MSI elect

HERMETICALLY SEALED GLASS PACKAGED TUNING DIODES

ABRUPT - HYPERABRUPT U

ELECTRICAL CHARACTERISTICS (T_A = 25° C unless otherwise noted)

Diode Cap (CT)* ±10% @ 4V/1 MHz pF	GENERAL APPLICATIONS TYPE NO	RATIO C2/C20 min/typ	Q4 @ 50 MHz	LOW INDUCTANCE FOR USE TO 2.5 GHz TYPE NO	RATIO C2/C20 min/max	Q4 @ 50 MHz min	MINIATURE GLASS VERY HIGH Q TYPE NO	RATIO C2/C30 min/typ	Q4 @ 50 MHz min	VERY HIGH Q PREDICTABLE TRACKING TYPE NO.	RATIO C2/C30 min/typ	Q4 @ 50 MHz min	GENERAL PURPOSE TYPE NO.	RATIO C4/C25 min/typ	Q4 @ 50 MHz	pF
1 8							SQ1213A	2.2/2.7	1500							1.8
2 2				G702A	1.7/2.2	700	SQ1214A	2.3/2.8	1400	SQ1714	2.2/2.6	1400				2.2
2 7							SQ1215A	2.4/2.8	1300	SQ1715	2.3/2.7	1300				2.7
3 3				G603A	1.7/2.2	600	SQ1216A	2.5/3.0	1200	SQ1716[2]	2.4/2.8	1200				3.3
3 9				G604A	1.8/2.4	600	SQ1217A	2.5/3.0	1100	SQ1717	2.4/2.8	1100				3.9
4 7							SQ1218A	2.5/3.0	1000	SQ1718	2.5/2.9	1000				4.7
5 6				G605A	1 8/2.4	600	SQ1219A	2.6/3.1	1000	SQ1719	2.5/2.9	1000				5.6
6 8	MV1620	2.0/2.5	300	G606A	1.9/2.4	600	SQ1220A	2.7/3.1	1000	SQ1720	2.7/3.1	1000				6.8
8 2	MV1622	2.0/2.5	300				SQ1222A	2.9/3.2	1000	SQ1722	2.8/3.2	1000				8.2
10 0	MV1624	2.0/2.5	300	G610A	1 9/2.4	600	SQ1224A	2.9/3.2	1000	SQ1724	2.8/3.1	1000				10.0
12 0	MV1626	2.0/2.5	300				SQ1226A	2.9/3.2	900	SQ1726	2.8/3.1	900				12.0
15 0	MV1628	2 0/2.5	250	G615A	2.0/2.5	600	SQ1228A	2.9/3.2	900	SQ1728	2.8/3.1	900	MV830	1.8/2.0	30	15.0
18 0	MV1630	2 0/2.6	250				SQ1230A	2.9/3.2	900	SQ1730	2.9/3.1	900	MV831	1.8/2.0	25	18 0
20 0	MV1632	2.0/2.6	250				SQ1232A	2.9/3.2	800	SQ1732	2.9/3,1	800				20.0
22 0	MV1634	2 0/2.6	250	G522A	2.0/2.5	500	SQ1234A	3.0/3.3	800	SQ1734	2.9/3.2	800	MV832	1.8/2,1	25	22 0
27 0	MV1636	2 0/2.6	200				SQ1236A	3.0/3.3	800	SQ1736	2.9/3.2	800	MV833	1.8/2,1	25	27.0
33 0	MV1638	2.0/2.6	200				SQ1238A	3.0/3.3	700	SQ1738	2.9/3.2	700	MV834	1.9/2.2	20	33.0
39 0	MV1640	2.0/2.6	200							SQ1740	2.9/3.2	600	MV835	1,9/2.2	20	39.0
47 0	MV1642	2.0/2.7	200							SQ1742	2.9/3,2	500	MV836	1.9/2.2	15	47.0
56 0	MV1644	2.0/2.7	150							SQ1744	2.9/3.2	450	MV837	1.9/2.2	15	56 0
68 0	MV1646	2.0/2.7	150							SQ1746	2.9/3.2	300	MV838	2.0/2.2	15	68.0
82 0	MV1648	2.0/2.7	150							SQ1748	2,9/3.2	300	MV839	2.0/2.2	10	82 0
100 0	MV1650	2.0/2.7	150							SQ1750	2,9/3.2	300	MV840	2.0/2.2	10	100 0
VR (min)	20 Vdc @ IR @ 10 uAdc			25 Vdc @ IR - 10 uAdc			30 Vdc @ IR = 10 uAdc			30 Vdc @ IR = 10 uAdc			30 Vdc @ IR - 10 uAdc			
IR (max)	0 1 uAdc @ VR 15 Vdc			0 5 uAdc @ VR - 20 Vdc			0-02 uAdc @ VR - 25 Vdc 2 0 uAdc @ TA - 150°C			0 02 uAdc @ VR 25 Vdc 2.0 uAdc @ TA = 150°C			0.2 uAdc @ VR - 25 Vdc			
TCC1	300 ppm/°C			300 ppm /°C			300 ppm/°C			300 ppm/°C			300 ppm/°C			
Case	DO 7			DO 35			Miniature DO 7			DO 7			DO 7			

Diode Cap (CT)* 4V/1 MHz ± 10% pf		15 & 20 VOLTS TYPE NO	RATIO[3] C2/C20 typ	Q4 @ 20 MHz min
	120 0	MV1652	2 6	250
	150 0	MV1654	2 6	250
	180 0	MV1656	2 6	200
	200 0	MV1658	2 6	200
	220 0	MV1660	2 6	150
	250 0	MV1662[3]	2 3	150
	270 0	MV1664[3]	2 3	100
	330.0	MV1666[3]	2 3	100
VR (min)		20 Vdc @ IR = 10 uAdc MV1652/60 15 Vdc @ IR = 10 uAdc MV1662/66		
IR (max)		0 1 uAdc @ VR = 15 Vdc MV1652/60 0 1 uAdc @ VR = 10 Vdc MV1662/66		
TCC		300 ppm/°C		
Case		DO 14		

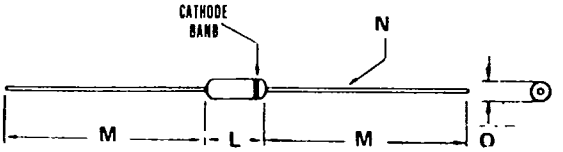
*Total Diode Capacitance measured at 1 MHz and VR specified
To order devices with CT Nom ± 5 0 % or _ 2 0% add Suffix B or C respectively
(1) Capacitance Temperature Coefficient (typ) @ 4V/1 MHz
(2) For SQ1716, C4 = 3 pf nom
(3) Tuning Ratio @ C2/C15 for MV1662/66

GENERAL SPECIFICATIONS

(25° C unless noted)

RATING	SYMBOL	VALUE			
Reverse Voltage	VR	As SPECIFIED			
Junction Temperature	Tj	+175°C Max			
Storage Temperature	Tstg	-65°C to 200°C			
Linear Power Derating		4 mW/°C			
		DO-35	MIN DO-7	DO-7	DO-14
Device Dissipation (mW Max)	PD	400	250	400	500
Case Capacitance (pf Typ)	CC	0.10	0.15	0.2	0.3
Series Inductance (nhy Typ)	LS	1.5	3.0	5.0	5.0

PACKAGE CHARACTERISTICS



DIM	DO-35 Min	DO-35 Max	Min DO-7 Min	Min DO-7 Max	DO-7 Min	DO-7 Max	DO-14 Min	DO-14 Max
L		.180	0.150	0.176		0.300		0.300
M	1.00		1.000		1.000		1.000	
N	0.019	0.021	0.014	0.016	0.019	0.021	0.019	0.021
O	.075	.085	0.068	0.076	0.092	0.104	0.108	0.140

All dimensions in inches, to convert to millimeters, multiply by 25.4

For other types not listed he
your representative or the fa
requirements.

MSI elect

HF/VHF TUNING DIODES

CHIP DIODES

TO ORDER PASSIVATED DIODE CHIPS, ADD "CHIP" AFTER TYPE NO.

LOWEST LEAKAGE HIGH Q

TYPE NO	RATIO C2/C30 min/max	Q4 @ 50 MHz min
05461A	2.7/3.1	600
05462A	2.8/3.1	600
05463A	2.8/3.1	550
05464A	2.8/3.1	550
05465A	2.8/3.1	550
05466A	2.9/3.1	500
05467A	2.9/3.1	500
05468A	2.9/3.2	500
05469A	2.9/3.2	500
05470A	2.9/3.2	500
05471A	2.9/3.2	450
05472A	2.9/3.2	400
05473A	2.9/3.3	300
05474A	2.9/3.3	250
05475A	2.9/3.3	225
05476A	2.9/3.3	200

30 Vdc @ IR 0.004 uAdc

0.0[illegible]dc @ VR 30 Vdc

300 ppm/°C

DO 7

HIGH Q FOR MANY UHF–VHF USES

TYPE NO	RATIO C2/C30 min/max	Q4 @ 50 MHz min
1N5461A	2.7/3.1	600
1N5462A	2.8/3.1	600
1N5463A	2.8/3.1	550
1N5464A	2.8/3.1	550
1N5465A	2.8/3.1	550
1N5466A	2.9/3.1	500
1N5467A	2.9/3.1	500
1N5468A	2.9/3.2	500
1N5469A	2.9/3.2	500
1N5470A	2.9/3.2	500
1N5471A	2.9/3.2	450
1N5472A	2.9/3.2	400
1N5473A	2.9/3.3	300
1N5474A	2.9/3.3	250
1N5475A	2.9/3.3	225
1N5476A	2.9/3.3	200

30 Vdc @ IR = 10 uAdc

0.02 uAdc @ VR = 25 Vdc
2.0 uAdc @ TA = 150°C

300 ppm/°C

DO 7

ABRUPT GOOD Q

TYPE NO	RATIO C2/C30 min/max	Q4 @ 50 MHz min
1N5441A	2.5/3.1	450
1N5442A	2.5/3.1	450
1N5443A	2.6/3.1	400
1N5444A	2.6/3.1	400
1N5445A	2.6/3.1	400
1N5446A	2.6/3.1	350
1N5447A	2.6/3.1	350
1N5448A	2.6/3.2	350
1N5449A	2.6/3.2	350
1N5450A	2.6/3.2	350
1N5451A	2.6/3.2	300
1N5452A	2.6/3.2	250
1N5453A	2.6/3.3	200
1N5454A	2.7/3.3	175
1N5455A	2.7/3.3	175
1N5456A	2.7/3.3	175

30 Vdc @ IR = 10 uAdc

0.02 uAdc @ VR = 25 Vdc
2.0 uAdc @ TA = 150°C

300 ppm/°C

DO 7

HYPERABRUPT HIGH Q

TYPE NO	RATIO C2/C30 min/max	Q4 @ 50 MHz min
HA1915A	3.1	1000
HA1916A	3.1	1000
HA1917A	3.1	1000
HA1918A	3.2	900
HA1919A	3.2	800
HA1920A	3.8	800
HA1922A	3.9	800
HA1924A	3.9	700
HA1926A	3.9	700
HA1928A	3.9	700
HA1930A	4.0	600
HA1934A	4.0	600
HA1936A	4.0	600
HA1938A	4.0	600
HA1940A	4.0	500
HA1942A	4.0	500
HA1944A	4.0	400
HA1946A	4.0	300
HA1948A	4.0	250
HA1950A	4.0	200

30 Vdc @ IR = 10 uAdc

0.02 uAdc @ VR = 25 Vdc
2.0 uAdc @ TA = 150°C

400 ppm/°C

DO 7

HIGHER VOLTAGE HIGH Q

TYPE NO.	RATIO C0/C60 min/typ	Q4 @ 50 MHz min
GC1754	5:1	1200
GC1755	5.1	1200
GC1756	5:1	1200
GC1757	6:1	1100
GC1758	6:1	1100
GC1759	7:1	1100
GC1760	7:1	1000
GC1761	7:1	1000
GC1762	7:1	1000
GC1763	7:1	900
GC1764	7:1	900
GC1765	7:1	900
GC1766	7:1	800
GC1767	7:1	800
GC1768	7:1	600
GC1769	7.1	600
GC1770	7:1	600

60 Vdc @ IR 10 uAdc

0.02 uAdc @ VR = 55 Vdc
2.0 uAdc @ TA = 125°C

200 ppm/°C

MIN DO 7 GC1759.62
DO 7 GC1763.70

60 VOLT GENERAL USE

TYPE NO.	RATIO C4/C60 min/typ	Q4 @ 50 MHz min
1N5139	2.7/2.9	350
1N5140	2.8/3.0	300
1N5141	2.8/3.0	300
1N5142	2.8/3.0	250
1N5143	2.8/3.0	250
1N5144	3.2/3.4	200
1N5145	3.2/3.4	200
1N5146	3.2/3.4	200
1N5147	3.2/3.4	200
1N5148	3.2/3.4	200

NOTE IN THIS COLUMN ADD SUFFIX "A" FOR 5% CAPACITY TOLERANCE

60 Vdc @ IR = 10 uAdc

0.02 uAdc @ VR = 55 Vdc
2.0 uAdc @ TA = 150°C

200 ppm/°C

DO 7

HYPERABRUPT

HYPER C™

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

TYPE NO.	DIODE CAPACITANCE (pf) @ C (Volts Bias) /pf @ 1 MHz				CAPACITANCE TUNING RATIO (T_R)			Q4 @ 50 MHz min	V_R @ I_R = 1 ua Vdc - min	I_R		CASE
	C3/pf min/max	C4/pf min/max	C8/pf min/max	C20/pf min/max	C3/C20 min/max	C4/C8 min/max	C4/C20 min/max			V_R = 20 Vdc uAdc max	V_R = 10 Vdc uAdc max	
2001		18.0/22.0	7.5/10.5	3.1/3.9			5.4/6.8	160	22	0.1		
2002		18.0/22.0	7.5/10.5			1.8/2.7		160	15		0.1	
2101	10.5/12.5		4.3/5.7	2.0/2.3	5.0/5.8			300	22	0.1		DO-7
2102	10.5/12.5		4.3/5.7	2.0/2.4	4.7/5.5			200	22	0.1		ALL
2801			10.0/13.5	4.5/5.1	5.2/6.1			200	22	0.1		
2802			10.0/13.5	4.5/5.3	4.9/5.8			150	22	0.1		

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tory with your