.5	1.55	2.35	1	2.5	5.5	2	5	2	5	3.8	
KIA278R018FP	10	2	35	1.75	1.8	1.85	2.35	1	2.5	5.5	2	5	2	5	3.8	
KIA278R020FP	10	2	35	1.95	2	2.05	4	1	3	6	2	5	2	5	4	
KIA278R025FP	10	2	35	2.438	2.5	2.562	4.5	1	3	6.5	2	5	2	5	4.5	
KIA278R030FP	10	2	35	2.925	3	3.075	5	1	3.5	7	2	5	2	5	5	
KIA278R033FP	10	2	35	3.218	3.3	3.382	5.3	1	3.8	7	2	5	2	5	5.3	
KIA278R050FP	10	2	35	4.88	5	5.12	7	1	5.5	7	2	5	2	5	7	

3A 4/5-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (%)			Reg. Load (%)			I _{Q(OFF)} (μA)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)	(Ta=25)	I _{OUT}		(Ta=25)	V _{IN} (V)		
				Min.	Typ.	Max.					Max.	Min.(mA)				
KIA378R000PI	7	3	15	1.22	1.25	1.28	2.35	1	Vo+1	6	2	5	3	5	2.8	TO-220IS-4 
KIA378R015PI	7	3	15	1.45	1.5	1.55	2.35	0.1	2.5	5.5	1	5	3.5	5	3.8	
KIA378R018PI	7	3	15	1.75	1.8	1.85	2.35	0.1	2.5	5.5	1	5	3.5	5	3.8	
KIA378R020PI	7	3	15	1.95	2	2.05	4	0.1	3	6	1	5	3.5	5	4	
KIA378R025PI	7	3	15	2.438	2.5	2.562	4.5	0.1	3	6.5	1	5	3.5	5	4.5	
KIA378R030PI	7	3	15	2.925	3	3.075	5	0.1	3.5	7	1	5	3.5	5	5	
KIA378R033PI	7	3	15	3.218	3.3	3.382	5.3	0.1	3.8	7	1	5	3.5	5	5.3	
KIA378R050PI	7	3	15	4.88	5	5.12	7	0.1	5.5	7	1	5	3.5	5	7	
KIA378R000FP	7	3	35	1.225	1.25	1.275	2.35	1	Vo+1	6	2	5	3	5	2.8	D ³ PAK-5 
KIA378R015FP	7	3	35	1.45	1.5	1.55	2.35	0.1	2.5	5.5	1	5	3.5	5	3.8	
KIA378R018FP	7	3	35	1.75	1.8	1.85	2.35	0.1	2.5	5.5	1	5	3.5	5	3.8	
KIA378R020FP	7	3	35	1.95	2	2.05	4	0.1	3	6	1	5	3.5	5	4	
KIA378R025FP	7	3	35	2.438	2.5	2.562	4.5	0.1	3	6.5	1	5	3.5	5	4.5	
KIA378R030FP	7	3	35	2.925	3	3.075	5	0.1	3.5	7	1	5	3.5	5	5	
KIA378R033FP	7	3	35	3.218	3.3	3.382	5.3	0.1	3.8	7	1	5	3.5	5	5.3	
KIA378R050FP	7	3	35	4.88	5	5.12	7	0.1	5.5	7	1	5	3.5	5	7	

5A 4/5-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (%)			Reg. Load (%)			I _{Q(OFF)} (μA)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)	(Ta=25)	I _{OUT}		(Ta=25)	V _{IN} (V)		
				Min.	Typ.	Max.					Max.	Min.(mA)				
KIA578R000PI	16	5	15	1.22	1.25	1.28	2.35	1	Vo+1	7	2	5	5	5	2.8	TO-220IS-4 
KIA578R015PI	16	5	15	1.45	1.5	1.55	2.35	1	2.5	5.5	2	5	5	5	3.8	
KIA578R018PI	16	5	15	1.75	1.8	1.85	2.35	1	2.5	5.5	2	5	5	5	3.8	
KIA578R020PI	16	5	15	1.95	2	2.05	4	1	3	6	2	5	5	5	4	
KIA578R025PI	16	5	15	2.438	2.5	2.562	4.5	1	3	6.5	2	5	5	5	4.5	
KIA578R030PI	16	5	15	2.925	3	3.075	5	1	3.5	7	2	5	5	5	5	
KIA578R033PI	16	5	15	3.218	3.3	3.382	5.3	1	3.8	7	2	5	5	5	5.3	
KIA578R050PI	16	5	15	4.88	5	5.12	7	1	5.5	7	2	5	5	5	7	

5A 4/5-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)

Type No.	Max. Ratings			V _{OUT} (V)				Reg. Line (%)			Reg. Load (%)			I _{Q(OFF)} (μA)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)	V _{IN} (V)		
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Typ.			
KIA578R000FP	16	5	35	1.22	1.25	1.28	2.35	1	Vo+1	7	2	5	5	5	2.8	D ² PAK-5	
KIA578R015FP	16	5	35	1.45	1.5	1.55	2.35	1	2.5	5.5	2	5	5	3.8			
KIA578R018FP	16	5	35	1.75	1.8	1.85	2.35	1	2.5	5.5	2	5	5	3.8			
KIA578R020FP	16	5	35	1.95	2	2.05	4	1	3	6	2	5	5	4			
KIA578R025FP	16	5	35	2.438	2.5	2.562	4.5	1	3	6.5	2	5	5	4.5			
KIA578R030FP	16	5	35	2.925	3	3.075	5	1	3.5	7	2	5	5	5			
KIA578R033FP	16	5	35	3.218	3.3	3.382	5.3	1	3.8	7	2	5	5	5.3			
KIA578R050FP	16	5	35	4.88	5	5.12	7	1	5.5	7	2	5	5	7			

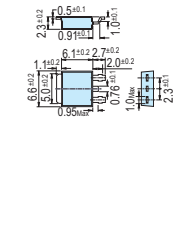
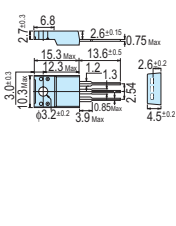
0.15A 3-Terminal Voltage Regulator (Negative)

Type No.	Mark	Max. Ratings			V _{OUT} (V)				Reg. Line (mV)			Reg. Load (mV)			V _{DROP} (V)		Package	Outline (Unit : mm)
		V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT} (mA)		(Ta=25)	I _{OUT} (mA)		
					Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.	Max.	Typ.			
KIA79L05F	9A	-35	0.15	500	-5.2	-5	-4.8	-10	150	-20	-7	60	1	100	1.7	40	SOT-89	
KIA79L06F	9B	-35	0.15	500	-6.24	-6	-5.76	-11	150	-21	-8.1	70	1	100	1.7	40		
KIA79L08F	9C	-35	0.15	500	-8.3	-8	-7.7	-14	175	-23	-10.5	80	1	100	1.7	40		
KIA79L09F	9D	-35	0.15	500	-9.36	-9	-8.64	-15	200	-24	-11.4	90	1	100	1.7	40		
KIA79L10F	9E	-35	0.15	500	-10.4	-10	-9.6	-16	230	-25	-12.5	90	1	100	1.7	40		
KIA79L12F	9F	-35	0.15	500	-12.5	-12	-11.5	-19	250	-27	-14.5	100	1	100	1.7	40		
KIA79S05P	-	-35	0.15	600	-5.2	-5	-4.8	-10	150	-20	-7	60	1	100	1.7	40	TO-92	
KIA79S06P	-	-35	0.15	600	-6.24	-6	-5.76	-11	150	-21	-8.1	70	1	100	1.7	40		
KIA79S08P	-	-35	0.15	600	-8.3	-8	-7.7	-14	175	-23	-10.5	80	1	100	1.7	40		
KIA79S09P	-	-35	0.15	600	-9.36	-9	-8.64	-15	200	-24	-11.4	90	1	100	1.7	40		
KIA79S10P	-	-35	0.15	600	-10.4	-10	-9.6	-16	230	-25	-12.5	90	1	100	1.7	40		
KIA79S12P	-	-35	0.15	600	-12.5	-12	-11.5	-19	250	-27	-14.5	100	1	100	1.7	40		
KIA79L05BP	-	-35	0.15	800	-5.2	-5	-4.8	-10	150	-20	-7	60	1	100	1.7	40	TO-92L	
KIA79L06BP	-	-35	0.15	800	-6.24	-6	-5.76	-11	150	-21	-8.1	70	1	100	1.7	40		
KIA79L08BP	-	-35	0.15	800	-8.3	-8	-7.7	-14	175	-23	-10.5	80	1	100	1.7	40		
KIA79L09BP	-	-35	0.15	800	-9.36	-9	-8.64	-15	200	-24	-11.4	90	1	100	1.7	40		
KIA79L10BP	-	-35	0.15	800	-10.4	-10	-9.6	-16	230	-25	-12.5	90	1	100	1.7	40		
KIA79L12BP	-	-35	0.15	800	-12.5	-12	-11.5	-19	250	-27	-14.5	100	1	100	1.7	40		

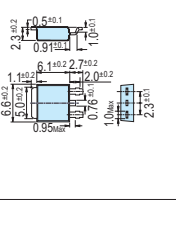
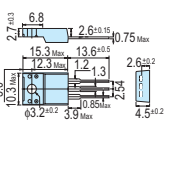
0.5A 3-Terminal Voltage Regulator (Negative)

Type No.	Max. Ratings			V _{OUT} (V)				Reg. Line (mV)			Reg. Load (mV)			V _{DROP} (V)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT} (mA)		(Ta=25)	I _{OUT} (mA)		
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.	Max.	Typ.			
KIA79M05PI	-35	0.5	20.8	-4.8	-5	-5.2	-10	50	-7	-25	100	5	500	1.1	500	TO-220IS	
KIA79M08PI	-35	0.5	20.8	-7.7	-8.0	-8.3	-14	80	-10	-25	160	5	500	1.1	500		
KIA79M12PI	-35	0.5	20.8	-11.5	-12	-12.5	-19	80	-14.5	-30	240	5	500	1.1	500		
KIA79M15PI	-35	0.5	20.8	-14.4	-15	-15.6	-23	80	-17.5	-30	240	5	500	1.1	500		
KIA79M05F	-35	0.5	12	-4.8	-5	-5.2	-10	50	-7	-25	100	5	500	1.1	500	DPAK	
KIA79M08F	-35	0.5	12	-7.7	-8.0	-8.3	-14	80	-10	-25	160	5	500	1.1	500		
KIA79M12F	-35	0.5	12	-11.5	-12	-12.5	-19	80	-14.5	-30	240	5	500	1.1	500		
KIA79M15F	-35	0.5	12	-14.4	-15	-15.6	-23	80	-17.5	-30	240	5	500	1.1	500		
KIA79M05T	-35	0.5	15	-4.8	-5	-5.2	-10	50	-7	-25	100	5	500	1.1	500	TO-126	
KIA79M08T	-35	0.5	15	-7.7	-8.0	-8.3	-14	80	-10	-25	160	5	500	1.1	500		
KIA79M12T	-35	0.5	15	-11.5	-12	-12.5	-19	80	-14.5	-30	240	5	500	1.1	500		
KIA79M15T	-35	0.5	15	-14.4	-15	-15.6	-23	80	-17.5	-30	240	5	500	1.1	500		

1A 3-Terminal Voltage Regulator (Negative)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (mV)			Reg. Load (mV)			V _{DROP} (V)		Package	Outline (Unit: mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)		I _{OUT} (mA)	I _{OUT} (mA)	I _{OUT} (mA)	I _{OUT} (mA)			
				Min.	Typ.	Max.		Max.	Min.					Max.		
KIA7905F	-35	1	12	-5.2	-5	-4.8	-10	50	-12	-8	100	5	1.5	2	1	
KIA7906F	-35	1	12	-6.25	-6	-5.75	-11	60	-13	-9	120	5	1.5	2	1	
KIA7908F	-35	1	12	-8.3	-8	-7.7	-14	80	-17	-11	160	5	1.5	2	1	
KIA7909F	-35	1	12	-9.3	-9	-8.7	-15	90	-19	-13	150	5	1.5	2	1	
KIA7910F	-35	1	12	-10.4	-10	-9.6	-16	100	-20	-14	180	5	1.5	2	1	
KIA7912F	-35	1	12	-12.5	-12	-11.5	-18	120	-22	-16	240	5	1.5	2	1	
KIA7915F	-35	1	12	-15.6	-15	-14.4	-23	150	-26	-20	300	5	1.5	2	1	
KIA7918F	-40	1	12	-18.7	-18	-17.3	-27	180	-30	-24	360	5	1.5	2	1	
KIA7920F	-40	1	12	-20.8	-20	-19.2	-30	180	-32	-26	360	5	1.5	2	1	
KIA7924F	-40	1	12	-25	-24	-23	-33	240	-36	-30	480	5	1.5	2	1	
KIA7905PI	-35	1	20.8	-5.2	-5	-4.8	-10	50	-12	-8	100	5	1.5	2	1	
KIA7906PI	-35	1	20.8	-6.25	-6	-5.75	-11	60	-13	-9	120	5	1.5	2	1	
KIA7908PI	-35	1	20.8	-8.3	-8	-7.7	-14	80	-17	-11	160	5	1.5	2	1	
KIA7909PI	-35	1	20.8	-9.3	-9	-8.7	-15	90	-19	-13	150	5	1.5	2	1	
KIA7910PI	-35	1	20.8	-10.4	-10	-9.6	-16	100	-20	-14	180	5	1.5	2	1	
KIA7912PI	-35	1	20.8	-12.5	-12	-11.5	-18	120	-22	-16	240	5	1.5	2	1	
KIA7915PI	-35	1	20.8	-15.6	-15	-14.4	-23	150	-26	-20	300	5	1.5	2	1	
KIA7918PI	-40	1	20.8	-18.7	-18	-17.3	-27	180	-30	-24	360	5	1.5	2	1	
KIA7920PI	-40	1	20.8	-20.8	-20	-19.2	-30	180	-32	-26	360	5	1.5	2	1	
KIA7924PI	-40	1	20.8	-25	-24	-23	-33	240	-36	-30	480	5	1.5	2	1	

0.5A 3-Terminal Low Dropout Voltage Regulator (Low Supply Current) (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (mV)			Reg. Load (mV)			I _Q (mA)		Package	Outline (Unit: mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)		I _{OUT} (mA)	I _{OUT} (mA)	I _{OUT} (mA)	I _{OUT} (mA)			
				Min.	Typ.	Max.		Max.	Min.					Max.		
KIA78DM015F	16	0.5	13	1.45	1.5	1.55	3.8	20	2.8	12	20	5	0.5	0.8	3.8	
KIA78DM018F	16	0.5	13	1.75	1.8	1.85	3.8	20	2.8	12	20	5	0.5	0.8	3.8	
KIA78DM020F	16	0.5	13	1.95	2	2.05	4	20	3	12	20	5	0.5	0.8	4	
KIA78DM025F	16	0.5	13	2.438	2.5	2.562	4.5	20	3.5	12	20	5	0.5	0.8	4.5	
KIA78DM030F	16	0.5	13	2.925	3	3.075	5	20	4	12	20	5	0.5	0.8	5	
KIA78DM033F	16	0.5	13	3.218	3.3	3.382	5.3	20	4.3	12	20	5	0.5	0.8	5.3	
KIA78DM050F	16	0.5	13	4.88	5	5.12	7	20	6	12	20	5	0.5	0.8	7	
*KIA78DM015S	16	0.5	8.3	1.45	1.5	1.55	3.8	20	2.8	12	20	5	0.5	0.8	3.8	
*KIA78DM018S	16	0.5	8.3	1.75	1.8	1.85	3.8	20	2.8	12	20	5	0.5	0.8	3.8	
*KIA78DM020S	16	0.5	8.3	1.95	2	2.05	4	20	3	12	20	5	0.5	0.8	4	
*KIA78DM025S	16	0.5	8.3	2.438	2.5	2.562	4.5	20	3.5	12	20	5	0.5	0.8	4.5	
*KIA78DM030S	16	0.5	8.3	2.925	3	3.075	5	20	4	12	20	5	0.5	0.8	5	
*KIA78DM033S	16	0.5	8.3	3.218	3.3	3.382	5.3	20	4.3	12	20	5	0.5	0.8	5.3	
*KIA78DM050S	16	0.5	8.3	4.88	5	5.12	7	20	6	12	20	5	0.5	0.8	7	
*KIA78DM015PI	16	0.5	20.8	1.45	1.5	1.55	3.8	20	2.8	12	20	5	0.5	0.8	3.8	
*KIA78DM018PI	16	0.5	20.8	1.75	1.8	1.85	3.8	20	2.8	12	20	5	0.5	0.8	3.8	
*KIA78DM020PI	16	0.5	20.8	1.95	2	2.05	4	20	3	12	20	5	0.5	0.8	4	
*KIA78DM025PI	16	0.5	20.8	2.438	2.5	2.562	4.5	20	3.5	12	20	5	0.5	0.8	4.5	
*KIA78DM030PI	16	0.5	20.8	2.925	3	3.075	5	20	4	12	20	5	0.5	0.8	5	
*KIA78DM033PI	16	0.5	20.8	3.218	3.3	3.382	5.3	20	4.3	12	20	5	0.5	0.8	5.3	
*KIA78DM050PI	16	0.5	20.8	4.88	5	5.12	7	20	6	12	20	5	0.5	0.8	7	

Note) *: Under development

0.5A 4-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)

Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (mV)			Reg. Load (mV)			I _{Q(OFF)} (μA)		Package	Outline (Unit : mm)	
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)			V _{IN} (V)
				Min.	Typ.	Max.			Max.	Min.		Max.	Max.				
KIA78RM000PI	16	0.5	15	1.225	1.25	1.275	2.8	20	2.8	12	20	5	0.5	-	-	TO-220IS-4	
KIA78RM015PI	16	0.5	15	1.45	1.5	1.55	3.8	20	2.8	12	20	5	0.5	5	2.8		
KIA78RM018PI	16	0.5	15	1.75	1.8	1.85	3.8	20	2.8	12	20	5	0.5	5	3.8		
KIA78RM020PI	16	0.5	15	1.95	2	2.05	4	20	3	12	20	5	0.5	5	3.8		
KIA78RM025PI	16	0.5	15	2.438	2.5	2.562	4.5	20	3.5	12	20	5	0.5	5	4		
KIA78RM030PI	16	0.5	15	2.925	3	3.075	5	20	4	12	20	5	0.5	5	4.5		
KIA78RM033PI	16	0.5	15	3.218	3.3	3.382	5.3	20	4.3	12	20	5	0.5	5	5		
KIA78RM050PI	16	0.5	15	4.88	5	5.12	7	20	6	12	20	5	0.5	5	5.3		

0.5A 5-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)

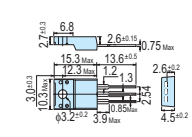
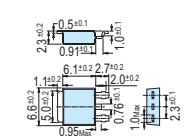
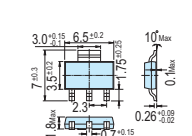
Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (mV)			Reg. Load (mV)			I _{Q(OFF)} (μA)		Package	Outline (Unit : mm)	
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)			V _{IN} (V)
				Min.	Typ.	Max.			Max.	Min.		Max.	Max.				
KIA78RM000F	16	0.5	13	1.225	1.25	1.275	2.8	20	2.8	12	20	5	0.5	-	-	DPAK-5	
KIA78RM015F	16	0.5	13	1.45	1.5	1.55	3.8	20	2.8	12	20	5	0.5	5	2.8		
KIA78RM018F	16	0.5	13	1.75	1.8	1.85	3.8	20	2.8	12	20	5	0.5	5	3.8		
KIA78RM020F	16	0.5	13	1.95	2	2.05	4	20	3	12	20	5	0.5	5	3.8		
KIA78RM025F	16	0.5	13	2.438	2.5	2.562	4.5	20	3.5	12	20	5	0.5	5	4		
KIA78RM030F	16	0.5	13	2.925	3	3.075	5	20	4	12	20	5	0.5	5	4.5		
KIA78RM033F	16	0.5	13	3.218	3.3	3.382	5.3	20	4.3	12	20	5	0.5	5	5		
KIA78RM050F	16	0.5	13	4.88	5	5.12	7	20	6	12	20	5	0.5	5	5.3		

1A 3-Terminal Low Dropout Voltage Regulator (Low Supply Current) (Positive)

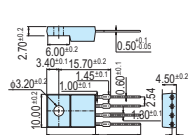
Type No.	Max. Ratings			V _{OUT} (V)			Reg. Line (mV)			Reg. Load (mV)			I _Q (mA)		Package	Outline (Unit : mm)	
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)			V _{IN} (V)
				Min.	Typ.	Max.			Max.	Min.		Max.	Max.				
* KIA78D015PI	16	1	20.8	1.45	1.5	1.55	3.8	20	2.8	12	20	5	1	0.8	3.8	TO-220IS	
* KIA78D018PI	16	1	20.8	1.75	1.8	1.85	3.8	20	2.8	12	20	5	1	0.8	3.8		
* KIA78D020PI	16	1	20.8	1.95	2	2.05	4	20	3	12	20	5	1	0.8	4		
* KIA78D025PI	16	1	20.8	2.438	2.5	2.562	4.5	20	3.5	12	20	5	1	0.8	4.5		
* KIA78D030PI	16	1	20.8	2.925	3	3.075	5	20	4	12	20	5	1	0.8	5		
* KIA78D033PI	16	1	20.8	3.218	3.3	3.382	5.3	20	4.3	12	20	5	1	0.8	5.3		
* KIA78D050PI	16	1	20.8	4.88	5	5.12	7	20	6	12	20	5	1	0.8	7		
KIA78D015F	16	1	13	1.45	1.5	1.55	3.8	20	2.8	12	20	5	1	0.8	3.8	DPAK-3	
KIA78D018F	16	1	13	1.75	1.8	1.85	3.8	20	2.8	12	20	5	1	0.8	3.8		
KIA78D020F	16	1	13	1.95	2	2.05	4	20	3	12	20	5	1	0.8	4		
KIA78D025F	16	1	13	2.438	2.5	2.562	4.5	20	3.5	12	20	5	1	0.8	4.5		
KIA78D030F	16	1	13	2.925	3	3.075	5	20	4	12	20	5	1	0.8	5		
KIA78D033F	16	1	13	3.218	3.3	3.382	5.3	20	4.3	12	20	5	1	0.8	5.3		
KIA78D050F	16	1	13	4.88	5	5.12	7	20	6	12	20	5	1	0.8	7		
* KIA78D015S	16	1	8.3	1.45	1.5	1.55	3.8	20	2.8	12	20	5	1	0.8	3.8	SOT-223	
* KIA78D018S	16	1	8.3	1.75	1.8	1.85	3.8	20	2.8	12	20	5	1	0.8	3.8		
* KIA78D020S	16	1	8.3	1.95	2	2.05	4	20	3	12	20	5	1	0.8	4		
* KIA78D025S	16	1	8.3	2.438	2.5	2.562	4.5	20	3.5	12	20	5	1	0.8	4.5		
* KIA78D030S	16	1	8.3	2.925	3	3.075	5	20	4	12	20	5	1	0.8	5		
* KIA78D033S	16	1	8.3	3.218	3.3	3.382	5.3	20	4.3	12	20	5	1	0.8	5.3		
* KIA78D050S	16	1	8.3	4.88	5	5.12	7	20	6	12	20	5	1	0.8	7		

Note) * : Under development

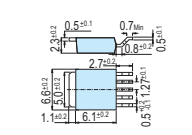
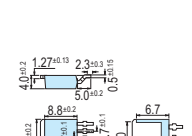
1A 3-Terminal Low Dropout Voltage Regulator (Quasi-LDO Type)

Type No.	Max. Ratings			V _{OUT} (V)				Reg. Line (mV)			Reg. Load (%)			V _{DROP} (V)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)	V _{IN} (V)		
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Typ.			
KIA1117API00	10	1	20.8	1.225	1.25	1.275	2.75	10	2.75	10	0.5	10	1	1.1	0.95Vo	TO-220IS	
KIA1117API15	10	1	20.8	1.47	1.5	1.53	3	10	3	10	0.5	10	1	1.1	0.95Vo		
KIA1117API18	10	1	20.8	1.764	1.8	1.836	3.3	10	3.3	10	0.5	10	1	1.1	0.95Vo		
KIA1117API25	10	1	20.8	2.45	2.5	2.55	4	10	4	10	0.5	10	1	1.1	0.95Vo		
KIA1117API28	10	1	20.8	2.793	2.85	2.907	4.35	10	4.35	10	0.5	10	1	1.1	0.95Vo		
KIA1117API33	10	1	20.8	3.234	3.3	3.366	4.8	10	4.8	10	0.5	10	1	1.1	0.95Vo		
KIA1117API50	10	1	20.8	4.9	5	5.1	6.5	10	6.5	10	0.5	10	1	1.1	0.95Vo		
KIA1117AF00	10	1	13	1.225	1.25	1.275	2.75	10	2.75	10	1	10	1	1.1	0.95Vo	DPAK-3	
KIA1117AF15	10	1	13	1.47	1.5	1.53	3	10	3	10	1	10	1	1.1	0.95Vo		
KIA1117AF18	10	1	13	1.764	1.8	1.836	3.3	10	3.3	10	1	10	1	1.1	0.95Vo		
KIA1117AF25	10	1	13	2.45	2.5	2.55	4	10	4	10	1	10	1	1.1	0.95Vo		
KIA1117AF28	10	1	13	2.793	2.85	2.907	4.35	10	4.35	10	1	10	1	1.1	0.95Vo		
KIA1117AF33	10	1	13	3.234	3.3	3.366	4.8	10	4.8	10	1	10	1	1.1	0.95Vo		
KIA1117AF50	10	1	13	4.9	5	5.1	6.5	10	6.5	10	1	10	1	1.1	0.95Vo		
KIA1117AS00	10	1	8.3	1.225	1.25	1.275	2.75	10	2.75	10	1	10	1	1.1	0.95Vo	SOT-223	
KIA1117AS15	10	1	8.3	1.47	1.5	1.53	3	10	3	10	1	10	1	1.1	0.95Vo		
KIA1117AS18	10	1	8.3	1.764	1.8	1.836	3.3	10	3.3	10	1	10	1	1.1	0.95Vo		
KIA1117AS25	10	1	8.3	2.45	2.5	2.55	4	10	4	10	1	10	1	1.1	0.95Vo		
KIA1117AS28	10	1	8.3	2.793	2.85	2.907	4.35	10	4.35	10	1	10	1	1.1	0.95Vo		
KIA1117AS33	10	1	8.3	3.234	3.3	3.366	4.8	10	4.8	10	1	10	1	1.1	0.95Vo		
KIA1117AS50	10	1	8.3	4.9	5	5.1	6.5	10	6.5	10	1	10	1	1.1	0.95Vo		

1A 4-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)

Type No.	Max. Ratings			V _{OUT} (V)				Reg. Line (mV)			Reg. Load (mV)			I _{Q(OFF)} (μA)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)	V _{IN} (V)		
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Max.			
KIA78R000PI	16	1	1.5	1.225	1.25	1.275	2.8	20	2.8	12	20	5	1	-	-	TO-220IS-4	
KIA78R015PI	16	1	1.5	1.45	1.5	1.55	3.8	20	2.8	12	20	5	1	5	3.8		
KIA78R018PI	16	1	1.5	1.75	1.8	1.85	3.8	20	2.8	12	20	5	1	5	3.8		
KIA78R020PI	16	1	1.5	1.95	2	2.05	4	20	3	12	20	5	1	5	4		
KIA78R025PI	16	1	1.5	2.438	2.5	2.562	4.5	20	3.5	12	20	5	1	5	4.5		
KIA78R030PI	16	1	1.5	2.925	3	3.075	5	20	4	12	20	5	1	5	5		
KIA78R033PI	16	1	1.5	3.218	3.3	3.382	5.3	20	4.3	12	20	5	1	5	5.3		
KIA78R050PI	16	1	1.5	4.88	5	5.12	7	20	6	12	20	5	1	5	7		

1A 5-Terminal Low Dropout Voltage Regulator (Low Supply Current & On/Off Controllable) (Positive)

Type No.	Max. Ratings			V _{OUT} (V)				Reg. Line (mV)			Reg. Load (mV)			I _{Q(OFF)} (μA)		Package	Outline (Unit : mm)
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)	V _{IN} (V)		
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Max.			
KIA78R000F	16	1	1.3	1.225	1.25	1.275	2.8	20	2.8	12	20	5	1	-	-	DPAK-5	
KIA78R015F	16	1	1.3	1.45	1.5	1.55	3.8	20	2.8	12	20	5	1	5	3.8		
KIA78R018F	16	1	1.3	1.75	1.8	1.85	3.8	20	2.8	12	20	5	1	5	3.8		
KIA78R020F	16	1	1.3	1.95	2	2.05	4	20	3	12	20	5	1	5	4		
KIA78R025F	16	1	1.3	2.438	2.5	2.562	4.5	20	3.5	12	20	5	1	5	4.5		
KIA78R030F	16	1	1.3	2.925	3	3.075	5	20	4	12	20	5	1	5	5		
KIA78R033F	16	1	1.3	3.218	3.3	3.382	5.3	20	4.3	12	20	5	1	5	5.3		
KIA78R050F	16	1	1.3	4.88	5	5.12	7	20	6	12	20	5	1	5	7		
KIA78R000FP	16	1	2	1.225	1.25	1.275	2.8	20	2.8	12	20	5	1	-	-	D ² PAK-5	
KIA78R015FP	16	1	2	1.45	1.5	1.55	3.8	20	2.8	12	20	5	1	5	3.8		
KIA78R018FP	16	1	2	1.75	1.8	1.85	3.8	20	2.8	12	20	5	1	5	3.8		
KIA78R020FP	16	1	2	1.95	2	2.05	4	20	3	12	20	5	1	5	4		
KIA78R025FP	16	1	2	2.438	2.5	2.562	4.5	20	3.5	12	20	5	1	5	4.5		
KIA78R030FP	16	1	2	2.925	3	3.075	5	20	4	12	20	5	1	5	5		
KIA78R033FP	16	1	2	3.218	3.3	3.382	5.3	20	4.3	12	20	5	1	5	5.3		
KIA78R050FP	16	1	2	4.88	5	5.12	7	20	6	12	20	5	1	5	7		

Integrated Circuit

1A 1.2V 3-Terminal Low Dropout Voltage Regulator (Quasi-LDO Type)

Type No.	Max. Ratings			V _{OUT} (V)				Reg. Line (%)			Reg. Load (%)		V _{DROP} (V)		Package	Outline (Unit : mm)	
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)			V _{IN} (V)
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Typ.			
KIA1112F	10	1	13	1.176	1.2	1.224	2.5	10	2.5	10	0.5	10	1	1.3	0.95V _O	DPAK	
KIA1112ST	10	1	8.3	1.176	1.2	1.224	2.5	10	2.5	10	0.5	10	1	1.3	0.95V _O	SOT-223T	

1.5A 3-Terminal Low Dropout Voltage Regulator (Quasi-LDO Type)

Type No.	Max. Ratings			V _{OUT} (V)				Reg. Line (%)			Reg. Load (mV)		V _{DROP} (V)		Package	Outline (Unit : mm)	
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)			V _{IN} (V)
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Typ.			
KIA1086FP00	12	1.5	35	1.225	1.25	1.275	Vo+1.5	0.2	Vo+1.5	10	1%	10	1.5	1.3	0.95V _O	D ² PAK	
KIA1086FP15	12	1.5	35	1.47	1.5	1.53	Vo+1.5	0.2	Vo+1.5	10	15	10	1.5	1.3	0.95V _O		
KIA1086FP18	12	1.5	35	1.764	1.8	1.836	Vo+1.5	0.2	Vo+1.5	10	18	10	1.5	1.3	0.95V _O		
KIA1086FP25	12	1.5	35	2.45	2.5	2.55	Vo+1.5	0.2	Vo+1.5	10	25	10	1.5	1.3	0.95V _O		
KIA1086FP33	12	1.5	35	3.235	3.3	3.365	Vo+1.5	0.2	Vo+1.5	10	33	10	1.5	1.3	0.95V _O		
KIA1086FP50	12	1.5	35	4.9	5	5.1	Vo+1.5	0.2	Vo+1.5	10	50	10	1.5	1.3	0.95V _O		
KIA1086F00	12	1.5	13	1.225	1.25	1.275	Vo+1.5	0.2	Vo+1.5	10	1%	10	1.5	1.3	0.95V _O	DPAK	
KIA1086F15	12	1.5	13	1.47	1.5	1.53	Vo+1.5	0.2	Vo+1.5	10	15	10	1.5	1.3	0.95V _O		
KIA1086F18	12	1.5	13	1.764	1.8	1.836	Vo+1.5	0.2	Vo+1.5	10	18	10	1.5	1.3	0.95V _O		
KIA1086F25	12	1.5	13	2.45	2.5	2.55	Vo+1.5	0.2	Vo+1.5	10	25	10	1.5	1.3	0.95V _O		
KIA1086F33	12	1.5	13	3.235	3.3	3.365	Vo+1.5	0.2	Vo+1.5	10	33	10	1.5	1.3	0.95V _O		
KIA1086F50	12	1.5	13	4.9	5	5.1	Vo+1.5	0.2	Vo+1.5	10	50	10	1.5	1.3	0.95V _O		

3A 3-Terminal Low Dropout Voltage Regulator (Quasi-LDO Type)

Type No.	Max. Ratings			V _{OUT} (V)				Reg. Line (%)			Reg. Load (mV)		V _{DROP} (V)		Package	Outline (Unit : mm)	
	V _{IN} (V)	I _O (A)	P _D (W) (Ta=25)	(Ta=25)			V _{IN} (V)	(Ta=25)	V _{IN} (V)		(Ta=25)	I _{OUT}		(Ta=25)			V _{IN} (V)
				Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Typ.			
KIA1085FP00	12	3	35	1.225	1.25	1.275	Vo+1.5	0.2	Vo+1.5	10	1%	10	3	1.3	0.95V _O	D ² PAK	
KIA1085FP15	12	3	35	1.47	1.5	1.53	Vo+1.5	0.2	Vo+1.5	10	15	10	3	1.3	0.95V _O		
KIA1085FP18	12	3	35	1.764	1.8	1.836	Vo+1.5	0.2	Vo+1.5	10	18	10	3	1.3	0.95V _O		
KIA1085FP25	12	3	35	2.45	2.5	2.55	Vo+1.5	0.2	Vo+1.5	10	25	10	3	1.3	0.95V _O		
KIA1085FP33	12	3	35	3.235	3.3	3.365	Vo+1.5	0.2	Vo+1.5	10	33	10	3	1.3	0.95V _O		
KIA1085FP50	12	3	35	4.9	5	5.1	Vo+1.5	0.2	Vo+1.5	10	50	10	3	1.3	0.95V _O		
KIA1085F00	12	3	13	1.225	1.25	1.275	Vo+1.5	0.2	Vo+1.5	10	1%	10	3	1.3	0.95V _O	DPAK	
KIA1085F15	12	3	13	1.47	1.5	1.53	Vo+1.5	0.2	Vo+1.5	10	15	10	3	1.3	0.95V _O		
KIA1085F18	12	3	13	1.764	1.8	1.836	Vo+1.5	0.2	Vo+1.5	10	18	10	3	1.3	0.95V _O		
KIA1085F25	12	3	13	2.45	2.5	2.55	Vo+1.5	0.2	Vo+1.5	10	25	10	3	1.3	0.95V _O		
KIA1085F33	12	3	13	3.235	3.3	3.365	Vo+1.5	0.2	Vo+1.5	10	33	10	3	1.3	0.95V _O		
KIA1085F50	12	3	13	4.9	5	5.1	Vo+1.5	0.2	Vo+1.5	10	50	10	3	1.3	0.95V _O		

White LED Driver IC

Type No.	Mode	V _{IN} [V]	LED Quantity	Efficiency (Max.)	I _{LED} Tolerance	f _{sw} (kHz)	I _{OUT} (mA)	Package	Outline (Unit : mm)
KIB3402F	Inductor	2.8~5.5	4-Serial	84%(@20mA)	-	1.1	20	TS6	
KAB3403T	Inductor	2.7~5.5	4-Serial	85%(@20mA)	-	1.1	20		
KAB3404T	Inductor	2.7~5.5	6-Serial	80%(@20mA)	-	1.1	20		
KAB3405T	Inductor	2.8~5.5	8-Serial	84%(@20mA)	-	1.0	20		
KAC3301QN	Charge-Pump	2.7~5.5	4-Parallel	93%(@20mA)	± 2%	1	120	QFN-16	
KAC3302QN	Charge-Pump	2.7~5.5	6-Parallel	93%(@20mA)	± 3%	1	120	TQFN-16	
KAC3304DN	Charge-Pump	2.7~5.5	4-Parallel	93%(@20mA)	± 2%	1	80	UDFN-12	
KAC3305DN	Charge-Pump	2.7~5.5	Flash LED	80%(@700mA)	-	1	700	TDFN-8	

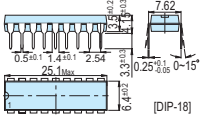
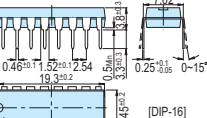
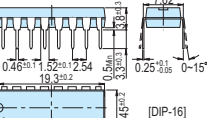
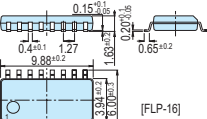
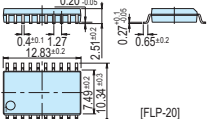
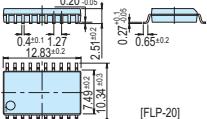
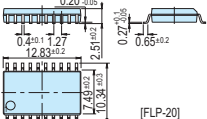
Note) * : Under development

Switching Regulator IC (DC/DC Converter)

Type No	V _{IN} (V)	V _{OUT} (V)	f _{sw} (kHz)	I _{OUT} (A)	Package	Outline (Unit : mm)
KIA2576FP00	5 40	1.23 37	52	3	D ² PAK-5	
KIA2576FP33	5 40	3.3				
KIA2576FP50	7.5 40	5				
KIA2576FP12	15 40	12				
KIA2576PI00	5 40	1.23 3	52	3	TO-220IS-5	
KIA2576PI33	5 40	3.3				
KIA2576PI50	7.5 40	5				
KIA2576PI12	15 40	12				
KIA34063A	3 40	1.25 37	100	1.5	DIP-8	
KIA34063AF	3 40	1.25 37	100	1.5	FLP-8	
KAC3424DN	3.5~5.5	0.8~V _{IN}	2 MHz	1.5	TDFN-6	
* KIB3426F	4.75~24	0.8~21	600	3	PSOIC-8	

Note) * : Under development

Transistor Array & Interface Driver IC

Type No.	Function	Unit	Clamp Diode	V _{OUT} (V)	I _{OUT} (mA)	System V _{CC} (V)	Package	Outline (Unit : mm)
KID65001AF	Darlington Driver	7		50	500	Free	FLP-16	
KID65002AF	Darlington Driver	7		50	500	14 25		
KID65003AF	Darlington Driver	7		50	500	5		
KID65004AF	Darlington Driver	7		50	500	6 15		
KID65001AP	Darlington Driver	7		50	500	Free	DIP-16	
KID65002AP	Darlington Driver	7		50	500	14 25		
KID65003AP	Darlington Driver	7		50	500	5		
KID65004AP	Darlington Driver	7		50	500	6 15		
KID65083AF	Darlington Driver	8		50	500	5	FLP-20	
KID65084AF	Darlington Driver	8		50	500	6 15		
KID65083AP	Darlington Driver	8		50	500	5	DIP-18	
KID65084AP	Darlington Driver	8		50	500	6 15		
KID65501F	Single Driver (Common Emitter)	7		35	200	Free	FLP-16	
KID65502F	Single Driver (Common Emitter)	7		35	200	14 25		
KID65503F	Single Driver (Common Emitter)	7		35	200	5		
KID65504F	Single Driver (Common Emitter)	7		35	200	6 15		
KID65505F	Single Driver (Common Collector)	7		35	200	Free		
KID65506F	Single Driver (Common Collector)	7		35	200	5		
KID65507F	Single Driver (Isolated)	5		35	200	Free	DIP-16	
KID65501P	Single Driver (Common Emitter)	7		35	200	Free		
KID65502P	Single Driver (Common Emitter)	7		35	200	14 25		
KID65503P	Single Driver (Common Emitter)	7		35	200	5		
KID65504P	Single Driver (Common Emitter)	7		35	200	6 15		
KID65505P	Single Driver (Common Collector)	7		35	200	Free		
KID65506P	Single Driver (Common Collector)	7		35	200	5	FLP-20	
KID65507P	Single Driver (Isolated)	5		35	200	Free		
KID65783AF	High Voltage Source Driver	8		50	500	5	FLP-20	
KID65783AP	High Voltage Source Driver	8		50	500	5	DIP-18	

Telecommunication IC

Type No.	Function	Operating Voltage(V)	Package	Outline (Unit : mm : Max.)
KIA6419F	55mW AF Power Amplifier	2~16	FLP-8	
KIA6419P	55mW AF Power Amplifier	2~16	DIP-8	

Power Supply Controller

Type No.	Function	Operating Voltage(V)	Package	Outline (Unit : mm)
KIA494AF	Voltage Mode PWM Controller	7.0 40	FLP-16	
KIA494AP	Voltage Mode PWM Controller	7.0 40	DIP-16	
KIA3842F	Current Mode PWM Controller	8.5 30	FLP-14	
KIA3842P	Current Mode PWM Controller	8.5 30	DIP-8	

Logic LMOS IC

Type No.	Mark	Max. Ratings					Function	Package	Outline (Unit : mm)
		Supply Voltage V_{CC} (V)	DC Input Voltage V_{IN} (V)	DC Output Voltage V_{OUT} (V)	DC Output Current I_{OUT} (mA)	Power Dissipation P_D (mW)			
KIC7S00FU	SP	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 12.5	200	2 Input NAND Gate	USV	
KIC7S02FU	SQ	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 12.5	200	2 Input NOR Gate		
KIC7S04FU	SR	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 12.5	200	Inverter Gate		
KIC7S08FU	ST	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 12.5	200	2 Input AND Gate		
KIC7S14FU	SU	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 12.5	200	Schmitt Trigger Inverter		
KIC7S32FU	SV	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 12.5	200	2 Input OR Gate		
KIC7S66FU	SW	-0.5 10	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 12.5	200	Analog Switch		
KIC7S86FU	SX	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 12.5	200	Exclusive OR Gate		
KIC7SH04FU	VR	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	Inverter		
KIC7SH08FU	VT	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	2 Input AND Gate		
KIC7SU04FU	SS	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 12.5	200	Inverter Gate (Unbuffer)		
KIC7W00FK	00	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	Dual 2 Input NAND Gate	US8	
KIC7W04FK	04	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	Triple Inverter Gate		
KIC7W08FK	08	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	Dual 2 Input AND Gate		
KIC7W14FK	14	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	Triple Schmitt Trigger Inverter		
KIC7W32FK	32	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	Dual 2 Input OR Gate		
KIC7W53FK	53	-0.5 10	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	2 Channel Multiplexer		
KIC7W66FK	66	-0.5 10	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	Dual Analog Switch		
KIC7W74FK	74	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	D Flip Flop		
KIC7W125FK	125	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 35	200	Dual 3 State Buffer		
KIC7W126FK	126	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 35	200	Dual 3 State Buffer		
KIC7W241FK	241	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 35	200	Dual 3 State Buffer		
KIC7WU04FK	U04	-0.5 7	-0.5 $V_{CC}+0.5$	-0.5 $V_{CC}+0.5$	± 25	200	Triple Inverter Gate (Unbuffer)		
KIC7SZ00FU	TA	-0.5 6	-0.5 6	-0.5 6	± 50	200	2 Input NAND Gate	USV	
KIC7SZ02FU	TB	-0.5 6	-0.5 6	-0.5 6	± 50	200	2 Input NOR Gate		
KIC7SZ04FU	TC	-0.5 6	-0.5 6	-0.5 6	± 50	200	Inverter Gate		
KIC7SZ05FU	TD	-0.5 6	-0.5 6	-0.5 6	± 50	200	Open-drain Inverter Gate		
KIC7SZ08FU	TE	-0.5 6	-0.5 6	-0.5 6	± 50	200	2 Input AND Gate		
KIC7SZ14FU	TF	-0.5 6	-0.5 6	-0.5 6	± 50	200	Schmitt Trigger Inverter		
KIC7SZ32FU	TG	-0.5 6	-0.5 6	-0.5 6	± 50	200	2 Input OR Gate		
KIC7SZ66FU	TH	-0.5 7	-0.5 7	-0.5 6	± 50	200	Analog Switch		
KIC7SZ86FU	TJ	-0.5 6	-0.5 6	-0.5 6	± 50	200	Exclusive OR Gate		
KIC7SZ125FU	TK	-0.5 6	-0.5 6	-0.5 6	± 50	200	3-State Buffer		
KIC7SZ126FU	TL	-0.5 6	-0.5 6	-0.5 6	± 50	200	3-State Buffer		
KIC7SZU04FU	TN	-0.5 6	-0.5 6	-0.5 $V_{CC}+0.5$	± 50	200	Inverter Gate (Unbuffer)		
KIC7SZ38FU	TP	-0.5 6	-0.5 6	-0.5 6	50	200	Open-drain AND Gate		

Logic LMOS IC

Type No.	Mark	Max. Ratings					Function	Package	Outline (Unit : mm)
		Supply Voltage V _{CC} (V)	DC Input Voltage V _{IN} (V)	DC Output Voltage V _{OUT} (V)	DC Output Current I _{OUT} (mA)	Power Dissipation P _D (mW)			
KIC7WZ00FK	Z00	-0.5 6	-0.5 6	-0.5 6	± 50	200	Dual 2 Input NAND Gate	US8 	
KIC7WZ08FK	Z08	-0.5 6	-0.5 6	-0.5 6	± 50	200	Dual 2 Input AND Gate		
KIC7WZ38FK	Z38	-0.5 6	-0.5 6	-0.5 6	50	200	Dual Open-drain AND Gate		
KIC7WZ02FK	Z02	-0.5 7	-0.5 7	-0.5 7	± 50	200	Dual 2 Input NOR Gate		
KIC7WZ32FK	Z32	-0.5 6	-0.5 6	-0.5 6	± 50	200	Dual 2 Input OR Gate		
KIC7WZ04FK	Z04	-0.5 6	-0.5 6	-0.5 6	± 50	200	Triple Inverter Gate		
KIC7WZU04FK	ZU04	-0.5 7	-0.5 7	-0.5 7	± 50	200	Triple Inverter Gate (Unbuffer)		
KIC7WZ05FK	Z05	-0.5 6	-0.5 6	-0.5 6	50	200	Dual Open-drain Inverter Gate		
KIC7WZ14FK	Z14	-0.5 6	-0.5 6	-0.5 6	± 50	200	Triple Schmitt Trigger Inverter		
KIC7WZ34FK	Z34	-0.5 6	-0.5 6	-0.5 6	± 50	200	Triple MON Inverter Gate		
KIC7WZ74FK	Z74	-0.5 6	-0.5 6	-0.5 6	± 50	200	D Flip Flop		
KIC7WZ125FK	Z125	-0.5 7	-0.5 7	-0.5 7	± 50	200	Dual 3 State Buffer		
KIC7WZ126FK	Z126	-0.5 7	-0.5 7	-0.5 7	± 50	200	Dual 3 State Buffer		
KIC7WZ241FK	Z241	-0.5 7	-0.5 7	-0.5 7	± 50	200	Dual 3 State Buffer		

Other

Type No.	Function	Operating Voltage(V)	Package	Outline (Unit : mm)
KIA555F	Single Timer	4.5 16	FLP-8	
KIA555P	Single Timer	4.5 16	DIP-8	
KIA6987P	Rx Demodulator	3.5 12	DIP-16	
KIA6988P	CDI Controllers	8.8	DIP-14	
KIA3820F	Gate Pulse Modulator	15~38	FLP-8	
KIA3820FK	Gate Pulse Modulator	15~38	US8	
KUSB50QN	High-Speed(480Mbps) USB2.0 DPDT Switch	-0.5~4.6	QFN-10	

Integrated Circuit

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
AN1324	Panasonic	KIA324P/F	MC7900CT	Onsemi	KIA7900PI	JA431	NEC	KIA431/F/A/AF
AN1393/S	Panasonic	KIA393P/F	MJM2901D/M	JRC	KIA339P/F	JA7805 24	NEC	KIA7805-24API
AN1431T	Panasonic	KIA431	MN1280	Panasonic	KIA7019 45AP/AF	JA7900C	NEC	KIA7900PI
AN4558/S	Panasonic	KIA4558P/F	NC7S04P5X	Fairchild	KIC7SH04FU	JA7900CKC	NEC	KIA7900PI
AN6553/S	Panasonic	KIA4559P/F	NC7S08P5X	Fairchild	KIC7SH08FU	JA2981C	NEC	KID65783AP
AN6912/S	Panasonic	KIA339P/F	NJM431L/U	JRC	KIA431/F/A/AF	PC324C	NEC	KIA324P/F
AN7805-24	Panasonic	KIA7805-24API	NJM555D/M	JRC	KIA555P/F	PC339C/G	NEC	KIA393P/F
AN78L05-24	Panasonic	KIA78S05-24P	NJM22360AD/AM	NJRC	KIA34063A/AF	PC393C/G	NEC	KIA393P/F
AN7900F	Panasonic	KIA7900PI	NJM2614D	NJRC	KIA6987P	PC494/C	NEC	KIA494AP/AF
AS431LAN/AMI	Alpha	KIA431BP/BF	NJM2902D	JRC	KIA324P/F	PC1093J/T	NEC	KIA431/F/A/AF
BA033 15FP	Rohm	KIA78D33 15F	NJM2903D/M	JRC	KIA393P/S/F	PC1555C	NEC	KIA555P/F
BA222	Rohm	KIA555P/F	NJM4558D/S/M	JRC	KIA4558P/S/F	PC4558C/G	NEC	KIA4558P/F
BA223	Rohm	KIA555P/F	NJM4559D/S/M	JRC	KIA4559P/S/F	PC4559C/G	NEC	KIA4559P/F
BA4558/F/N	Rohm	KIA4558P/F	NJM78xxDLA	NJRC	KIA78xxAF	PC78050. 24A	NEC	KIA7805 24API
BA10324/F	Rohm	KIA324P/F	NJM7900A/FA	JRC	KIA7900PI	PC78L05 15J	NEC	KIA78L05 15F
BA10339/F	Rohm	KIA339P/F	PQ3RD13	Sharp	KIA78R33API	PC78M05 24A	NEC	KIA78M05 24PI
BA10358/F/N	Rohm	KIA358P/F	PQ3RD23	Sharp	KIA278R33PI	PC7900A	NEC	KIA7900PI
BA10393/F/N	Rohm	KIA393P/F	PQ3RF23	Sharp	KIA278R33PI	BA**SFP	Rohm	KIA78R**F
HA17431P/UA	Renesas	KIA431/F	PQ**RF11	Sharp	KIA78R05 15PI	PQ**TZ*1	Sharp	KIA78R**F
KA278R**	Fairchild	KIA278R**PI	PQ**RF21	Sharp	KIA278R**PI	PQ**RF33	Sharp	KIA378R**PI
KA34063A/AD	Fairchild	KIA34063A/AF	PST523	Mitsumi	KIA7019 45AP/AF	KA378R**	Fairchild	KIA378R**PI
KA8602F	Fairchild	KIA6419F	PST524	Mitsumi	KIA7019 45AP/AF	LM1117MPX/DTX/T**	N/S	KIA1117F/PI**
KA78R**	Fairchild	KIA78R**PI	SN74AHCT1G**	TI	KIC7S**FU	LD1117S/DT/V**	STM	KIA1117AF/API**
L5431	Sanyo	KIA431	TA75339P	Toshiba	KIA339P	FAN1117ASX/ADX/AT**	Fairchild	KIA1117AF/API**
L78M00T	Sanyo	KIA78M00PI	TA75393P	Toshiba	KIA393P	KIA1086F/FP**	N/S	KIA1086F/FP**
L79M00T	Sanyo	KIA79M00PI	TA75558P	Toshiba	KIA4558P/F	KIA1086F/FP**	STM	KIA1086F/FP**
LA6324N/NM	Sanyo	KIA324P/F	TA75559P	Toshiba	KIA4559P/F	KIA1086F/FP**	Fairchild	KIA1086F/FP**
LA6339/M	Sanyo	KIA339P/F	TA7555P/F	Toshiba	KIA555P/F	TLV431A	Onsemi	KIA2431AT/AP
LA6358N/NM	Sanyo	KIA358P/F	TA75S01F	Toshiba	KIA75S358F	TA76432FC/S	Toshiba	KIA2431AT/AP
LA6393D/M	Sanyo	KIA393P/F	TA75S393F	Toshiba	KIA75S393F	RC431AM/AT	Fairchild	KIA2431AT/AP
LA6458D/M	Sanyo	KIA4558P/F	TA75S558F	Toshiba	KIA75S558F	TS4321ILT	STM	KIA2431AS
LA8501	Sanyo	KIA6401P/F	TA76431S/F	Toshiba	KIA431/F	PQ**DZ1*	Sharp	KIA78R**F
LB1211	Sanyo	KID65501P	TA76494P	Toshiba	KIA494AP/AF	PQ***EZ5MZ*	Sharp	KIA78RM***F
LB1212	Sanyo	KID65502P	TA7805 24S/SB	Toshiba	KIA7805 24API	PQ***EZ01Z*	Sharp	KIA78R***F
LB1213/M	Sanyo	KID65503P/F	TA78xxF	Toshiba	KIA78xxAF	PQ05RA11	Sharp	KIA78R050PI
LB1214	Sanyo	KID65504P	TA78DL05 15S	Toshiba	KIA78DL05 15PI	PQ30RV11	Sharp	KIA78R000PI
LB1215	Sanyo	KID65505P	TA78DLxxAF	Toshiba	KIA78DLxxF	PQ30RV21	Sharp	KIA278R00PI
LB1216	Sanyo	KID65506P	TA78DS05BP	Toshiba	KIA78DS05BP	PQ30RV31	Sharp	KIA378R00PI
LB1217	Sanyo	KID65507P	TA78L005 24AP/F	Toshiba	KIA78L05 24BP/F	BA**BC0FP/T	Rohm	KIA78D***F/PI
LB1231	Sanyo	KID65001AP	TA78L05 24S	Toshiba	KIA78S05 24P	BA**BC0FP/T	Rohm	KIA78D**F/PI
LB1232	Sanyo	KID65002AP	TA78M05 24S/SB	Toshiba	KIA78M05 24PI	BA**BC0WFP/WT	Rohm	KIA78R**F/PI
LB1233	Sanyo	KID65003AP	TA79005 24S/SB	Toshiba	KIA7905 24PI	BA**BC0WFP/WT	Rohm	KIA78R***F/PI
LB1234	Sanyo	KID65004AP	TA79L05 24P/F	Toshiba	KIA79L05 24BP/F	BA178**FP/T	Rohm	KIA78**AF/API
LB8555D/M	Sanyo	KIA555P/F	TA79M05 24S/SB	Toshiba	KIA79M05 24PI	BA178M**FP/T	Rohm	KIA78M**F/PI
LM324/N	Onsemi	KIA324P/F	TC7S**FU	Toshiba	KIC7S**FU	SC604***	Semtech	KAC3301QN
LM336	N/S	KIA431/F/A/AF	TC7SZ**FU	Toshiba	KIC7SZ**FU	LM2733	N/S	KIB3450T
LM339/N	N/S	KIA339P/F	TC7WZ**FK	Toshiba	KIC7WZ**FK	AP1086	Diodes	KIA1086
LM358	Onsemi	KIA358P/F	TC7SH04FU	Toshiba	KIC7SH04FU	AZ1085	BCD	KIA1085
LM393/N	N/S	KIA393P/F	TC7SH08FU	Toshiba	KIC7SH08FU	AP1086D/K**	Diodes	KIA1086F/FP**
LM555/CN	Renesas	KIA555P/F	TC7W**FK	Toshiba	KIC7W**FK	AZ1085D/S**	BCD	KIA1085F/FP**
LM7900CT	N/S	KIA7900PI	TD62001 4P/AP	Toshiba	KID65001 4AP	R1114N/D**	Ricoh	KIC3211SN/T-**
M51943	Renesas	KIA7042AP/AF	TD62083AP/AF	Toshiba	KID65083AP/AF	LD1085D2M**	STM	KIA1085FP**
M51944	Renesas	KIA7442P/F	TD62084AP/AF	Toshiba	KID65084AP/AF	FAN1587AM***	Fairchild	KIA1085FP**
M51957B	Renesas	KIA7125F/FV	TD62501 7P	Toshiba	KID65501 7P	FAN1587AD**	Fairchild	KIA1085F**
M54523P	Renesas	KID65003AP	TD62783AP/AF	Toshiba	KID65783AP/AF			
M54563P	Renesas	KID65783AP	TL431	Onsemi	KIA431/F/A/AF			
M5F7900	Renesas	KIA7900PI	TL431	TI	KIA431/F/A/AF			
MB4213	Shindengen	KIA6988P	TL494	Onsemi	KIA494AP/AF			
MC1455/D	Onsemi	KIA555P/F	TLV431LP	TI	KIA2431P/AP/BP			
MC34063AP/AD	Onsemi	KIA34063A/AF	TLV431DBV	TI	KIA2431T/AT/BT			
MC34119P/D	Onsemi	KIA6419P/F	UDN2981A	Sprague	KID65783AP			
MC4558C	Onsemi	KIA4558P/S/F	ULN2001 4A	Onsemi	KID65001 4AP			
MC7805-24CT	Onsemi	KIA7805 24API	ULN2803/4	Onsemi	KID65083/84AP			
MC78L05-24AC/C	Onsemi	KIA78S05 24P	XC74UL08AA	Torex	KIC7SH08FU			

1~7kPa, Temperature Compensated & Offset Voltage Calibrated Low Pressure Sensor

Type Number	Rated Pressure	Input Current 1.5mA, Compensated Temperature = 0 ~ 60					PIP3 Package Outline (Unit : mm)
		Full Scale Voltage (mV)	Offset Voltage (mV)	Linearity (%FS)	Pressure Hysteresis (%FS)	TCO/TCS (%FS)	
KPF010D04	1kPa / 0.01kgf/cm ²	25~75	± 2.0	± 2.5	± 0.65	± 2.0	
KPF020D04	2kPa / 0.02kgf/cm ²	25~75	± 2.0	± 2.5	± 0.65	± 2.0	
KPF070D04	7kPa / 0.07kgf/cm ²	25~75	± 2.0	± 2.5	± 0.65	± 2.0	

50~1,000kPa, Low Cost DIP Packaged Pressure Sensor

Type Number	Rated Pressure	Input Current 1.5mA, Ambient Temperature = 25				PIP1 Package Outline (Unit : mm)
		Full Scale Voltage (mV)	Offset Voltage (mV)	Linearity (%FS)	Pressure Hysteresis (%FS)	
KPF500G01	50kPa / 0.51kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF101G01	100kPa / 1.02kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF201G01	200kPa / 2.04kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF601G01	600kPa / 6.12kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF102G01	1,000kPa / 10.20kgf/cm ²	60~140	± 20	± 0.3	± 0.5	

50~1,000kPa, Low Cost DIP Packaged Pressure Sensor

Type Number	Rated Pressure	Input Current 1.5mA, Ambient Temperature = 25				PIP2 Package Outline (Unit : mm)
		Full Scale Voltage (mV)	Offset Voltage (mV)	Linearity (%FS)	Pressure Hysteresis (%FS)	
KPF500G02	50kPa / 0.51kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF101G02	100kPa / 1.02kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF201G02	200kPa / 2.04kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF601G02	600kPa / 6.12kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF102G02	1,000kPa / 10.20kgf/cm ²	60~140	± 20	± 0.3	± 0.5	

50~1,000kPa, Low Cost SMD Packaged Pressure Sensor

Type Number	Rated Pressure	Input Current 1.5mA, Ambient Temperature = 25				PSM1 Package Outline (Unit : mm)
		Full Scale Voltage (mV)	Offset Voltage (mV)	Linearity (%FS)	Pressure Hysteresis (%FS)	
KPF500G03	50kPa / 0.51kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF101G03	100kPa / 1.02kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF201G03	200kPa / 2.04kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF601G03	600kPa / 6.12kgf/cm ²	60~140	± 20	± 0.3	± 0.5	
KPF102G03	1,000kPa / 10.20kgf/cm ²	60~140	± 20	± 0.3	± 0.5	

1,000~5,000kPa, CMOS Digital Signal Processing Pressure Sensor (Temperature Compensated & Calibrated Amplified Output Voltage)

Type Number	Rated Pressure	Input Voltage 5.0V			PPM4 Package Outline (Unit : mm)
		Output Voltage (V)	Compensated Temperature()	Total Accuracy (%FS)	
KPN102G07	1,000kPa / 10.20kgf/cm ²	0.5 to 3.5V (0.5 to 4.5)	-20~80 (-30~120)	± 2.0	
KPN152G07	1,500kPa / 15.29kgf/cm ²				
KPN202G07	2,000kPa / 20.39kgf/cm ²				
KPN302G07	3,000kPa / 30.59kgf/cm ²				
KPN352G07	3,500kPa / 35.69kgf/cm ²				
KPN502G07	5,000kPa / 50.98kgf/cm ²				

Note) Please, consult us when you need more information.

Index



Index

1N4148	Bridge Diode	79	BC848	Transistor	15,49	E50A27VBS	Alternator Diode	81	KDR725U	SBD	75
2N2904E	Transistor	23	BC848W	Transistor	14,49	E50A2CBB	Alternator Diode	81	KDR728	SBD	75
2N2904U	Transistor	23	BC849	Transistor	15,49	E50A2CBS	Alternator Diode	81	KDR728E	SBD	75
2N2904U1	Transistor	23	BC850	Transistor	15,49	E50A37VBR	Alternator Diode	81	KDR729	SBD	75
2N2906E	Transistor	23	BC856	Transistor	15,49	E50A37VBS	Alternator Diode	81	KDR730E	SBD	75
2N3904	Transistor	29,53	BC856W	Transistor	14,49	E65A27VBR	Alternator Diode	81	KDR730F	SBD	75
2N3904C	Transistor	29,53	BC857	Transistor	15,49	E65A27VBS	Alternator Diode	81	KDR730V	SBD	75
2N3904E	Transistor	22,51	BC857W	Transistor	22,57	F1B2CAI	FRD	82	KDR731	SBD	75
2N3904S	Transistor	23,51	BC858	Transistor	15,49	F1B2CCI	FRD	82	KDR731S	SBD	76
2N3904U	Transistor	22,51	BC858W	Transistor	14,49	GBJ6J	Bridge Diode	80	KDR732	SBD	75
2N3904V	Transistor	22,51	BC859	Transistor	15,49	GBL2J	Bridge Diode	80	KDR732E	SBD	75
2N3906	Transistor	29,53	BC860	Transistor	15,49	GM100HB06BL	Power Module	94	KDR732V	SBD	75
2N3906C	Transistor	29,53	BCV71	Transistor	15,49	GM100HB06BT	Power Module	94	KDR735U	SBD	75
2N3906E	Transistor	22,51	BCV72	Transistor	15,49	GM100HB12BT	Power Module	94	KDR784	SBD	75
2N3906S	Transistor	23,51	BCW29	Transistor	15,49	GM10RTCT06DTN	Power Module	94	KDS112	Diode	63
2N3906U	Transistor	22,51	BCW30	Transistor	15,49	GM10RTCT12DTN	Power Module	94	KDS112E	Diode	63
2N3906V	Transistor	22,51	BCW31	Transistor	15,49	GM10TB06EN	Power Module	94	KDS112V	Diode	63
2N5400	Transistor	28,53	BCW32	Transistor	15,49	GM150HB06BT	Power Module	94	KDS113	Diode	63
2N5400S	Transistor	21,50	BCW68	Transistor	15,49	GM150HB12CT	Power Module	94	KDS114	Diode	63
2N5401	Transistor	28,53	BCW69	Transistor	15,49	GM15RTCT06DTN	Power Module	94	KDS114E	Diode	63
2N5401C	Transistor	28,53	BCW70	Transistor	15,49	GM15RTCT12DTN	Power Module	94	KDS114V	Diode	63
2N5401S	Transistor	21,50	BCW71	Transistor	15,49	GM15TB06EN	Power Module	94	KDS115	Diode	63
2N5550	Transistor	28,53	BCW72	Transistor	15,49	GM200HB06BT	Power Module	94	KDS120	Diode	62
2N5550S	Transistor	21,50	BCW89	Transistor	15,49	GM200HB12CT	Power Module	94	KDS120E	Diode	62
2N5551	Transistor	28,53	BCX19	Transistor	15,49	GM20RTCT06DTN	Power Module	94	KDS120V	Diode	62
2N5551C	Transistor	28,53	BD135	Transistor	30,54	GM300HB06CT	Power Module	94	KDS121	Diode	62
2N5551S	Transistor	21,50	BD136	Transistor	30,54	GM300HB12CT	Power Module	94	KDS121E	Diode	62
2N7000	SMOS FET	89	BD139	Transistor	30,54	GM30RTCT06DTN	Power Module	94	KDS121V	Diode	62
2N7000A	SMOS FET	89	BD140	Transistor	30,54	GM30TB06EN	Power Module	94	KDS122	Diode	62
2N7000K	SMOS FET	88	BF420	Transistor	28,53	GM400HB06CT	Power Module	94	KDS123E	Diode	62
2N7002	SMOS FET	88	BF421	Transistor	28,53	GM40TB06EN	Power Module	94	KDS123S	Diode	62
2N7002A	SMOS FET	88	BF422	Transistor	28,53	GM75HB12BT	Power Module	94	KDS123U	Diode	62
2N7002K	SMOS FET	89	BF423	Transistor	28,53	GM75HB06BL	Power Module	94	KDS123V	Diode	62
2N7002KU	SMOS FET	88	BF599	Transistor	22,50	GN1G	Bridge Diode	80	KDS125E	Diode	63
2N7002U	SMOS FET	88	BFQ31	Transistor	22,50	KAB3403T	Intergrated Circuit	113	KDS125T	Diode	63
B10A100VIC	SBD	82	BFS20	Transistor	22,50	KAB3404T	Intergrated Circuit	113	KDS125U	Diode	63
B10A150VIC	SBD	82	BSS63	Transistor	19,50	KAB3405T	Intergrated Circuit	113	KDS126E	Diode	63
B10A200VIC	SBD	82	BSS64	Transistor	19,50	KAC3301QN	Intergrated Circuit	113	KDS126T	Diode	63
B10A45V1	SBD	82	BZX84C10	Zener Diode	72	KAC3302QN	Intergrated Circuit	113	KDS126U	Diode	63
B10A45VIC	SBD	82	BZX84C11	Zener Diode	72	KAC3304DN	Intergrated Circuit	113	KDS127E	Diode	63
B10A60VIC	SBD	82	BZX84C12	Zener Diode	72	KAC3305DN	Intergrated Circuit	113	KDS127U	Diode	63
B15A45VIC	SBD	82	BZX84C13	Zener Diode	72	KAC3424DN	Intergrated Circuit	113	KDS128E	Diode	63
B15A60VIC	SBD	82	BZX84C15	Zener Diode	72	KBJ4J	Bridge Diode	80	KDS128T	Diode	63
B20A100VIC	SBD	82	BZX84C16	Zener Diode	72	KCR401T	Diode	19	KDS128U	Diode	63
B20A150VIC	SBD	82	BZX84C18	Zener Diode	72	KCR402T	Diode	19	KDS135	Diode	62
B20A200VIC	SBD	82	BZX84C20	Zener Diode	72	KCR405T	Diode	19	KDS135S	Diode	62
B20A45VC	SBD	82	BZX84C22	Zener Diode	72	KDP600UL	Diode	64	KDS160	Diode	62
B20A45VIC	SBD	82	BZX84C24	Zener Diode	72	KDP602UL	Diode	64	KDS160E	Diode	62
B20A60VIC	SBD	82	BZX84C27	Zener Diode	72	KDP604UL	Diode	64	KDS160F	Diode	62
B30A100VIC	SBD	82	BZX84C2V0	Zener Diode	72	KDP606UL	Diode	64	KDS160V	Diode	62
B30A45VC	SBD	82	BZX84C2V2	Zener Diode	72	KDP610UL	Diode	64	KDS165F	Diode	62
B30A45VIC	SBD	82	BZX84C2V4	Zener Diode	72	KDP620UL	Diode	64	KDS165T	Diode	62
B5A100V1	SBD	82	BZX84C2V7	Zener Diode	72	KDP621UL	Diode	64	KDS165U	Diode	62
B5A45V1	SBD	82	BZX84C30	Zener Diode	72	KDP622UL	Diode	64	KDS166E	Diode	63
B5A45VIC	SBD	82	BZX84C33	Zener Diode	72	KDP623UL	Diode	64	KDS166T	Diode	63
B5A60V1	SBD	82	BZX84C36	Zener Diode	72	KDP626UL	Diode	64	KDS166U	Diode	63
B5A60VIC	SBD	82	BZX84C3V0	Zener Diode	72	KDP628UL	Diode	64	KDS181	Diode	62
BAV21	Bridge Diode	79	BZX84C3V3	Zener Diode	72	KDP629UL	Diode	64	KDS184	Diode	62
BAV23	Diode	62	BZX84C3V6	Zener Diode	72	KDP630UL	Diode	64	KDS187	Diode	62
BAV23A	Diode	62	BZX84C4V3	Zener Diode	72	KDR105	SBD	75	KDS190	Diode	62
BAV23C	Diode	62	BZX84C4V7	Zener Diode	72	KDR105S	SBD	76	KDS193	Diode	62
BAV23S	Diode	62	BZX84C5V1	Zener Diode	72	KDR322	SBD	75	KDS196	Diode	62
BC237	Transistor	25,58	BZX84C5V6	Zener Diode	72	KDR331	SBD	75	KDS221E	Diode	62
BC238	Transistor	25,58	BZX84C6V2	Zener Diode	72	KDR331E	SBD	75	KDS221V	Diode	62
BC239	Transistor	25,58	BZX84C6V8	Zener Diode	72	KDR331V	SBD	75	KDS2236M	Diode	80
BC307	Transistor	25,58	BZX84C7V5	Zener Diode	72	KDR357	SBD	75	KDS2236S	Diode	65
BC308	Transistor	25,58	BZX84C8V2	Zener Diode	72	KDR367	SBD	75	KDS226	Diode	62
BC309	Transistor	25,58	BZX84C9V1	Zener Diode	72	KDR367E	SBD	75	KDS4148U	Diode	62
BC327	Transistor	25,58	DF06	Bridge Diode	80	KDR368	SBD	75	KDV141E	Diode	64
BC328	Transistor	25,58	DF06S	Bridge Diode	80	KDR368E	SBD	75	KDV142E	Diode	64
BC337	Transistor	25,58	E25A2CR	Alternator Diode	81	KDR377	SBD	75	KDV142EL	Diode	64
BC338	Transistor	25,58	E25A2CS	Alternator Diode	81	KDR377E	SBD	75	KDV142F	Diode	64
BC516	Transistor	27,53	E30A23VR	Alternator Diode	80	KDR378	SBD	75	KDV142V	Diode	64
BC517	Transistor	27,53	E30A23VS	Alternator Diode	81	KDR378E	SBD	75	KDV143EL	Diode	64
BC546	Transistor	25,58	E30A2CR	Alternator Diode	81	KDR393	SBD	75	KDV143F	Diode	64
BC547	Transistor	25,58	E30A2CS	Alternator Diode	81	KDR393S	SBD	76	KDV143V	Diode	64
BC548	Transistor	25,58	E35A21VBR	Alternator Diode	81	KDR400S	SBD	76	KDV144EL	Diode	64
BC549	Transistor	25,58	E35A21VBS	Alternator Diode	80	KDR411	SBD	75	KDV144F	Diode	64
BC550	Transistor	25,58	E35A23VR	Alternator Diode	81	KDR411S	SBD	76	KDV1480	Diode	65
BC556	Transistor	25,58	E35A23VS	Alternator Diode	81	KDR412	SBD	75	KDV153	Diode	65
BC557	Transistor	25,58	E50A23VBS	Alternator Diode	81	KDR505S	SBD	76	KDV154	Diode	65
BC558	Transistor	25,58	E35A27VBR	Alternator Diode	81	KDR511T	SBD	76	KDV154E	Diode	65
BC559	Transistor	25,58	E35A27VBS	Alternator Diode	81	KDR521T	SBD	76	KDV172S	Diode	64
BC560	Transistor	25,58	E35A2CBB	Alternator Diode	81	KDR531T	SBD	76	KDV173	Diode	64
BC637	Transistor	25,58	E35A2CBS	Alternator Diode	81	KDR552E	SBD	75	KDV174	Diode	64
BC638	Transistor	25,58	E35A2CR	Alternator Diode	81	KDR552F	SBD	75	KDV175	Diode	64
BC807	Transistor	15,49	E35A2CS	Alternator Diode	81	KDR582E	SBD	75	KDV175E	Diode	64
BC807W	Transistor	14	E35A37VBR	Alternator Diode	81	KDR701S	SBD	76	KDV176U	Diode	64
BC817	Transistor	15,49	E35A37VBS	Alternator Diode	81	KDR720E	SBD	75	KDV202E	Diode	65
BC817W	Transistor	14	E50A21VBR	Alternator Diode	81	KDR720F	SBD	75	KDV214	Diode	66
BC846	Transistor	15,49	E50A21VBS	Alternator Diode	81	KDR720S	SBD	76	KDV214E	Diode	66
BC846W	Transistor	14,49	E35A21VBS	Alternator Diode	81	KDR720UL	SBD	75	KDV214EA	Diode	66
BC847	Transistor	15,49	E35A21VBR	Alternator Diode	81	KDR720V	SBD	75	KDV214V	Diode	66
BC847W	Transistor	14,49	E50A27VBR	Alternator Diode	81	KDR721S	SBD	76	KDV215E	Diode	66

Index

KDV216E	Diode	66	KDZ3.3EV	Zener Diode	69	KGT50N60KDA	IGBT	94	KIA1117AS28	Intergrated Circuit	111
KDV239	Diode	65	KDZ3.3V	Zener Diode	70	KHB011N40F1	MOSFET	91	KIA1117AS33	Intergrated Circuit	111
KDV239E	Diode	65	KDZ3.6EV	Zener Diode	69	KHB011N40F2	MOSFET	91	KIA1117AS50	Intergrated Circuit	111
KDV240E	Diode	65	KDZ3.6V	Zener Diode	70	KHB011N40P1	MOSFET	90	KIA2431AP	Intergrated Circuit	96
KDV241E	Diode	65	KDZ3.9EV	Zener Diode	69	KHB019N20F1	MOSFET	91	KIA2431AS	Intergrated Circuit	96
KDV251M	Diode	81	KDZ3.9V	Zener Diode	70	KHB019N20F2	MOSFET	91	KIA2431AT	Intergrated Circuit	96
KDV251S	Diode	65	KDZ30EV	Zener Diode	69, 70	KHB019N20P1	MOSFET	90	KIA2431BS	Intergrated Circuit	96
KDV269	Diode	66	KDZ30FV	Zener Diode	67	KHB1D0N60D	MOSFET	90	KIA2431BT	Intergrated Circuit	96
KDV269E	Diode	66	KDZ30VV	Zener Diode	68	KHB1D0N60I	MOSFET	90	KIA2431P	Intergrated Circuit	96
KDV269V	Diode	66	KDZ33EV	Zener Diode	69, 70	KHB1D9N60D	MOSFET	90	KIA2431S	Intergrated Circuit	96
KDV270E	Diode	66	KDZ33FV	Zener Diode	67	KHB1D9N60I	MOSFET	90	KIA2431T	Intergrated Circuit	96
KDV273	Diode	65	KDZ33VV	Zener Diode	68	KHB2D0N60F	MOSFET	91	KIA2576FP00	Intergrated Circuit	113
KDV273E	Diode	65	KDZ36EV	Zener Diode	69, 70	KHB2D0N60F2	MOSFET	91	KIA2576FP12	Intergrated Circuit	113
KDV300	Diode	66	KDZ36FV	Zener Diode	67	KHB2D0N60P	MOSFET	90	KIA2576FP33	Intergrated Circuit	113
KDV300E	Diode	66	KDZ36VV	Zener Diode	68	KHB3D0N70F	MOSFET	91	KIA2576FP50	Intergrated Circuit	113
KDV301E	Diode	66	KDZ4.3EV	Zener Diode	69	KHB3D0N70F2	MOSFET	91	KIA2576P100	Intergrated Circuit	113
KDV302E	Diode	66	KDZ4.3FV	Zener Diode	67	KHB3D0N70P	MOSFET	90	KIA2576P112	Intergrated Circuit	113
KDV348E	Diode	65	KDZ4.3V	Zener Diode	70	KHB3D0N90F1	MOSFET	91	KIA2576P133	Intergrated Circuit	113
KDV350E	Diode	65	KDZ4.3VV	Zener Diode	68	KHB3D0N90F2	MOSFET	91	KIA2576P150	Intergrated Circuit	113
KDV350F	Diode	65	KDZ4.7EV	Zener Diode	69	KHB3D0N90P1	MOSFET	90	KIA278R000FP	Intergrated Circuit	107
KDV355E	Diode	65	KDZ4.7FV	Zener Diode	67	KHB4D0N65F	MOSFET	91	KIA278R000P1	Intergrated Circuit	107
KDV355F	Diode	65	KDZ4.7V	Zener Diode	70	KHB4D0N65F2	MOSFET	91	KIA278R00P1	Intergrated Circuit	106
KDV358F	Diode	65	KDZ4.7VV	Zener Diode	68	KHB4D0N65P	MOSFET	90	KIA278R015FP	Intergrated Circuit	107
KDV359F	Diode	65	KDZ5.1EV	Zener Diode	69	KHB4D0N80F1	MOSFET	91	KIA278R015P1	Intergrated Circuit	107
KDV365F	Diode	65	KDZ5.1V	Zener Diode	67	KHB4D0N80F2	MOSFET	91	KIA278R018FP	Intergrated Circuit	107
KDV368E	Diode	65	KDZ5.1VV	Zener Diode	68	KHB4D0N80P1	MOSFET	90	KIA278R020FP	Intergrated Circuit	107
KDV368F	Diode	65	KDZ5.6CE	Zener Diode	66	KHB4D5N60F	MOSFET	91	KIA278R020P1	Intergrated Circuit	107
KDV375E	Diode	65	KDZ5.6CF	Zener Diode	66	KHB4D5N60F2	MOSFET	91	KIA278R025FP	Intergrated Circuit	107
KDV375F	Diode	65	KDZ5.6CV	Zener Diode	66	KHB5D0N50F	MOSFET	91	KIA278R025P1	Intergrated Circuit	107
KDV381F	Diode	65	KDZ5.6DU	Zener Diode	66	KHB5D0N50F2	MOSFET	91	KIA278R030FP	Intergrated Circuit	107
KDV385F	Diode	65	KDZ5.6EV	Zener Diode	69	KHB5D0N50P	MOSFET	90	KIA278R030P1	Intergrated Circuit	107
KDV386F	Diode	65	KDZ5.6FV	Zener Diode	67	KHB6D0N40F	MOSFET	91	KIA278R033FP	Intergrated Circuit	107
KDV396F	Diode	65	KDZ5.6V	Zener Diode	70	KHB6D0N40F2	MOSFET	91	KIA278R033P1	Intergrated Circuit	107
KDV397F	Diode	65	KDZ6.6VV	Zener Diode	68	KHB6D0N40P	MOSFET	90	KIA278R050FP	Intergrated Circuit	107
KDV804KS	Diode	64	KDZ6.2DU	Zener Diode	66	KHB7D0N65F1	MOSFET	91	KIA278R050P1	Intergrated Circuit	106
KDV804M	Diode	81	KDZ6.2EV	Zener Diode	69	KHB7D0N65F2	MOSFET	91	KIA278R06P1	Intergrated Circuit	106
KDV804S	Diode	65	KDZ6.2FV	Zener Diode	67	KHB7D0N65P1	MOSFET	90	KIA278R08P1	Intergrated Circuit	106
KDZ100V	Zener Diode	66	KDZ6.2V	Zener Diode	70	KHB7D0N80F1	MOSFET	91	KIA278R09P1	Intergrated Circuit	106
KDZ100VV	Zener Diode	66	KDZ6.2VV	Zener Diode	68	KHB7D0N80F2	MOSFET	91	KIA278R10P1	Intergrated Circuit	106
KDZ10EV	Zener Diode	69	KDZ6.8CE	Zener Diode	66	KHB7D0N80P1	MOSFET	90	KIA278R12P1	Intergrated Circuit	106
KDZ10FV	Zener Diode	67	KDZ6.8CF	Zener Diode	66	KHB7D5N60F1	MOSFET	91	KIA278R15P1	Intergrated Circuit	106
KDZ10V	Zener Diode	70	KDZ6.8CV	Zener Diode	66	KHB7D5N60P1	MOSFET	90	KIA278R25P1	Intergrated Circuit	106
KDZ10VV	Zener Diode	68	KDZ6.8DE	Zener Diode	66	KHB8D8N25F	MOSFET	91	KIA278R33P1	Intergrated Circuit	106
KDZ110VV	Zener Diode	66	KDZ6.8EV	Zener Diode	69	KHB8D8N25F2	MOSFET	91	KIA278R35P1	Intergrated Circuit	106
KDZ11EV	Zener Diode	69	KDZ6.8FV	Zener Diode	67	KHB8D8N25P	MOSFET	90	KIA317F	Intergrated Circuit	105
KDZ11FV	Zener Diode	67	KDZ6.8V	Zener Diode	70	KHB9D0N50F1	MOSFET	91	KIA317FP	Intergrated Circuit	105
KDZ11V	Zener Diode	70	KDZ6.8VV	Zener Diode	68	KHB9D0N50F2	MOSFET	91	KIA317P1	Intergrated Circuit	105
KDZ11VV	Zener Diode	68	KDZ7.5FV	Zener Diode	66	KHB9D0N50P1	MOSFET	90	KIA324F	Intergrated Circuit	95
KDZ12EV	Zener Diode	69	KDZ7.5EV	Zener Diode	69	KHB9D0N90F1	MOSFET	91	KIA324P	Intergrated Circuit	95
KDZ12FV	Zener Diode	67	KDZ7.5FV	Zener Diode	67	KHB9D0N90A	MOSFET	90	KIA339F	Intergrated Circuit	95
KDZ12V	Zener Diode	70	KDZ7.5V	Zener Diode	70	KHB9D0N90P1	MOSFET	90	KIA339P	Intergrated Circuit	95
KDZ12VV	Zener Diode	68	KDZ7.5VV	Zener Diode	68	KHB9D5N20D	MOSFET	90	KIA34063A	Intergrated Circuit	113
KDZ13EV	Zener Diode	69	KDZ8.2EV	Zener Diode	69	KHB9D5N20F	MOSFET	91	KIA34063AF	Intergrated Circuit	113
KDZ13FV	Zener Diode	67	KDZ8.2FV	Zener Diode	67	KHB9D5N20F2	MOSFET	91	KIA358AFK	Intergrated Circuit	95
KDZ13V	Zener Diode	70	KDZ8.2V	Zener Diode	70	KHB9D5N20P	MOSFET	90	KIA358F	Intergrated Circuit	95
KDZ13VV	Zener Diode	68	KDZ8.2VV	Zener Diode	68	KIA1085F00	Intergrated Circuit	112	KIA358P	Intergrated Circuit	95
KDZ15EV	Zener Diode	69	KDZ9.1EV	Zener Diode	69	KIA1085F15	Intergrated Circuit	112	KIA378R000FP	Intergrated Circuit	107
KDZ15FV	Zener Diode	67	KDZ9.1FV	Zener Diode	67	KIA1085F18	Intergrated Circuit	112	KIA378R000P1	Intergrated Circuit	107
KDZ15V	Zener Diode	70	KDZ9.1V	Zener Diode	70	KIA1085F25	Intergrated Circuit	112	KIA378R00P1	Intergrated Circuit	106
KDZ15VV	Zener Diode	68	KDZ9.1VV	Zener Diode	68	KIA1085F33	Intergrated Circuit	112	KIA378R015FP	Intergrated Circuit	107
KDZ16EV	Zener Diode	69	KF12N60F	MOSFET	93	KIA1085F50	Intergrated Circuit	112	KIA378R015P1	Intergrated Circuit	107
KDZ16FV	Zener Diode	67	KF12N60F	MOSFET	93	KIA1085FP00	Intergrated Circuit	112	KIA378R018FP	Intergrated Circuit	107
KDZ16V	Zener Diode	70	KF13N50F	MOSFET	93	KIA1085FP15	Intergrated Circuit	112	KIA378R018P1	Intergrated Circuit	107
KDZ16VV	Zener Diode	68	KF13N50P	MOSFET	93	KIA1085FP18	Intergrated Circuit	112	KIA378R020FP	Intergrated Circuit	107
KDZ18EV	Zener Diode	69	KF3N50/DZ	MOSFET	93	KIA1085FP25	Intergrated Circuit	112	KIA378R020P1	Intergrated Circuit	107
KDZ18FV	Zener Diode	67	KF3N50DS	MOSFET	92	KIA1085FP33	Intergrated Circuit	112	KIA378R025FP	Intergrated Circuit	107
KDZ18V	Zener Diode	70	KF3N50F/FZ	MOSFET	93	KIA1085FP50	Intergrated Circuit	112	KIA378R025P1	Intergrated Circuit	107
KDZ18VV	Zener Diode	68	KF3N50FS	MOSFET	92	KIA1086F00	Intergrated Circuit	112	KIA378R030FP	Intergrated Circuit	107
KDZ20EV	Zener Diode	69	KF3N50P/PZ	MOSFET	93	KIA1086F15	Intergrated Circuit	112	KIA378R030P1	Intergrated Circuit	107
KDZ20V	Zener Diode	70	KF3N50PS	MOSFET	92	KIA1086F18	Intergrated Circuit	112	KIA378R033FP	Intergrated Circuit	107
KDZ22.2EV	Zener Diode	69	KF3N60/DZ	MOSFET	93	KIA1086F25	Intergrated Circuit	112	KIA378R033P1	Intergrated Circuit	107
KDZ22.2V	Zener Diode	70	KF50N06P	MOSFET	93	KIA1086F33	Intergrated Circuit	112	KIA378R050FP	Intergrated Circuit	107
KDZ22.4EV	Zener Diode	69	KF5N50DS	MOSFET	92	KIA1086F50	Intergrated Circuit	112	KIA378R050P1	Intergrated Circuit	107
KDZ22.4V	Zener Diode	70	KF5N50DZ	MOSFET	93	KIA1112F	Intergrated Circuit	112	KIA378R05P1	Intergrated Circuit	106
KDZ22.7EV	Zener Diode	69	KF5N50F/FZ	MOSFET	93	KIA1112ST	Intergrated Circuit	112	KIA378R06P1	Intergrated Circuit	106
KDZ22.7V	Zener Diode	70	KF5N50FS	MOSFET	92	KIA1117AF00	Intergrated Circuit	111	KIA378R08P1	Intergrated Circuit	106
KDZ20EV	Zener Diode	69	KF5N50P/PZ	MOSFET	93	KIA1117AF15	Intergrated Circuit	111	KIA378R09P1	Intergrated Circuit	106
KDZ20FV	Zener Diode	67	KF5N50PS	MOSFET	92	KIA1117AF18	Intergrated Circuit	111	KIA378R10P1	Intergrated Circuit	106
KDZ20V	Zener Diode	70	KF5N60F/FZ	MOSFET	93	KIA1117AF25	Intergrated Circuit	111	KIA378R12P1	Intergrated Circuit	106
KDZ20VV	Zener Diode	68	KF5N60P/PZ	MOSFET	93	KIA1117AF28	Intergrated Circuit	111	KIA378R15P1	Intergrated Circuit	106
KDZ22EV	Zener Diode	69	KF60N06P	MOSFET	93	KIA1117AF33	Intergrated Circuit	111	KIA378R25P1	Intergrated Circuit	106
KDZ22FV	Zener Diode	67	KF70N06F	MOSFET	93	KIA1117AF50	Intergrated Circuit	111	KIA378R33P1	Intergrated Circuit	106
KDZ22V	Zener Diode	70	KF70N06P	MOSFET	93	KIA1117API00	Intergrated Circuit	111	KIA378R35P1	Intergrated Circuit	106
KDZ22VV	Zener Diode	68	KF7N65F	MOSFET	93	KIA1117API15	Intergrated Circuit	111	KIA3820F	Intergrated Circuit	117
KDZ24EV	Zener Diode	69	KF7N65P	MOSFET	93	KIA1117API18	Intergrated Circuit	111	KIA3820FK	Intergrated Circuit	117
KDZ24FV	Zener Diode	67	KF80N08F	MOSFET	93	KIA1117API25	Intergrated Circuit	111	KIA3842F	Intergrated Circuit	115
KDZ24V	Zener Diode	70	KF80N08P	MOSFET	93	KIA1117API28	Intergrated Circuit	111	KIA3842P	Intergrated Circuit	115
KDZ24VV	Zener Diode	68	KF8N60F	MOSFET	93	KIA1117API33	Intergrated Circuit	111	KIA393F	Intergrated Circuit	95
KDZ27EV	Zener Diode	69, 70	KF8N60P	MOSFET	93	KIA1117API50	Intergrated Circuit	111	KIA393P	Intergrated Circuit	95
KDZ27FV	Zener Diode	67	KGH15N120NDA	IGBT	94	KIA1117AS00	Intergrated Circuit	111	KIA431	Intergrated Circuit	96
KDZ27VV	Zener Diode	68	KGH25N120NDA	IGBT	94	KIA1117AS15	Intergrated Circuit	111	KIA431A	Intergrated Circuit	96
KDZ3.0EV	Zener Diode	69	KGT15N120NDA	IGBT	94	KIA1117AS18	Intergrated Circuit	111	KIA431AF	Intergrated Circuit	96
KDZ3.0V	Zener Diode	70	KGT25N120NDA	IGBT	94	KIA1117AS25	Intergrated Circuit	111	KIA431AM	Intergrated Circuit	96

Index

KRA120S	Transistor	36	KRA354	Transistor	47	KRA730E	Transistor	40	KRC107S	Transistor	36
KRA121M	Transistor	48	KRA355	Transistor	47	KRA730F	Transistor	38	KRC108M	Transistor	48
KRA121S	Transistor	36	KRA356	Transistor	47	KRA730U	Transistor	44	KRC108S	Transistor	36
KRA122M	Transistor	48	KRA357	Transistor	47	KRA731E	Transistor	40	KRC109M	Transistor	48
KRA122S	Transistor	36	KRA521T	Transistor	47	KRA731F	Transistor	38	KRC109S	Transistor	36
KRA151F	Transistor	35	KRA522T	Transistor	47	KRA731U	Transistor	44	KRC110M	Transistor	48
KRA152F	Transistor	35	KRA523T	Transistor	47	KRA732E	Transistor	40	KRC110S	Transistor	36
KRA153F	Transistor	35	KRA524T	Transistor	47	KRA732U	Transistor	44	KRC111M	Transistor	48
KRA154F	Transistor	35	KRA525T	Transistor	47	KRA733E	Transistor	40	KRC111S	Transistor	36
KRA157F	Transistor	35	KRA526T	Transistor	47	KRA733F	Transistor	38	KRC112M	Transistor	48
KRA158F	Transistor	35	KRA551E	Transistor	39	KRA733U	Transistor	44	KRC112S	Transistor	36
KRA159F	Transistor	35	KRA551F	Transistor	37	KRA734E	Transistor	40	KRC113M	Transistor	48
KRA160F	Transistor	35	KRA551U	Transistor	42	KRA734F	Transistor	38	KRC113S	Transistor	36
KRA161F	Transistor	35	KRA552E	Transistor	39	KRA734U	Transistor	44	KRC114M	Transistor	48
KRA163F	Transistor	35	KRA552F	Transistor	37	KRA736E	Transistor	40	KRC114S	Transistor	36
KRA164F	Transistor	35	KRA552U	Transistor	42	KRA736U	Transistor	44	KRC116M	Transistor	48
KRA221M	Transistor	48	KRA553E	Transistor	39	KRA737E	Transistor	40	KRC116S	Transistor	36
KRA221S	Transistor	47	KRA553F	Transistor	37	KRA737U	Transistor	44	KRC117M	Transistor	48
KRA222M	Transistor	48	KRA553U	Transistor	42	KRA738E	Transistor	40	KRC117S	Transistor	36
KRA222S	Transistor	47	KRA554E	Transistor	39	KRA738U	Transistor	44	KRC118M	Transistor	48
KRA223M	Transistor	48	KRA554F	Transistor	37	KRA739E	Transistor	40	KRC118S	Transistor	36
KRA223S	Transistor	47	KRA554U	Transistor	42	KRA739U	Transistor	44	KRC119M	Transistor	48
KRA224M	Transistor	48	KRA555E	Transistor	39	KRA740E	Transistor	40	KRC119S	Transistor	36
KRA224S	Transistor	47	KRA555U	Transistor	42	KRA740U	Transistor	44	KRC120M	Transistor	48
KRA225M	Transistor	48	KRA556E	Transistor	39	KRA741E	Transistor	40	KRC120S	Transistor	36
KRA225S	Transistor	47	KRA556U	Transistor	42	KRA741U	Transistor	44	KRC121M	Transistor	48
KRA226M	Transistor	48	KRA557E	Transistor	39	KRA742E	Transistor	40	KRC121S	Transistor	36
KRA226S	Transistor	47	KRA557F	Transistor	37	KRA742U	Transistor	44	KRC122M	Transistor	48
KRA301	Transistor	36	KRA557U	Transistor	42	KRA751E	Transistor	41	KRC122S	Transistor	36
KRA301E	Transistor	35	KRA558E	Transistor	39	KRA751F	Transistor	38	KRC151F	Transistor	35
KRA301V	Transistor	35	KRA558F	Transistor	37	KRA751U	Transistor	45	KRC152F	Transistor	35
KRA302	Transistor	36	KRA558U	Transistor	42	KRA752E	Transistor	41	KRC153F	Transistor	35
KRA302E	Transistor	35	KRA559E	Transistor	39	KRA752F	Transistor	38	KRC154F	Transistor	35
KRA302V	Transistor	35	KRA559F	Transistor	37	KRA752U	Transistor	45	KRC157F	Transistor	35
KRA303	Transistor	36	KRA559U	Transistor	42	KRA753E	Transistor	41	KRC158F	Transistor	35
KRA303E	Transistor	35	KRA560E	Transistor	39	KRA753F	Transistor	38	KRC159F	Transistor	35
KRA303V	Transistor	35	KRA560F	Transistor	37	KRA753U	Transistor	45	KRC160F	Transistor	35
KRA304	Transistor	36	KRA560U	Transistor	42	KRA754E	Transistor	41	KRC161F	Transistor	35
KRA304E	Transistor	35	KRA561E	Transistor	39	KRA754F	Transistor	38	KRC163F	Transistor	35
KRA304V	Transistor	35	KRA561F	Transistor	37	KRA754U	Transistor	45	KRC164F	Transistor	35
KRA305	Transistor	36	KRA561U	Transistor	42	KRA755E	Transistor	41	KRC231M	Transistor	48
KRA305E	Transistor	35	KRA562E	Transistor	39	KRA755U	Transistor	45	KRC231S	Transistor	46
KRA305V	Transistor	35	KRA562U	Transistor	42	KRA756E	Transistor	41	KRC232M	Transistor	48
KRA306	Transistor	36	KRA563E	Transistor	39	KRA756U	Transistor	45	KRC232S	Transistor	46
KRA306E	Transistor	35	KRA563F	Transistor	37	KRA757E	Transistor	41	KRC233M	Transistor	48
KRA306V	Transistor	35	KRA563U	Transistor	42	KRA757F	Transistor	38	KRC233S	Transistor	46
KRA307	Transistor	36	KRA564E	Transistor	39	KRA757U	Transistor	45	KRC234M	Transistor	48
KRA307E	Transistor	35	KRA564F	Transistor	37	KRA758E	Transistor	41	KRC234S	Transistor	46
KRA307V	Transistor	35	KRA564U	Transistor	42	KRA758F	Transistor	38	KRC235M	Transistor	48
KRA308	Transistor	36	KRA566E	Transistor	39	KRA758U	Transistor	45	KRC235S	Transistor	46
KRA308E	Transistor	35	KRA566U	Transistor	42	KRA759E	Transistor	41	KRC241M	Transistor	48
KRA308V	Transistor	35	KRA567E	Transistor	39	KRA759F	Transistor	38	KRC241S	Transistor	47
KRA309	Transistor	36	KRA567U	Transistor	42	KRA759U	Transistor	45	KRC242M	Transistor	48
KRA309E	Transistor	35	KRA568E	Transistor	39	KRA760E	Transistor	41	KRC242S	Transistor	47
KRA309V	Transistor	35	KRA568U	Transistor	42	KRA760F	Transistor	38	KRC243M	Transistor	48
KRA310	Transistor	36	KRA569E	Transistor	39	KRA760U	Transistor	45	KRC243S	Transistor	47
KRA310E	Transistor	35	KRA569U	Transistor	42	KRA761E	Transistor	41	KRC244M	Transistor	48
KRA310V	Transistor	35	KRA570E	Transistor	39	KRA761F	Transistor	38	KRC244S	Transistor	47
KRA311	Transistor	36	KRA570U	Transistor	42	KRA761U	Transistor	45	KRC245M	Transistor	48
KRA311E	Transistor	35	KRA571E	Transistor	39	KRA762E	Transistor	41	KRC245S	Transistor	47
KRA311V	Transistor	35	KRA571U	Transistor	42	KRA762U	Transistor	45	KRC246M	Transistor	48
KRA312	Transistor	36	KRA572E	Transistor	39	KRA763E	Transistor	41	KRC246S	Transistor	47
KRA312E	Transistor	35	KRA572U	Transistor	42	KRA763F	Transistor	38	KRC281M	Transistor	48
KRA312V	Transistor	35	KRA721E	Transistor	40	KRA763U	Transistor	45	KRC281S	Transistor	46
KRA313	Transistor	36	KRA721F	Transistor	38	KRA764E	Transistor	41	KRC281U	Transistor	46
KRA313E	Transistor	35	KRA721T	Transistor	47	KRA764F	Transistor	38	KRC282M	Transistor	48
KRA313V	Transistor	35	KRA721U	Transistor	44	KRA764U	Transistor	45	KRC282S	Transistor	46
KRA314	Transistor	36	KRA722E	Transistor	40	KRA766E	Transistor	41	KRC282U	Transistor	46
KRA314E	Transistor	35	KRA722F	Transistor	38	KRA766U	Transistor	45	KRC283M	Transistor	48
KRA314V	Transistor	35	KRA722T	Transistor	47	KRA767E	Transistor	41	KRC283S	Transistor	46
KRA316	Transistor	36	KRA722U	Transistor	44	KRA767U	Transistor	45	KRC283U	Transistor	46
KRA316E	Transistor	35	KRA723E	Transistor	40	KRA768E	Transistor	41	KRC284M	Transistor	48
KRA316V	Transistor	35	KRA723F	Transistor	38	KRA768U	Transistor	45	KRC284S	Transistor	46
KRA317	Transistor	36	KRA723T	Transistor	47	KRA769E	Transistor	41	KRC284U	Transistor	46
KRA317E	Transistor	35	KRA723U	Transistor	44	KRA769U	Transistor	45	KRC285M	Transistor	48
KRA317V	Transistor	35	KRA724E	Transistor	40	KRA770E	Transistor	41	KRC285S	Transistor	46
KRA318	Transistor	36	KRA724F	Transistor	38	KRA770U	Transistor	45	KRC285U	Transistor	46
KRA318E	Transistor	35	KRA724T	Transistor	47	KRA771E	Transistor	41	KRC286M	Transistor	48
KRA318V	Transistor	35	KRA724U	Transistor	44	KRA771U	Transistor	45	KRC286S	Transistor	46
KRA319	Transistor	36	KRA725E	Transistor	40	KRA772E	Transistor	41	KRC286U	Transistor	46
KRA319E	Transistor	35	KRA725T	Transistor	47	KRA772U	Transistor	45	KRC401	Transistor	36
KRA319V	Transistor	35	KRA725U	Transistor	44	KRC101M	Transistor	48	KRC401E	Transistor	35
KRA320	Transistor	36	KRA726E	Transistor	40	KRC101S	Transistor	36	KRC401V	Transistor	35
KRA320E	Transistor	35	KRA726F	Transistor	47	KRC102M	Transistor	48	KRC402	Transistor	36
KRA320V	Transistor	35	KRA726U	Transistor	44	KRC102S	Transistor	36	KRC402E	Transistor	35
KRA321	Transistor	36	KRA727E	Transistor	40	KRC103M	Transistor	48	KRC402V	Transistor	35
KRA321E	Transistor	35	KRA727F	Transistor	38	KRC103S	Transistor	36	KRC403	Transistor	36
KRA321V	Transistor	35	KRA727U	Transistor	44	KRC104M	Transistor	48	KRC403E	Transistor	35
KRA322	Transistor	36	KRA728E	Transistor	40	KRC104S	Transistor	36	KRC403V	Transistor	35
KRA322E	Transistor	35	KRA728F	Transistor	38	KRC105M	Transistor	48	KRC404	Transistor	36
KRA322V	Transistor	35	KRA728U	Transistor	44	KRC105S	Transistor	36	KRC404E	Transistor	35
KRA351	Transistor	47	KRA729E	Transistor	40	KRC106M	Transistor	48	KRC404V	Transistor	35
KRA352	Transistor	47	KRA729F	Transistor	38	KRC106S	Transistor	36	KRC405	Transistor	36
KRA353	Transistor	47	KRA729U	Transistor	44	KRC107M	Transistor	48	KRC405E	Transistor	35

Index

KRC405V	Transistor	35	KRC662U	Transistor	43	KRC853U	Transistor	45	KTA1070	Transistor	28
KRC406	Transistor	36	KRC663E	Transistor	39	KRC854E	Transistor	41	KTA1073T	Transistor	21
KRC406E	Transistor	35	KRC663F	Transistor	37	KRC854F	Transistor	38	KTA1225D	Transistor	24
KRC406V	Transistor	35	KRC663U	Transistor	43	KRC854U	Transistor	45	KTA1225L	Transistor	30
KRC407	Transistor	36	KRC664E	Transistor	39	KRC855E	Transistor	41	KTA1241	Transistor	29
KRC407E	Transistor	35	KRC664F	Transistor	37	KRC855U	Transistor	45	KTA1242D	Transistor	24
KRC407V	Transistor	35	KRC664U	Transistor	43	KRC856E	Transistor	41	KTA1243	Transistor	29
KRC408	Transistor	36	KRC666E	Transistor	39	KRC856U	Transistor	45	KTA1266	Transistor	27
KRC408E	Transistor	35	KRC666U	Transistor	43	KRC857E	Transistor	41	KTA1266L	Transistor	26
KRC408V	Transistor	35	KRC667E	Transistor	39	KRC857F	Transistor	38	KTA1267	Transistor	25
KRC409	Transistor	36	KRC667U	Transistor	43	KRC857U	Transistor	45	KTA1267L	Transistor	27
KRC409E	Transistor	35	KRC668E	Transistor	39	KRC858E	Transistor	41	KTA1268	Transistor	27
KRC409V	Transistor	35	KRC668U	Transistor	43	KRC858F	Transistor	38	KTA1270	Transistor	26
KRC410	Transistor	36	KRC669E	Transistor	39	KRC858U	Transistor	45	KTA1271	Transistor	26
KRC410E	Transistor	35	KRC669U	Transistor	43	KRC859E	Transistor	41	KTA1272	Transistor	25
KRC410V	Transistor	35	KRC670E	Transistor	39	KRC859F	Transistor	38	KTA1273	Transistor	26
KRC411	Transistor	36	KRC670U	Transistor	43	KRC859U	Transistor	45	KTA1274	Transistor	26
KRC411E	Transistor	35	KRC671E	Transistor	39	KRC860E	Transistor	41	KTA1275	Transistor	28
KRC411V	Transistor	35	KRC671U	Transistor	43	KRC860F	Transistor	38	KTA1277	Transistor	28
KRC412	Transistor	36	KRC672E	Transistor	39	KRC860U	Transistor	45	KTA1279	Transistor	28
KRC412E	Transistor	35	KRC672U	Transistor	43	KRC861E	Transistor	41	KTA1281	Transistor	29
KRC412V	Transistor	35	KRC681T	Transistor	46	KRC861F	Transistor	38	KTA1282	Transistor	26
KRC413	Transistor	36	KRC682T	Transistor	46	KRC861U	Transistor	45	KTA1283	Transistor	26
KRC413E	Transistor	35	KRC683T	Transistor	46	KRC862E	Transistor	41	KTA1298	Transistor	14
KRC413V	Transistor	35	KRC684T	Transistor	46	KRC862U	Transistor	45	KTA1360	Transistor	30
KRC414	Transistor	36	KRC685T	Transistor	46	KRC863E	Transistor	41	KTA1381	Transistor	30
KRC414E	Transistor	35	KRC686T	Transistor	46	KRC863F	Transistor	38	KTA1385D	Transistor	24
KRC414V	Transistor	35	KRC821E	Transistor	40	KRC863U	Transistor	45	KTA1385L	Transistor	32
KRC416	Transistor	36	KRC821F	Transistor	38	KRC864E	Transistor	41	KTA1504S	Transistor	14
KRC416E	Transistor	35	KRC821U	Transistor	44	KRC864F	Transistor	38	KTA1505S	Transistor	14
KRC416V	Transistor	35	KRC822E	Transistor	40	KRC864U	Transistor	45	KTA1517	Transistor	19
KRC417	Transistor	36	KRC822F	Transistor	38	KRC866E	Transistor	41	KTA1520S	Transistor	21
KRC417E	Transistor	35	KRC822U	Transistor	44	KRC866U	Transistor	45	KTA1531T	Transistor	23
KRC417V	Transistor	35	KRC823E	Transistor	40	KRC867E	Transistor	41	KTA1532T	Transistor	23
KRC418	Transistor	36	KRC823F	Transistor	38	KRC867U	Transistor	45	KTA1532U	Transistor	23
KRC418E	Transistor	35	KRC823U	Transistor	44	KRC868E	Transistor	41	KTA1535T	Transistor	23
KRC418V	Transistor	35	KRC824E	Transistor	40	KRC868U	Transistor	45	KTA1536T	Transistor	23
KRC419	Transistor	36	KRC824F	Transistor	38	KRC869E	Transistor	41	KTA1542T	Transistor	23
KRC419E	Transistor	35	KRC824U	Transistor	44	KRC869U	Transistor	45	KTA1544T	Transistor	23
KRC419V	Transistor	35	KRC825E	Transistor	40	KRC870E	Transistor	41	KTA1551T	Transistor	23
KRC420	Transistor	36	KRC825U	Transistor	44	KRC870U	Transistor	45	KTA1552T	Transistor	23
KRC420E	Transistor	35	KRC826E	Transistor	40	KRC871E	Transistor	41	KTA1571S	Transistor	23
KRC420V	Transistor	35	KRC826U	Transistor	44	KRC871U	Transistor	45	KTA1658	Transistor	30
KRC421	Transistor	36	KRC827E	Transistor	40	KRC872E	Transistor	41	KTA1659	Transistor	31
KRC421E	Transistor	35	KRC827F	Transistor	38	KRC872U	Transistor	45	KTA1659A	Transistor	31
KRC421V	Transistor	35	KRC827U	Transistor	44	KRC881T	Transistor	46	KTA1660	Transistor	16
KRC422	Transistor	36	KRC828E	Transistor	40	KRC882T	Transistor	46	KTA1661	Transistor	16
KRC422E	Transistor	35	KRC828F	Transistor	38	KRC883T	Transistor	46	KTA1662	Transistor	16
KRC422V	Transistor	35	KRC828U	Transistor	44	KRC884T	Transistor	46	KTA1663	Transistor	16
KRC451	Transistor	47	KRC829E	Transistor	40	KRC885T	Transistor	46	KTA1664	Transistor	16
KRC452	Transistor	47	KRC829F	Transistor	38	KRC886T	Transistor	46	KTA1666	Transistor	23
KRC453	Transistor	47	KRC829U	Transistor	44	KRX101E	Transistor	39	KTA1668	Transistor	16
KRC454	Transistor	47	KRC830E	Transistor	40	KRX101U	Transistor	43	KTA1695	Transistor	31
KRC455	Transistor	47	KRC830F	Transistor	38	KRX102E	Transistor	39	KTA1700	Transistor	30
KRC456	Transistor	47	KRC830U	Transistor	44	KRX102F	Transistor	37	KTA1703	Transistor	30
KRC457	Transistor	47	KRC831E	Transistor	40	KRX102U	Transistor	43	KTA1704	Transistor	30
KRC641T	Transistor	47	KRC831F	Transistor	38	KRX103E	Transistor	39	KTA1705	Transistor	30
KRC642T	Transistor	47	KRC831U	Transistor	44	KRX103U	Transistor	43	KTA1709	Transistor	30
KRC643T	Transistor	47	KRC832E	Transistor	40	KRX104E	Transistor	39	KTA1715	Transistor	32
KRC644T	Transistor	47	KRC832U	Transistor	44	KRX104U	Transistor	43	KTA1718D	Transistor	24
KRC645T	Transistor	47	KRC833E	Transistor	40	KRX105E	Transistor	39	KTA1718L	Transistor	32
KRC646T	Transistor	47	KRC833F	Transistor	38	KRX105U	Transistor	43	KTA1725	Transistor	31
KRC651E	Transistor	39	KRC833U	Transistor	44	KRX201E	Transistor	42	KTA1759	Transistor	21
KRC651F	Transistor	37	KRC834E	Transistor	40	KRX201U	Transistor	46	KTA1807D	Transistor	24
KRC651U	Transistor	43	KRC834F	Transistor	38	KRX202E	Transistor	42	KTA1807L	Transistor	32
KRC652E	Transistor	39	KRC834U	Transistor	44	KRX202U	Transistor	46	KTA1834D	Transistor	24
KRC652F	Transistor	37	KRC836E	Transistor	40	KRX203E	Transistor	42	KTA1834L	Transistor	30
KRC652U	Transistor	43	KRC836U	Transistor	44	KRX203U	Transistor	46	KTA1837	Transistor	31
KRC653E	Transistor	39	KRC837E	Transistor	40	KRX204E	Transistor	42	KTA1862D	Transistor	24
KRC653F	Transistor	37	KRC837U	Transistor	44	KRX204U	Transistor	46	KTA1862L	Transistor	32
KRC653U	Transistor	43	KRC838E	Transistor	40	KRX205E	Transistor	42	KTA1940	Transistor	31
KRC654E	Transistor	39	KRC838U	Transistor	44	KRX205U	Transistor	46	KTA1962A	Transistor	31
KRC654F	Transistor	37	KRC839E	Transistor	40	KRX206E	Transistor	42	KTA200	Transistor	26
KRC654U	Transistor	43	KRC839U	Transistor	44	KRX206U	Transistor	46	KTA20012E	Transistor	14
KRC655E	Transistor	39	KRC840E	Transistor	40	KRX207E	Transistor	42	KTA2012V	Transistor	14
KRC655U	Transistor	43	KRC840U	Transistor	44	KRX207U	Transistor	46	KTA2013F	Transistor	14
KRC656E	Transistor	39	KRC841E	Transistor	40	KRX208E	Transistor	42	KTA2013V	Transistor	14
KRC656U	Transistor	43	KRC841U	Transistor	47	KRX208U	Transistor	46	KTA2014	Transistor	14
KRC657E	Transistor	39	KRC841U	Transistor	44	KRX209E	Transistor	42	KTA2014E	Transistor	14
KRC657F	Transistor	37	KRC842E	Transistor	40	KRX209U	Transistor	46	KTA2014F	Transistor	14
KRC657U	Transistor	43	KRC842T	Transistor	47	KRX210E	Transistor	42	KTA2014V	Transistor	14
KRC658E	Transistor	39	KRC842U	Transistor	44	KRX210T	Transistor	46	KTA2015	Transistor	14
KRC658F	Transistor	37	KRC843T	Transistor	47	KTA1001	Transistor	22	KTA2017	Transistor	19
KRC658U	Transistor	43	KRC844T	Transistor	47	KTA1021	Transistor	25	KTA2400	Transistor	27
KRC659E	Transistor	39	KRC845T	Transistor	47	KTA1023	Transistor	28	KTA3543T	Transistor	23
KRC659F	Transistor	37	KRC846T	Transistor	47	KTA1024	Transistor	28	KTA3571S	Transistor	23
KRC659U	Transistor	43	KRC851E	Transistor	41	KTA1040D	Transistor	24	KTA501E	Transistor	16
KRC660E	Transistor	39	KRC851F	Transistor	38	KTA1040L	Transistor	30	KTA501F	Transistor	16
KRC660F	Transistor	37	KRC851U	Transistor	45	KTA1042D	Transistor	24	KTA501U	Transistor	18
KRC660U	Transistor	43	KRC852E	Transistor	41	KTA1042L	Transistor	30	KTA511T	Transistor	18
KRC661E	Transistor	39	KRC852F	Transistor	38	KTA1045D	Transistor	24	KTA511U	Transistor	26
KRC661F	Transistor	37	KRC852U	Transistor	45	KTA1045L	Transistor	30	KTA701E	Transistor	17
KRC661U	Transistor	43	KRC853E	Transistor	41	KTA1046	Transistor	30	KTA701F	Transistor	16
KRC662E	Transistor	39	KRC853F	Transistor	38	KTA1049	Transistor	30	KTA701U	Transistor	19

Index

KTA702E	Transistor	17	KTC3227	Transistor	26	KTC5706D	Transistor	30	KTK5133S	SMOS FET	88
KTA708	Transistor	26	KTC3228	Transistor	28	KTC5706D	Transistor	24	KTK5134S	SMOS FET	88
KTA711E	Transistor	17	KTC3229	Transistor	31	KTC5706L	Transistor	30	KTK5162S	SMOS FET	88
KTA711T	Transistor	18	KTC3245	Transistor	28	KTC5707L	Transistor	30	KTK5164S	SMOS FET	88
KTA711U	Transistor	19	KTC3255	Transistor	29	KTC601E	Transistor	16	KTK596	JFET	34
KTA712E	Transistor	17	KTC3265	Transistor	14	KTC601F	Transistor	16	KTK596S	JFET	34
KTA712U	Transistor	19	KTC3266	Transistor	26	KTC601U	Transistor	18	KTK597	JFET	34
KTA733	Transistor	26	KTC3295	Transistor	20	KTC611T	Transistor	18	KTK597E	JFET	34
KTA733B	Transistor	26	KTC3400	Transistor	27	KTC801E	Transistor	17	KTK597TV	JFET	34
KTB1124	Transistor	23	KTC3423	Transistor	30	KTC801F	Transistor	16	KTK597V	JFET	34
KTB1151	Transistor	30	KTC3467	Transistor	28	KTC801U	Transistor	19	KTK598TV	JFET	34
KTB1234T	Transistor	20	KTC3502	Transistor	30	KTC802E	Transistor	17	KTK598V	JFET	34
KTB1241	Transistor	26	KTC3503	Transistor	30	KTC8050	Transistor	26,52	KTK599TV	JFET	34
KTB1260	Transistor	16	KTC3531T	Transistor	23	KTC8050S	Transistor	14,49	KTK697TV	JFET	34
KTB1366	Transistor	30	KTC3532T	Transistor	23	KTC811E	Transistor	17	KTK698TV	JFET	34
KTB1367	Transistor	30	KTC3535T	Transistor	23	KTC811T	Transistor	18	KTK919S	RF MOSFET	89
KTB1368	Transistor	30	KTC3536T	Transistor	23	KTC811U	Transistor	19	KTK920BT	RF MOSFET	89
KTB1369	Transistor	31	KTC3541T	Transistor	23	KTC812E	Transistor	17	KTK920BU	RF MOSFET	89
KTB1370	Transistor	30	KTC3542T	Transistor	23	KTC812T	Transistor	20	KTK920T	RF MOSFET	89
KTB1423	Transistor	33	KTC3544T	Transistor	23	KTC812U	Transistor	19	KTK920U	RF MOSFET	89
KTB1424	Transistor	33	KTC3551T	Transistor	23	KTC813U	Transistor	21	KTK921T	RF MOSFET	89
KTB1772	Transistor	26	KTC3552T	Transistor	23	KTC814U	Transistor	20	KTK921U	RF MOSFET	89
KTB2234	Transistor	28	KTC3571S	Transistor	23	KTC815	Transistor	26	KTK951S	JFET	34
KTB2510	Transistor	33	KTC3600S	Transistor	22	KTC8550	Transistor	26,52	KTN2222	Transistor	29,54
KTB598	Transistor	26	KTC3600U	Transistor	21	KTC8550S	Transistor	14,49	KTN2222A	Transistor	29,54
KTB631K	Transistor	30	KTC3620U	Transistor	21	KTC9011	Transistor	29,53	KTN2222AE	Transistor	22,51
KTB688	Transistor	31	KTC3620V	Transistor	21	KTC9011S	Transistor	22,50	KTN2222AS	Transistor	23,51
KTB688A	Transistor	31	KTC3632L	Transistor	32	KTC9012	Transistor	26,52	KTN2222AU	Transistor	22,51
KTB688B	Transistor	31	KTC3660U	Transistor	21	KTC9012S	Transistor	14,49	KTN2222S	Transistor	23,51
KTB764	Transistor	26	KTC3708U	Transistor	21	KTC9013	Transistor	26,52	KTN2222U	Transistor	22,51
KTB772	Transistor	30	KTC3730F	Transistor	21	KTC9013S	Transistor	14,49	KTN2369	Transistor	29,54
KTB778	Transistor	31	KTC3730U	Transistor	21	KTC9014	Transistor	26,52	KTN2369A	Transistor	29,54
KTB817	Transistor	31	KTC3730V	Transistor	21	KTC9014S	Transistor	14,49	KTN2369AS	Transistor	23,51
KTB985	Transistor	29	KTC3770F	Transistor	21	KTC9015	Transistor	26,52	KTN2369AU	Transistor	22,51
KTC1003	Transistor	31	KTC3770S	Transistor	22	KTC9015S	Transistor	14,49	KTN2369S	Transistor	23,51
KTC1006	Transistor	26	KTC3770T	Transistor	22	KTC9016	Transistor	29,53	KTN2369U	Transistor	22,51
KTC1008	Transistor	26	KTC3770U	Transistor	21	KTC9016S	Transistor	22,50	KTN2907	Transistor	29,54
KTC1020	Transistor	25	KTC3770V	Transistor	21	KTC9018	Transistor	29,53	KTN2907A	Transistor	29,54
KTC1026	Transistor	28	KTC3790S	Transistor	22	KTC9018S	Transistor	22,50	KTN2907AE	Transistor	22,51
KTC1027	Transistor	26	KTC3790U	Transistor	21	KTC945	Transistor	26	KTN2907AS	Transistor	23,51
KTC200	Transistor	26	KTC3875S	Transistor	14	KTC945B	Transistor	26	KTN2907AU	Transistor	22,51
KTC2020D	Transistor	24	KTC3876S	Transistor	14	KTD01N	Transistor	33	KTN2907S	Transistor	23,51
KTC2020L	Transistor	30	KTC3878S	Transistor	22	KTD01P	Transistor	33	KTN2907U	Transistor	22,51
KTC2022D	Transistor	24	KTC3879S	Transistor	22	KTD03N	Transistor	33	KTX101E	Transistor	17
KTC2022L	Transistor	30	KTC3880S	Transistor	22	KTD03P	Transistor	33	KTX101F	Transistor	16
KTC2025D	Transistor	24	KTC3881S	Transistor	22	KTD1003	Transistor	20	KTX101U	Transistor	19
KTC2025L	Transistor	30	KTC3882	Transistor	22	KTD1028	Transistor	27	KTX102E	Transistor	17
KTC2026	Transistor	31	KTC3883	Transistor	22	KTD1047	Transistor	31	KTX102U	Transistor	19
KTC2027	Transistor	31	KTC3911S	Transistor	19	KTD1145	Transistor	29	KTX103E	Transistor	17
KTC2028	Transistor	31	KTC3964	Transistor	32	KTD1146	Transistor	29	KTX111T	Transistor	18
KTC2347	Transistor	29	KTC4021	Transistor	21	KTD1302	Transistor	27	KTX201E	Transistor	16
KTC2800	Transistor	30	KTC4072E	Transistor	14	KTD1303	Transistor	27	KTX201U	Transistor	18
KTC2801	Transistor	30	KTC4072V	Transistor	14	KTD1304	Transistor	20	KTX211E	Transistor	17
KTC2803	Transistor	30	KTC4074F	Transistor	14	KTD1347	Transistor	29	KTX211U	Transistor	19
KTC2804	Transistor	30	KTC4074V	Transistor	14	KTD1411	Transistor	33	KTX212E	Transistor	17
KTC2814	Transistor	32	KTC4075	Transistor	14	KTD1413	Transistor	33	KTX212U	Transistor	19
KTC2815D	Transistor	24	KTC4075E	Transistor	14	KTD1414	Transistor	33	KTX213E	Transistor	17
KTC2815L	Transistor	32	KTC4075F	Transistor	14	KTD1415	Transistor	33	KTX213U	Transistor	19
KTC2874	Transistor	27	KTC4075V	Transistor	14	KTD1510	Transistor	33	KTX214E	Transistor	17
KTC2875	Transistor	20	KTC4076	Transistor	14	KTD1624	Transistor	23	KTX214U	Transistor	19
KTC2876	Transistor	27	KTC4077	Transistor	19	KTD1691	Transistor	30	KTX215E	Transistor	17
KTC2983D	Transistor	24	KTC4079	Transistor	21	KTD1824	Transistor	20	KTX215U	Transistor	19
KTC2983L	Transistor	30	KTC4080	Transistor	21	KTD1824E	Transistor	20	KTX301E	Transistor	16
KTC3003	Transistor	32,54	KTC4080E	Transistor	21	KTD1854T	Transistor	20	KTX301U	Transistor	18
KTC3003HV	Transistor	32,54	KTC4081	Transistor	21	KTD1863	Transistor	26	KTX302U	Transistor	18
KTC3072D	Transistor	24	KTC4082	Transistor	21	KTD1882	Transistor	26	KTX303U	Transistor	18
KTC3072L	Transistor	30	KTC4217	Transistor	30	KTD1898	Transistor	16	KTX311T	Transistor	24
KTC3112	Transistor	27	KTC4369	Transistor	31	KTD1937	Transistor	32	KTX312T	Transistor	24
KTC3113	Transistor	27	KTC4370	Transistor	31	KTD2058	Transistor	31	KTX321U	SMOS FET	88
KTC3114	Transistor	32	KTC4370A	Transistor	31	KTD2059	Transistor	31	KTX401E	Transistor	16
KTC3121	Transistor	22	KTC4372	Transistor	21	KTD2061	Transistor	31	KTX401U	Transistor	18
KTC3190	Transistor	29	KTC4373	Transistor	21	KTD2066	Transistor	32	KTX402U	Transistor	18
KTC3191	Transistor	29	KTC4374	Transistor	16	KTD2092	Transistor	32	KTX403U	Transistor	18
KTC3192	Transistor	29	KTC4375	Transistor	16	KTD2424	Transistor	33	KTX411T	Transistor	24
KTC3193	Transistor	29	KTC4376	Transistor	16	KTD2686	Transistor	20	KTX412T	Transistor	24
KTC3194	Transistor	29	KTC4377	Transistor	22	KTD2854	Transistor	28	KTX421U	SMOS FET	88
KTC3195	Transistor	29	KTC4378	Transistor	16	KTD545	Transistor	26	KTX511T	Transistor	24
KTC3197	Transistor	29	KTC4379	Transistor	23	KTD600K	Transistor	30	KTX512T	Transistor	24
KTC3198	Transistor	26	KTC4419	Transistor	32	KTD718	Transistor	31	KTX597E	JFET	34
KTC3198L	Transistor	27	KTC4468	Transistor	31	KTD718A	Transistor	31	KTK597U	JFET	34
KTC3199	Transistor	25	KTC4511	Transistor	31	KTD718B	Transistor	31	KTK598TF	JFET	34
KTC3199L	Transistor	27	KTC4520F	Transistor	32	KTD863	Transistor	26	KU2303D	MOSFET	87
KTC3200	Transistor	27	KTC4521F	Transistor	32	KTD882	Transistor	30	KU2303K	MOSFET	87
KTC3202	Transistor	26	KTC4666	Transistor	19	KTD998	Transistor	31	KU2303Q	MOSFET	87
KTC3203	Transistor	26	KTC4793	Transistor	31	KTH2369	Transistor	29,53	KU2307D	MOSFET	87
KTC3204	Transistor	25	KTC5001D	Transistor	24	KTH2369A	Transistor	29,53	KU2307K	MOSFET	87
KTC3205	Transistor	26	KTC5001L	Transistor	30	KTJ6131E	SMOS FET	88	KU2307Q	MOSFET	87
KTC3206	Transistor	28	KTC5027	Transistor	32,54	KTK5131E	SMOS FET	88	KU2310Q	MOSFET	87
KTC3207	Transistor	28	KTC5027F	Transistor	32,54	KTK5131S	SMOS FET	88	KU2311K	MOSFET	87
KTC3207T	Transistor	21	KTC5103D	Transistor	24	KTK5131V	SMOS FET	88	KU2311Q	MOSFET	87
KTC3209	Transistor	29	KTC5103L	Transistor	32	KTK5132E	SMOS FET	88	KU2318K	MOSFET	87
KTC3210	Transistor	26	KTC5197	Transistor	31	KTK5132S	SMOS FET	88	KU2751K	MOSFET	87
KTC3211	Transistor	26	KTC5242A	Transistor	31	KTK5132U	SMOS FET	88	KUSB50QN	Integrated Circuits	117
KTC3226	Transistor	29	KTC5706	Transistor	30	KTK5132V	SMOS FET	88	MB6M	Bridge Diode	80

Index

MB6S	Bridge Diode	80	MPSA43	Transistor	28,53	PG24FAS23	TVS Diode	78	TIP35CA	Transistor	31
MBR10100CT	SFRD	83	MPSA44	Transistor	28,53	PG24FBTS6	TVS Diode	78	TIP36A	Transistor	31
MBR10120CT	SFRD	83	MPSA45	Transistor	28,53	PG24FSUSC	TVS Diode	77	TIP36C	Transistor	31,54
MBR10150CT	SFRD	83	MPSA55	Transistor	25,58	PG24FXTS6	TVS Diode	78	TIP36CA	Transistor	31
MBR10200CT	SFRD	83	MPSA56	Transistor	25,58	PG24JSSMA	TVS Diode	77	TIP41CF	Transistor	31
MBR1045CT	SFRD	83	MPSA62	Transistor	27,53	PG24NSSMB	TVS Diode	77	TIP42CF	Transistor	31
MBR1060CT	SFRD	83	MPSA63	Transistor	27,53	PG24NSSMC	TVS Diode	77	U10A2CI	FRD	81
MBR1545CT	SFRD	83	MPSA64	Transistor	27,53	PG712FBS23	TVS Diode	78	U10A2CIA	FRD	81
MBR1560CT	SFRD	83	MPSA77	Transistor	27,53	PZTA44	Transistor	21,50	U10A2CIC	FRD	81
MBR20100CT	SFRD	83	MPSA92	Transistor	28,53	S10A2CIA	SFRD	82	U10A3CIC	FRD	81
MBR20150CT	SFRD	83	MPSA93	Transistor	28,53	S10A2CIC	SFRD	82	U20A2CI	FRD	81
MBR20200CT	SFRD	83	MPSA94	Transistor	28,53	SMAB110	SBD	76	U20A3CIC	FRD	81
MBR2045CT	SFRD	83	MPSA94A	Transistor	28,53	SMAB13	SBD	76	U20A4CIC	FRD	81
MBR2060CT	SFRD	83	PF0224US6	TVS Diode	79	SMAB13U	SBD	76	U5A2CI	FRD	81
MBR30100CT	SFRD	83	PF0314TE6	TVS Diode	79	SMAB14	SBD	76	U5A2CIC	FRD	81
MBR3045CT	SFRD	83	PF0314US6	TVS Diode	79	SMAB16	SBD	76	USFB053	SBD	76
MBR545CT	SFRD	83	PF1015UDF12	TVS Diode	79	SMAB210	SBD	76	USFB073	SBD	76
MBR560CT	SFRD	83	PF1015UDF12B	TVS Diode	79	SMAB33	SBD	76	USFB13	SBD	76
MBRF10100	SFRD	83	PF1015UDF16	TVS Diode	79	SMAB33U	SBD	76	USFB13A	SBD	76
MBRF10100CT	SFRD	83	PF1015UDF16B	TVS Diode	79	SMAB33L	SBD	76	USFB13L	SBD	76
MBRF10120CT	SFRD	83	PF1015UDF8	TVS Diode	79	SMAB34	SBD	76	USFB14	SBD	76
MBRF10150CT	SFRD	83	PF1015UDF8B	TVS Diode	79	SMAB34A	SBD	76	USFZ5.6V	SBD	73
MBRF10200CT	SFRD	83	PF2015UDF12	TVS Diode	79	SMAB36	SBD	76	USFZ5.1V	SBD	73
MBRF1045	SFRD	83	PF2015UDF12B	TVS Diode	79	SMAU1G	UFRR	80	USFZ6.2V	SBD	73
MBRF1045CT	SFRD	83	PF2015UDF16	TVS Diode	79	SMAZ3.6V	Zener Diode	74	USFZ6.8V	SBD	73
MBRF1060CT	SFRD	83	PF2015UDF16B	TVS Diode	79	SMAZ3.9V	Zener Diode	74	USFZ7.5V	SBD	73
MBRF1545CT	SFRD	83	PF2015UDF8	TVS Diode	79	SMAZ4.3V	Zener Diode	74	USFZ8.2V	SBD	73
MBRF1560CT	SFRD	83	PF2015UDF8B	TVS Diode	79	SMAZ4.7V	Zener Diode	74	USFZ9.1V	SBD	73
MBRF20100CT	SFRD	83	PG03DBTFC	TVS Diode	77	SMAZ5.1V	Zener Diode	74	USFZ10V	SBD	73
MBRF20150CT	SFRD	83	PG03DBVSC	TVS Diode	77	SMAZ5.6V	Zener Diode	74	USFZ11V	SBD	73
MBRF20200CT	SFRD	83	PG03DXTEV	TVS Diode	78	SMAZ6.2V	Zener Diode	74	USFZ12V	SBD	73
MBRF2045CT	SFRD	83	PG03EAESM	TVS Diode	78	SMAZ6.8V	Zener Diode	74	USFZ13V	SBD	73
MBRF2060CT	SFRD	83	PG03ESEL2	TVS Diode	77	SMAZ7.5V	Zener Diode	74	USFZ15V	SBD	73
MBRF30100CT	SFRD	83	PG03FBESC	TVS Diode	77	SMAZ8.2V	Zener Diode	74	USFZ16V	SBD	73
MBRF3045CT	SFRD	83	PG03FSESC	TVS Diode	77	SMAZ9.1V	Zener Diode	74	USFZ18V	SBD	73
MBRF5100	SFRD	83	PG03FSTFC	TVS Diode	78	SMAZ10V	Zener Diode	74	USFZ20V	SBD	73
MBRF545	SFRD	83	PG03FSVSC	TVS Diode	78	SMAZ11V	Zener Diode	74	USFZ22V	SBD	73
MBRF545CT	SFRD	83	PG03GXTE6	TVS Diode	77	SMAZ12V	Zener Diode	74	USFZ24V	SBD	73
MBRF560	SFRD	83	PG03GXUS6	TVS Diode	77	SMAZ13V	Zener Diode	74	USFZ27V	SBD	73
MBRF560CT	SFRD	83	PG03JSUSC	TVS Diode	77	SMAZ15V	Zener Diode	74	USFZ30V	SBD	73
MBRF10U45CT	SFRD	83	PG05AXUS6	TVS Diode	79	SMAZ16V	Zener Diode	74	USFZ33V	SBD	73
MBRF10U65CT	SFRD	83	PG05BAUSM	TVS Diode	78	SMAZ18V	Zener Diode	74	USFZ36V	SBD	73
MBRF10U100CT	SFRD	83	PG05BEESC	TVS Diode	77	SMAZ20V	Zener Diode	74	USFZ4.3V	SBD	73
MBRF10U150CT	SFRD	83	PG05BUS23	TVS Diode	78	SMAZ22V	Zener Diode	74	USFZ4.7V	SBD	73
MBRF10U200CT	SFRD	83	PG05DBTFC	TVS Diode	77	SMAZ24V	Zener Diode	74	Z02W100V	Zener Diode	66
MBRF15U45CT	SFRD	83	PG05DBVSC	TVS Diode	77	SMAZ27V	Zener Diode	74	Z02W10V	Zener Diode	72
MBRF20U45CT	SFRD	83	PG05DXTE6	TVS Diode	78	SMAZ30V	Zener Diode	74	Z02W11V	Zener Diode	72
MBRF20U65CT	SFRD	83	PG05DXTET	TVS Diode	78	SMAZ33V	Zener Diode	74	Z02W12V	Zener Diode	72
MBRF20U100CT	SFRD	83	PG05DXTEV	TVS Diode	78	SMAZ36V	Zener Diode	74	Z02W13V	Zener Diode	72
MBRF20U150CT	SFRD	83	PG05EAESM	TVS Diode	78	SMBB24	SBD	76	Z02W15V	Zener Diode	72
MBRF20U200CT	SFRD	83	PG05ESEL2	TVS Diode	77	SMBB26	SBD	76	Z02W16V	Zener Diode	72
MBRF30U45CT	SFRD	83	PG05FBESC	TVS Diode	77	SMBB34	SBD	76	Z02W18V	Zener Diode	72
MBRF30U100CT	SFRD	83	PG05FSESC	TVS Diode	77	SMBB36	SBD	76	Z02W2.0V	Zener Diode	71
MJD112	Transistor	24,51	PG05FSTFC	TVS Diode	78	SMCB34	SBD	76	Z02W2.2V	Zener Diode	71
MJD112L	Transistor	33,54	PG05FSVSC	TVS Diode	78	SMCB36	SBD	76	Z02W2.4V	Zener Diode	71
MJD117	Transistor	24,51	PG05FSUL2	TVS Diode	77	SMFB13	SBD	76	Z02W2.7V	Zener Diode	71
MJD117L	Transistor	33,54	PG05GBUSC	TVS Diode	77	SMFB13L	SBD	76	Z02W20V	Zener Diode	72
MJE13003	Transistor	32,54	PG05GBUSV	TVS Diode	78	SMFB14	SBD	76	Z02W22V	Zener Diode	72
MJE13003HV	Transistor	32,54	PG05GSUL2	TVS Diode	77	SMFB16	SBD	76	Z02W24V	Zener Diode	72
MJE13005	Transistor	32,54	PG05GXTE6	TVS Diode	78	SMFB23	SBD	76	Z02W27V	Zener Diode	72
MJE13005D	Transistor	54	PG05GXUS6	TVS Diode	78	SMFB23L	SBD	76	Z02W3.0V	Zener Diode	71
MJE13005F	Transistor	32,54	PG05HAS23	TVS Diode	78	SMFZ3.6V	Zener Diode	74	Z02W3.3V	Zener Diode	71
MJE13005DF	Transistor	32	PG05HBT6	TVS Diode	78	SMFZ3.9V	Zener Diode	74	Z02W3.6V	Zener Diode	71
MJE13005Q	Transistor	32	PG05HSUSC	TVS Diode	77	SMFZ4.3V	Zener Diode	74	Z02W3.9V	Zener Diode	71
MJE13007	Transistor	32,54	PG05HXTS6	TVS Diode	78	SMFZ4.7V	Zener Diode	74	Z02W30V	Zener Diode	72
MJE13007F	Transistor	32,54	PG05MSSMA	TVS Diode	77	SMFZ5.1V	Zener Diode	74	Z02W33V	Zener Diode	72
MJE13009	Transistor	32,54	PG05NSSMB	TVS Diode	77	SMFZ5.6V	Zener Diode	74	Z02W36V	Zener Diode	72
MJE13009F	Transistor	32,54	PG05NSSMC	TVS Diode	77	SMFZ6.2V	Zener Diode	74	Z02W4.3V	Zener Diode	71
MJE5555	Transistor	54	PG0506DF10	TVS Diode	79	SMFZ6.8V	Zener Diode	74	Z02W4.7V	Zener Diode	71
MMBTA05	Transistor	15,49	PG0506UL2	TVS Diode	79	SMFZ7.5V	Zener Diode	74	Z02W5.1V	Zener Diode	71
MMBTA06	Transistor	15,49	PG0506US6	TVS Diode	79	SMFZ8.2V	Zener Diode	74	Z02W5.6V	Zener Diode	71
MMBTA13	Transistor	20,50	PG0506VSM	TVS Diode	79	SMFZ9.1V	Zener Diode	74	Z02W6.2V	Zener Diode	71
MMBTA14	Transistor	20,50	PG08GBUSC	TVS Diode	77	SMFZ10V	Zener Diode	74	Z02W6.8V	Zener Diode	71
MMBTA42	Transistor	21,50	PG08HSUSC	TVS Diode	77	SMFZ11V	Zener Diode	74	Z02W7.5V	Zener Diode	71
MMBTA43	Transistor	21,50	PG12BUS23	TVS Diode	78	SMFZ12V	Zener Diode	74	Z02W8.2V	Zener Diode	71
MMBTA44	Transistor	21,50	PG12FBUSC	TVS Diode	77	SMFZ13V	Zener Diode	74	Z02W9.1V	Zener Diode	72
MMBTA517	Transistor	20,50	PG12FBUSV	TVS Diode	78	SMFZ15V	Zener Diode	74	Z4W27V	Zener Diode	75
MMBTA55	Transistor	15,49	PG12FXTE6	TVS Diode	78	SMFZ16V	Zener Diode	74	Z4W37V	Zener Diode	75
MMBTA56	Transistor	15,49	PG12FXUS6	TVS Diode	78	SMFZ18V	Zener Diode	74	Z5W27V	Zener Diode	75
MMBTA63	Transistor	20,50	PG12GAS23	TVS Diode	78	SMFZ20V	Zener Diode	74	Z5W37V	Zener Diode	75
MMBTA64	Transistor	20,50	PG12GBT6	TVS Diode	78	SMFZ22V	Zener Diode	74	Z5W48V	Zener Diode	75
MMBTA92	Transistor	21,50	PG12GCS23	TVS Diode	78	SMFZ24V	Zener Diode	74	Z6W27V	Zener Diode	75
MMBTA93	Transistor	21,50	PG12GSUSC	TVS Diode	77	SMFZ27V	Zener Diode	74	Z8W25V	Zener Diode	75
MPS651	Transistor	25,58	PG12GXTS6	TVS Diode	78	SMFZ30V	Zener Diode	74			
MPS751	Transistor	25,58	PG12MSSMA	TVS Diode	77	SMFZ33V	Zener Diode	74			
MPS8050	Transistor	25,58	PG12NSSMB	TVS Diode	77	SMFZ36V	Zener Diode	74			
MPS8050S	Transistor	15,49	PG12NSSMC	TVS Diode	77	TIP112F	Transistor	33			
MPS8550	Transistor	25,58	PG15FBUSC	TVS Diode	77	TIP117F	Transistor	33			
MPS8550S	Transistor	15,49	PG15GSUSC	TVS Diode	77	TIP31CF	Transistor	31			
MPSA05	Transistor	25,58	PG2.8CUS23	TVS Diode	78	TIP32CF	Transistor	31			
MPSA06	Transistor	25,58	PG22KSSMA	TVS Diode	77	TIP33C	Transistor	31,54			
MPSA13	Transistor	27,53	PG24BUS23	TVS Diode	78	TIP34C	Transistor	31,54			
MPSA14	Transistor	27,53	PG24EBUSC	TVS Diode	77	TIP35A	Transistor	31			
MPSA42	Transistor	28,53	PG24EXUS6	TVS Diode	78	TIP35C	Transistor	31,54			

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