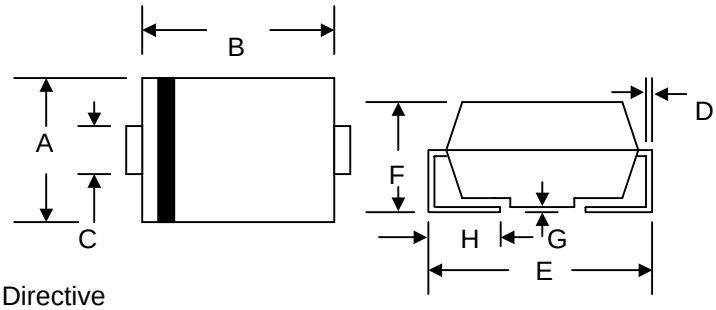
Data Sheet 5801, Rev.-

Green Products

Features

- Glass Passivated Die Construction
- 400W Peak Pulse Power Dissipation
- 5.0V – 170V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- UL Recognized File # E224235
- Green Products in Compliance with the RoHS Directive



Mechanical Data

- Case: JEDEC DO-214AC Low Profile Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking:
  Unidirectional – Device Code and Cathode Band
  Bidirectional – Device Code Only
- Weight: 0.064 grams (approx.)

SMA/DO-214AC				
Dim	**Min**	**Max**	**Min**	**Max**
A	2.50	2.90	0.098	0.114
B	4.00	4.60	0.157	0.181
C	1.40	1.60	0.055	0.063
D	0.152	0.305	0.006	0.012
E	4.80	5.28	0.189	0.208
F	2.00	2.44	0.079	0.096
G	0.051	0.203	0.002	0.008
H	0.76	1.52	0.030	0.060
	In mm		**In inch**	

"C" Suffix Designates Bi-directional Devices
"A" Suffix Designates 5% Tolerance Devices
No Suffix Designates 10% Tolerance Devices

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation at T_A = 25°C (Note 1, 2, 5) Figure 1	P_{PPM}	400 Minimum	W
Peak Forward Surge Current per Figure 5 (Note 3)	I_{FSM}	40	A
Peak Pulse Current on 10/1000μS Waveform (Note 1) Figure 2	I_{PPM}	See Table 1	A
Steady State Power Dissipation (Note 4)	$P_{M(AV)}$	1.0	W
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	°C

Note: 1. Non-repetitive current pulse, per Figure 3 and derated above T_A = 25°C per Figure 2
2. Mounted on 5.0mm^2 copper pads to each terminal
3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum
4. Lead temperature at 75°C = T_L
5. Peak pulse power waveform is 10/1000μS

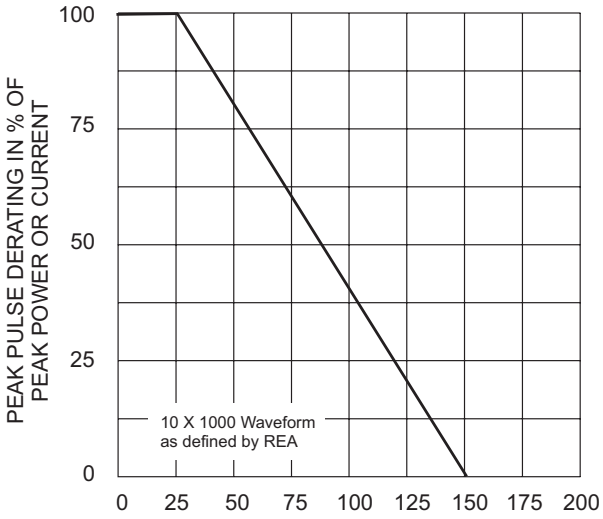


Fig. 1 Pulse Derating Curve

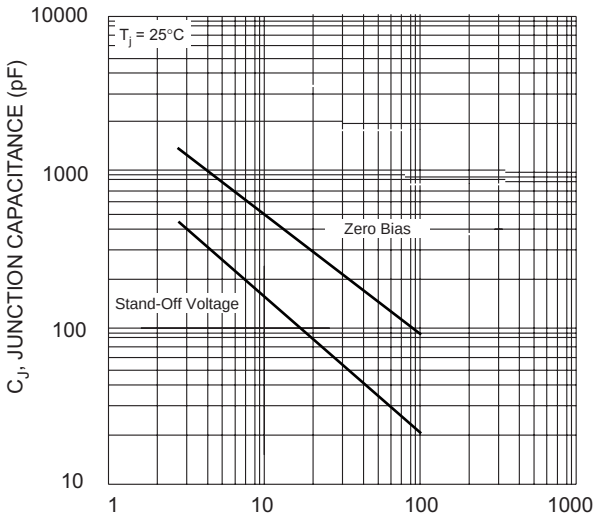


Fig. 2 Typical Junction Capacitance

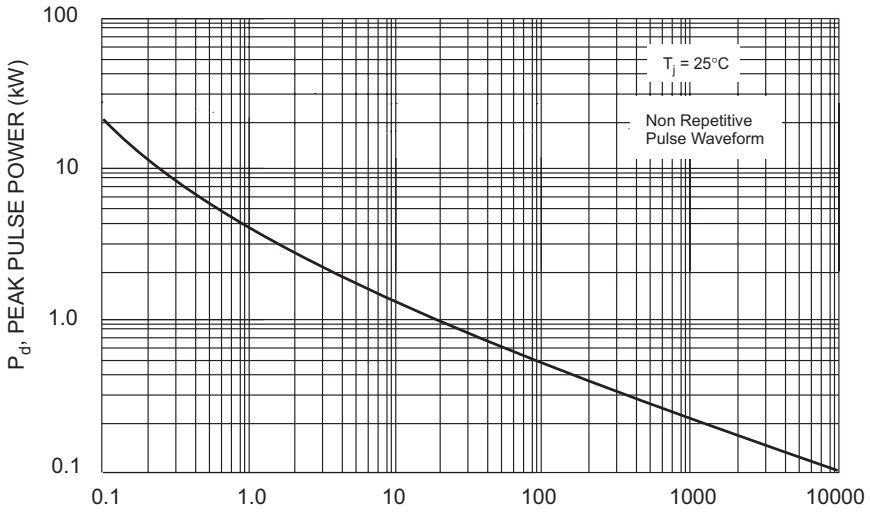


Fig. 3 Pulse Rating Curve

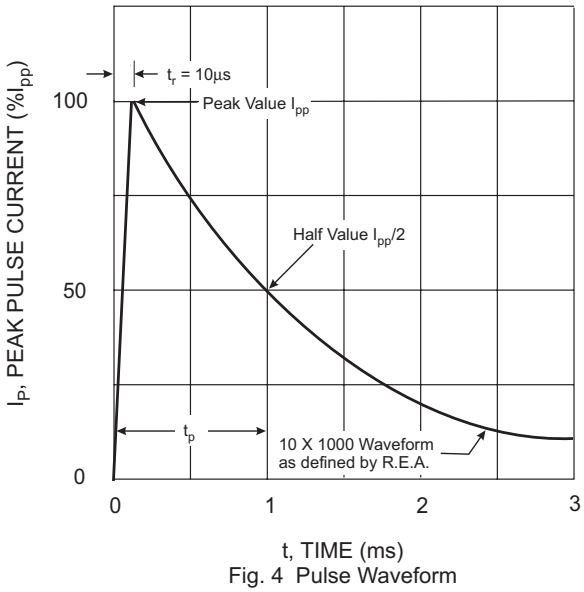


Fig. 4 Pulse Waveform

UNI-DIRECTIONAL 400 WATT SURFACE MOUNT TVS

UNI-DIRECTIONAL PART NO.	DEVICE MARKING CODE	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
SMAJ5.0-G	HD	5.00	6.40	7.55	10	9.6	41.6	800
SMAJ5.0A-G	HE	5.00	6.40	7.25	10	9.2	43.5	800
SMAJ6.0-G	HF	6.00	6.67	8.45	10	11.4	35.1	800
SMAJ6.0A-G	HG	6.00	6.67	7.67	10	10.3	38.8	800
SMAJ6.5-G	HH	6.50	7.22	9.14	10	12.3	32.5	500
SMAJ6.5A-G	HK	6.50	7.22	8.30	10	11.2	35.7	500
SMAJ7.0-G	HL	7.00	7.78	9.86	10	13.3	30.1	200
SMAJ7.0A-G	HM	7.00	7.78	8.95	10	12.0	33.3	200
SMAJ7.5-G	HN	7.50	8.33	10.67	1	14.3	28.0	100
SMAJ7.5A-G	HP	7.50	8.33	9.58	1	12.9	31.0	100
SMAJ8.0-G	HQ	8.00	8.99	11.30	1	15.0	26.5	50
SMAJ8.0A-G	HR	8.00	8.99	10.23	1	13.6	29.4	50
SMAJ8.5-G	HS	8.50	9.44	11.92	1	15.9	25.1	10
SMAJ8.5A-G	HT	8.50	9.44	10.82	1	14.4	27.7	10
SMAJ9.0-G	HU	9.00	10.00	12.60	1	16.9	23.6	5
SMAJ9.0A-G	HV	9.00	10.00	11.50	1	15.4	26.0	5
SMAJ10-G	HW	10.00	11.10	14.10	1	18.8	21.2	5
SMAJ10A-G	HX	10.00	11.10	12.80	1	17.0	23.5	5
SMAJ11-G	HY	11.00	12.20	15.40	1	20.1	20.0	5
SMAJ11A-G	HZ	11.00	12.20	14.00	1	18.2	22.0	5
SMAJ12-G	ID	12.00	13.30	16.90	1	22.0	18.1	5
SMAJ12A-G	IE	12.00	13.30	15.30	1	19.9	20.1	5
SMAJ13-G	IF	13.00	14.40	18.20	1	23.8	16.8	5
SMAJ13A-G	IG	13.00	14.40	16.50	1	21.5	18.6	5
SMAJ14-G	IH	14.00	15.60	19.80	1	25.8	15.5	5
SMAJ14A-G	IK	14.00	15.60	17.90	1	23.2	17.2	5
SMAJ15-G	IL	15.00	16.70	21.10	1	26.9	14.8	5
SMAJ15A-G	IM	15.00	16.70	19.20	1	24.4	16.4	5
SMAJ16-G	IN	16.00	17.80	22.60	1	28.8	13.8	5
SMAJ16A-G	IP	16.00	17.80	20.50	1	26.0	15.3	5
SMAJ17-G	IQ	17.00	18.90	23.90	1	30.5	13.1	5
SMAJ17A-G	IR	17.00	18.90	21.70	1	27.6	14.5	5
SMAJ18-G	IS	18.00	20.00	25.30	1	32.2	12.4	5
SMAJ18A-G	IT	18.00	20.00	23.30	1	29.2	13.7	5
SMAJ20-G	IU	20.00	22.20	28.10	1	35.8	11.1	5
SMAJ20A-G	IV	20.00	22.20	25.50	1	32.4	12.3	5
SMAJ22-G	IW	22.00	24.40	30.90	1	39.4	10.1	5
SMAJ22A-G	IX	22.00	24.40	28.00	1	35.5	11.2	5
SMAJ24-G	IY	24.00	26.70	33.80	1	43.0	9.3	5
SMAJ24A-G	IZ	24.00	26.70	30.70	1	38.9	10.3	5
SMAJ26-G	JD	26.00	28.90	36.60	1	46.6	8.6	5
SMAJ26A-G	JE	26.00	28.90	33.20	1	42.1	9.5	5
SMAJ28-G	JF	28.00	31.10	39.40	1	50.0	8.0	5
SMAJ28A-G	JG	28.00	31.10	35.80	1	45.4	8.8	5
SMAJ30-G	JH	30.00	33.30	42.20	1	53.5	7.5	5
SMAJ30A-G	JK	30.00	33.30	38.30	1	48.4	8.3	5
SMAJ33-G	JL	33.00	36.70	46.50	1	59.0	6.8	5
SMAJ33A-G	JM	33.00	36.70	42.20	1	53.3	7.5	5
SMAJ36-G	JN	36.00	40.00	50.70	1	64.3	6.2	5
SMAJ36A-G	JP	36.00	40.00	46.00	1	58.1	6.9	5
SMAJ40-G	JQ	40.00	44.40	56.30	1	71.4	5.6	5
SMAJ40A-G	JR	40.00	44.40	51.10	1	64.5	6.2	5
SMAJ43-G	JS	43.00	47.80	60.50	1	76.7	5.2	5
SMAJ43A-G	JT	43.00	47.80	54.90	1	69.4	5.7	5
SMAJ45-G	JU	45.00	50.00	63.30	1	80.3	5.0	5
SMAJ45A-G	JV	45.00	50.00	57.50	1	72.7	5.5	5
SMAJ48-G	JW	48.00	53.30	67.50	1	85.5	4.7	5
SMAJ48A-G	JX	48.00	53.30	61.30	1	77.4	5.2	5
SMAJ51-G	JY	51.00	56.70	71.80	1	91.1	4.4	5
SMAJ51A-G	JZ	51.00	56.70	65.20	1	82.4	4.9	5
SMAJ54-G	RD	54.00	60.00	76.00	1	96.3	4.2	5
SMAJ54A-G	RE	54.00	60.00	69.00	1	87.1	4.6	5
SMAJ58-G	RF	58.00	64.40	81.60	1	103.0	3.9	5
SMAJ58A-G	RG	58.00	64.40	74.10	1	93.6	4.3	5
SMAJ60-G	RH	60.00	66.70	84.50	1	107.0	3.7	5
SMAJ60A-G	RK	60.00	66.70	76.70	1	96.8	4.1	5
SMAJ64-G	RL	64.00	71.10	90.10	1	114.0	3.5	5
SMAJ64A-G	RM	64.00	71.10	81.80	1	103.0	3.9	5
SMAJ70-G	RN	70.00	77.80	98.60	1	125.0	3.2	5
SMAJ70A-G	RP	70.00	77.80	89.50	1	113.0	3.5	5
SMAJ75-G	RQ	75.00	83.30	105.70	1	134.0	3.0	5
SMAJ75A-G	RR	75.00	83.30	95.80	1	121.0	3.3	5
SMAJ78-G	RS	78.00	86.70	109.80	1	139.0	2.9	5
SMAJ78A-G	RT	78.00	86.70	99.70	1	126.0	2.2	5
SMAJ85-G	RU	85.00	94.40	119.20	1	151.0	2.6	5
SMAJ85A-G	RV	85.00	94.40	108.20	1	137.0	2.9	5
SMAJ90-G	RW	90.00	100.00	126.50	1	160.0	2.5	5
SMAJ90A-G	RX	90.00	100.00	115.50	1	146.0	2.7	5
SMAJ100-G	RY	100.00	111.00	141.00	1	179.0	2.2	5
SMAJ100A-G	RZ	100.00	111.00	128.00	1	162.0	2.5	5
SMAJ110-G	SD	110.00	122.00	154.50	1	196.0	2.0	5
SMAJ110A-G	SE	110.00	122.00	140.50	1	177.0	2.3	5
SMAJ120-G	SF	120.00	133.00	169.00	1	214.0	1.9	5
SMAJ120A-G	SG	120.00	133.00	153.00	1	193.0	2.0	5
SMAJ130-G	SH	130.00	144.00	182.50	1	231.0	1.7	5
SMAJ130A-G	SK	130.00	144.00	165.50	1	209.0	1.9	5
SMAJ150-G	SL	150.00	167.00	211.50	1	269.0	1.5	5
SMAJ150A-G	SM	150.00	167.00	192.50	1	243.0	1.6	5
SMAJ160-G	SN	160.00	178.00	226.00	1	287.0	1.4	5
SMAJ160A-G	SP	160.00	178.00	205.00	1	259.0	1.5	5
SMAJ170-G	SQ	170.00	189.00	239.50	1	304.0	1.3	5
SMAJ170A-G	SR	170.00	189.00	217.50	1	275.0	1.4	5

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BI-DIRECTIONAL 400 WATT SURFACE MOUNT TVS

BI-DIRECTIONAL PART NO.	DEVICE MARKING CODE	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
SMAJ5.0C- G	TD	5.00	6.40	7.55	10	9.6	41.6	1600
SMAJ5.0CA- G	TE	5.00	6.40	7.25	10	9.2	43.5	1600
SMAJ6.0C- G	TF	6.00	6.67	8.45	10	11.4	35.1	1600
SMAJ6.0CA-G	TG	6.00	6.67	7.67	10	10.3	38.8	1600
SMAJ6.5C- G	TH	6.50	7.22	9.14	10	12.3	32.5	1000
SMAJ6.5CA- G	TK	6.50	7.22	8.30	10	11.2	35.7	1000
SMAJ7.0C- G	TL	7.00	7.78	9.86	10	13.3	30.1	400
SMAJ7.0CA- G	TM	7.00	7.78	8.95	10	12.0	33.3	400
SMAJ7.5C- G	TN	7.50	8.33	10.67	1	14.3	28.0	200
SMAJ7.5CA- G	TP	7.50	8.33	9.58	1	12.9	31.0	200
SMAJ8.0C- G	TQ	8.00	8.99	11.30	1	15.0	26.5	100
SMAJ8.0CA- G	TR	8.00	8.99	10.23	1	13.6	29.4	100
SMAJ8.5C- G	TS	8.50	9.44	11.92	1	15.9	25.1	20
SMAJ8.5CA- G	TT	8.50	9.44	10.82	1	14.4	27.7	20
SMAJ9.0C- G	TU	9.00	10.00	12.60	1	16.9	23.6	10
SMAJ9.0CA- G	TV	9.00	10.00	11.50	1	15.4	26.0	10
SMAJ10C-G	TW	10.00	11.10	14.10	1	18.8	21.2	5
SMAJ10CA-G	TX	10.00	11.10	12.80	1	17.0	23.5	5
SMAJ11C- G	TY	11.00	12.20	15.40	1	20.1	20.0	5
SMAJ11CA- G	TZ	11.00	12.20	14.00	1	18.2	22.0	5
SMAJ12C-G	UD	12.00	13.30	16.90	1	22.0	18.1	5
SMAJ12CA-G	UE	12.00	13.30	15.30	1	19.9	20.1	5
SMAJ13C-G	UF	13.00	14.40	18.20	1	23.8	16.8	5
SMAJ13CA-G	UG	13.00	14.40	16.50	1	21.5	18.6	5
SMAJ14C-G	UH	14.00	15.60	19.80	1	25.8	15.5	5
SMAJ14CA-G	UK	14.00	15.60	17.90	1	23.2	17.2	5
SMAJ15C-G	UL	15.00	16.70	21.10	1	26.9	14.8	5
SMAJ15CA-G	UM	15.00	16.70	19.20	1	24.4	16.4	5
SMAJ16C-G	UN	16.00	17.80	22.60	1	28.8	13.8	5
SMAJ16CA-G	UP	16.00	17.80	20.50	1	26.0	15.3	5
SMAJ17C-G	UQ	17.00	18.90	23.90	1	30.5	13.1	5
SMAJ17CA-G	UR	17.00	18.90	21.70	1	27.6	14.5	5
SMAJ18C-G	US	18.00	20.00	25.30	1	32.2	12.4	5
SMAJ18CA-G	UT	18.00	20.00	23.30	1	29.2	13.7	5
SMAJ20C-G	UU	20.00	22.20	28.10	1	35.8	11.1	5
SMAJ20CA-G	UV	20.00	22.20	25.50	1	32.4	12.3	5
SMAJ22C-G	UW	22.00	24.40	30.90	1	39.4	10.1	5
SMAJ22CA-G	UX	22.00	24.40	28.00	1	35.5	11.2	5
SMAJ24C-G	UY	24.00	26.70	33.80	1	43.0	9.3	5
SMAJ24CA-G	UZ	24.00	26.70	30.70	1	38.9	10.3	5
SMAJ26C-G	VD	26.00	28.90	36.60	1	46.6	8.6	5
SMAJ26CA-G	VE	26.00	28.90	33.20	1	42.1	9.5	5
SMAJ28C-G	VF	28.00	31.10	39.40	1	50.0	8.0	5
SMAJ28CA-G	VG	28.00	31.10	35.80	1	45.4	8.8	5
SMAJ30C-G	VH	30.00	33.30	42.20	1	53.5	7.5	5
SMAJ30CA-G	VK	30.00	33.30	38.30	1	48.4	8.3	5
SMAJ33C-G	VL	33.00	36.70	46.50	1	59.0	6.8	5
SMAJ33CA-G	VM	33.00	36.70	42.20	1	53.3	7.5	5
SMAJ36C-G	VN	36.00	40.00	50.70	1	64.3	6.2	5
SMAJ36CA-G	VP	36.00	40.00	46.00	1	58.1	6.9	5
SMAJ40C-G	VQ	40.00	44.40	56.30	1	71.4	5.6	5
SMAJ40CA-G	VR	40.00	44.40	51.10	1	64.5	6.2	5
SMAJ43C-G	VS	43.00	47.80	60.50	1	76.7	5.2	5
SMAJ43CA-G	VT	43.00	47.80	54.90	1	69.4	5.7	5
SMAJ45C-G	VU	45.00	50.00	63.30	1	80.3	5.0	5
SMAJ45CA-G	VV	45.00	50.00	57.50	1	72.7	5.5	5
SMAJ48C-G	VW	48.00	53.30	67.50	1	85.5	4.7	5
SMAJ48CA-G	VX	48.00	53.30	61.30	1	77.4	5.2	5
SMAJ51C-G	VY	51.00	56.70	71.80	1	91.1	4.4	5
SMAJ51CA-G	VZ	51.00	56.70	65.20	1	82.4	4.9	5
SMAJ54C-G	WD	54.00	60.00	76.00	1	96.3	4.2	5
SMAJ54CA-G	WE	54.00	60.00	69.00	1	87.1	4.6	5
SMAJ58C-G	WF	58.00	64.40	81.60	1	103.0	3.9	5
SMAJ58CA-G	WG	58.00	64.40	74.10	1	93.6	4.3	5
SMAJ60C-G	WH	60.00	66.70	84.50	1	107.0	3.7	5
SMAJ60CA-G	WK	60.00	66.70	76.70	1	96.8	4.1	5
SMAJ64C-G	WL	64.00	71.10	90.10	1	114.0	3.5	5
SMAJ64CA-G	WM	64.00	71.10	81.80	1	103.0	3.9	5
SMAJ70C-G	WN	70.00	77.80	98.60	1	125.0	3.2	5
SMAJ70CA-G	WP	70.00	77.80	89.50	1	113.0	3.5	5
SMAJ75C-G	WQ	75.00	83.30	105.70	1	134.0	3.0	5
SMAJ75CA-G	WR	75.00	83.30	95.80	1	121.0	3.3	5
SMAJ78C-G	WS	78.00	86.70	109.80	1	139.0	2.9	5
SMAJ78CA-G	WT	78.00	86.70	99.70	1	126.0	2.2	5
SMAJ85C-G	WU	85.00	94.40	119.20	1	151.0	2.6	5
SMAJ85CA-G	WV	85.00	94.40	108.20	1	137.0	2.9	5
SMAJ90C-G	WW	90.00	100.00	126.50	1	160.0	2.5	5
SMAJ90CA-G	WX	90.00	100.00	115.50	1	146.0	2.7	5
SMAJ100C-G	WY	100.00	111.00	141.00	1	179.0	2.2	5
SMAJ100CA-G	WZ	100.00	111.00	128.00	1	162.0	2.5	5
SMAJ110C-G	XD	110.00	122.00	154.50	1	196.0	2.0	5
SMAJ110CA-G	XE	110.00	122.00	140.50	1	177.0	2.3	5
SMAJ120C-G	XF	120.00	133.00	169.00	1	214.0	1.9	5
SMAJ120CA-G	XG	120.00	133.00	153.00	1	193.0	2.0	5
SMAJ130C-G	XH	130.00	144.00	182.50	1	231.0	1.7	5
SMAJ130CA-G	XK	130.00	144.00	165.50	1	209.0	1.9	5
SMAJ150C-G	XL	150.00	167.00	211.50	1	269.0	1.5	5
SMAJ150CA-G	XM	150.00	167.00	192.50	1	243.0	1.6	5
SMAJ160C-G	XN	160.00	178.00	226.00	1	287.0	1.4	5
SMAJ160CA-G	XP	160.00	178.00	205.00	1	259.0	1.5	5
SMAJ170C-G	XQ	170.00	189.00	239.50	1	304.0	1.3	5
SMAJ170CA-G	XR	170.00	189.00	217.50	1	275.0	1.4	5

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