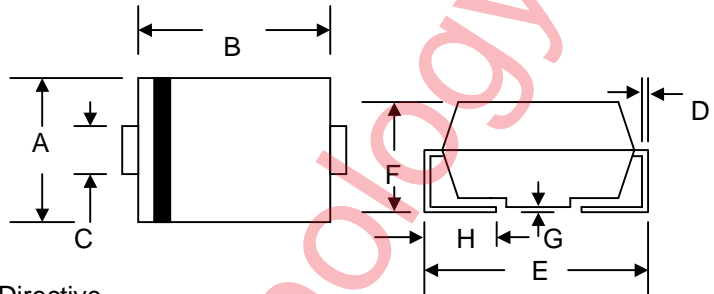


Data Sheet 5801, Rev.-

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 @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

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

- Note: 1. Non-repetitive current pulse, per Figure 3 and derated above $T_A = 25^{\circ}\text{C}$ per Figure 2
 2. Mounted on 5.0mm² copper pads to each terminal
 3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum
 4. Lead temperature at $75^{\circ}\text{C} = T_L$
 5. Peak pulse power waveform is 10/1000 μS

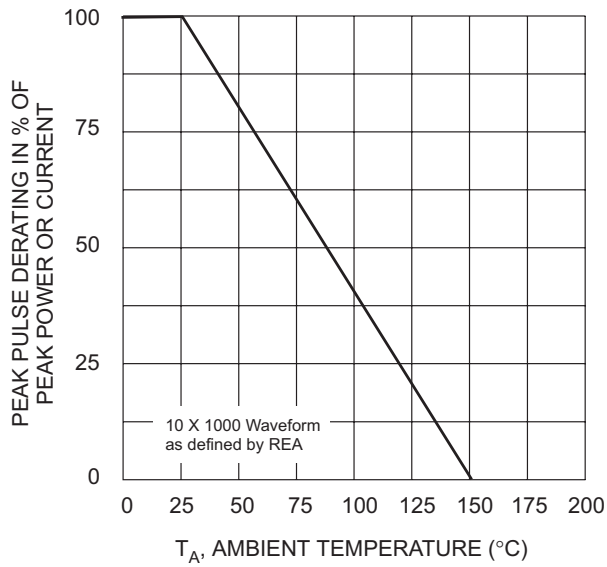


Fig. 1 Pulse Derating Curve

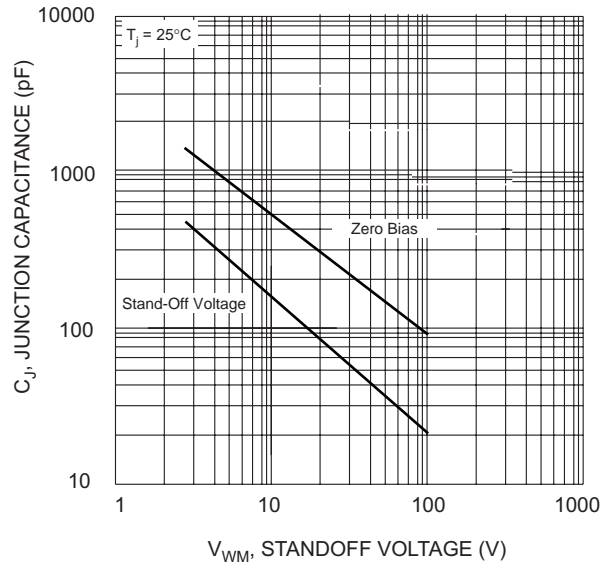


Fig. 2 Typical Junction Capacitance

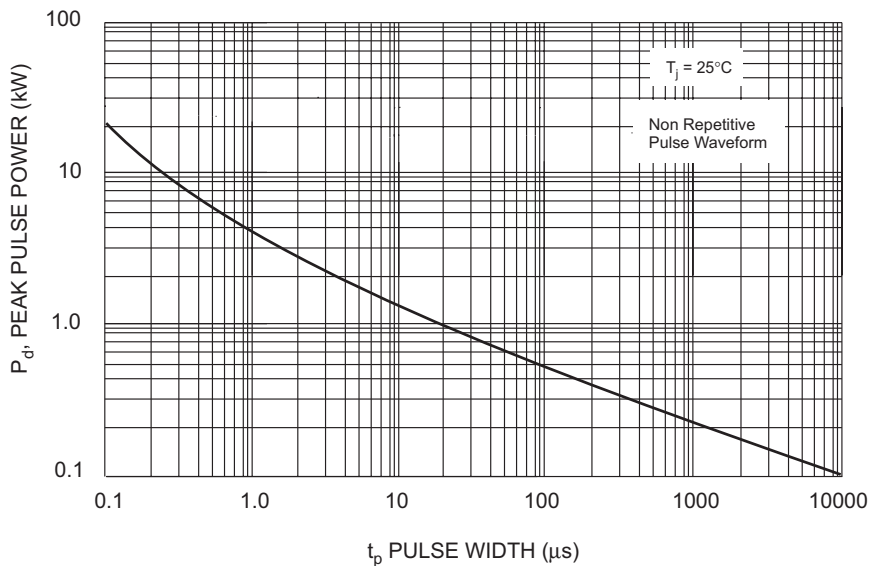


Fig. 3 Pulse Rating Curve

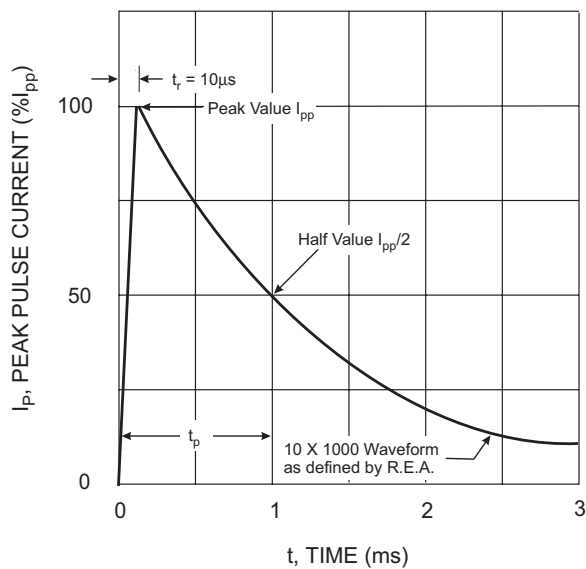


Fig. 4 Pulse Waveform

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

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

DISCLAIMER:

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- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
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