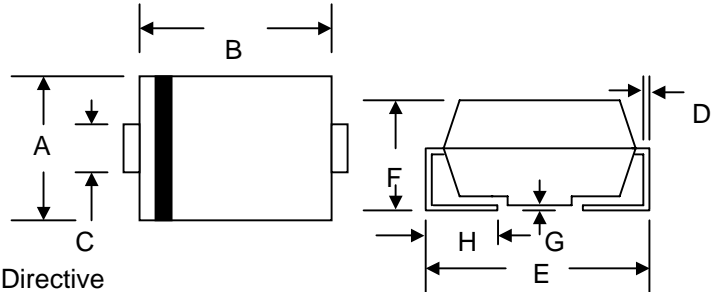


Data Sheet 5004, Rev.-

Green Products

Features

- Glass Passivated Die Construction
- 600W 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-214AA 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: 0.093 grams (approx.)

SMB/DO-214AA				
Dim	Min	Max	Min	Max
A	3.30	3.94	0.130	0.155
B	4.06	4.70	0.160	0.185
C	1.91	2.11	0.075	0.083
D	0.152	0.305	0.006	0.012
E	5.08	5.59	0.2	0.220
F	2.13	2.44	0.084	0.096
G	0.051	0.203	0.002	0.008
H	0.76	1.27	0.029	0.05
	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 10/1000 μS Waveform (Note 1, 2) Figure 1	PPPM	600 Minimum	W
Peak Pulse Current on 10/1000 μS Waveform (Note 1) Figure 3	IPPM	See Table 1	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 2, 3)	IFSM	100	A
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(0.013mm thick) land areas
 3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum

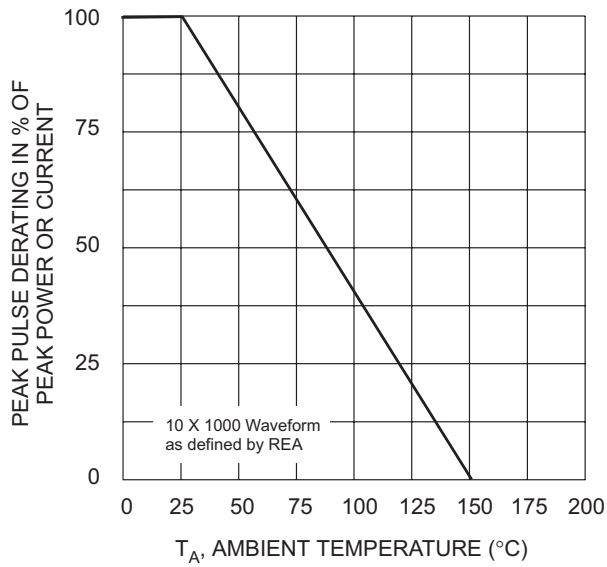


Fig. 1 Pulse Derating Curve

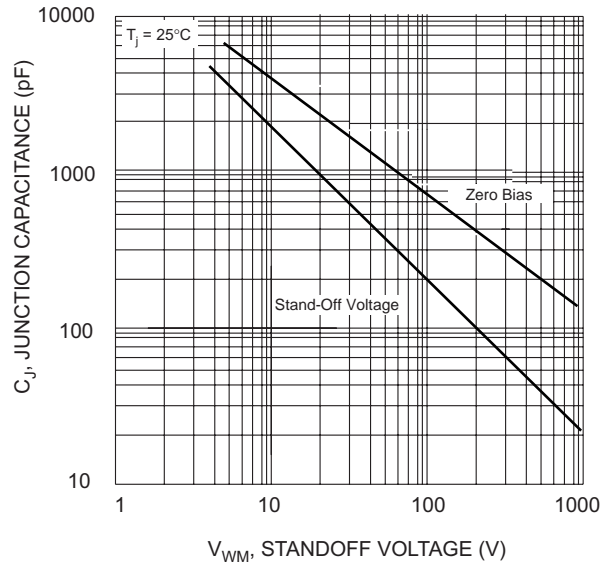


Fig. 2 Typical Junction Capacitance

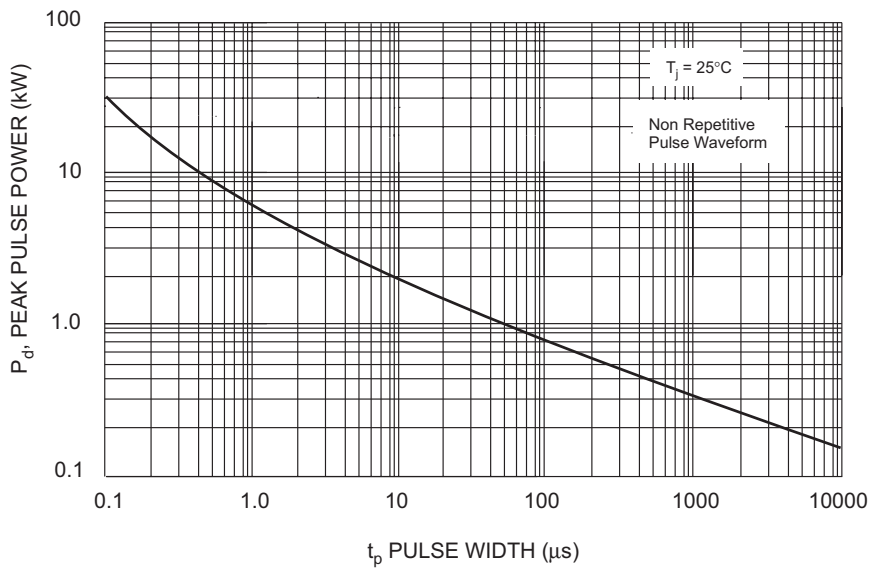


Fig. 3 Pulse Rating Curve

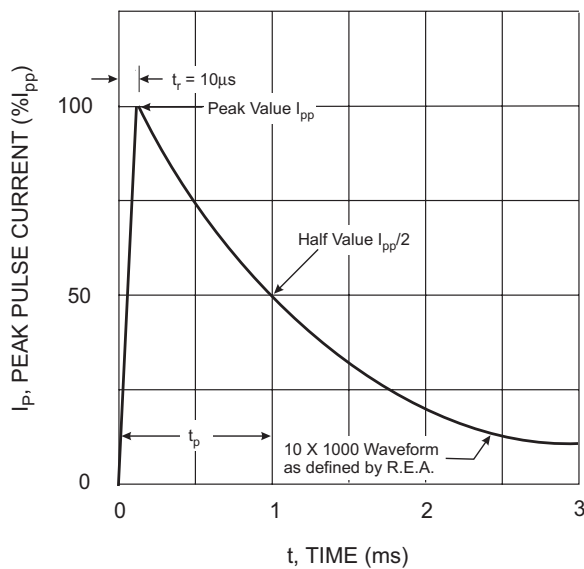


Fig. 4 Pulse Waveform

UNI-DIRECTIONAL 600 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)
SMBJ5.0-G	KD	5.00	6.40	7.55	10	9.6	62.5	800
SMBJ5.0A-G	KE	5.00	6.40	7.25	10	9.2	65.2	800
SMBJ6.0-G	KF	6.00	6.67	8.45	10	11.4	52.6	800
SMBJ6.0A-G	KG	6.00	6.67	7.67	10	10.3	58.3	800
SMBJ6.5-G	KH	6.50	7.22	9.14	10	12.3	48.7	500
SMBJ6.5A-G	KK	6.50	7.22	8.30	10	11.2	53.6	500
SMBJ7.0-G	KL	7.00	7.78	9.86	10	13.3	45.1	200
SMBJ7.0A-G	KM	7.00	7.78	8.95	10	12.0	50.0	200
SMBJ7.5-G	KN	7.50	8.33	10.67	1	14.3	42.0	100
SMBJ7.5A-G	KP	7.50	8.33	9.58	1	12.9	46.5	100
SMBJ8.0-G	KQ	8.00	8.99	11.30	1	15.0	40.0	50
SMBJ8.0A-G	KR	8.00	8.99	10.23	1	13.6	44.1	50
SMBJ8.5-G	KS	8.50	9.44	11.92	1	15.9	37.7	10
SMBJ8.5A-G	KT	8.50	9.44	10.82	1	14.4	41.7	10
SMBJ9.0-G	KU	9.00	10.00	12.60	1	16.9	35.5	5
SMBJ9.0A-G	KV	9.00	10.00	11.50	1	15.4	39.0	5
SMBJ10-G	KW	10.00	11.10	14.10	1	18.8	31.9	5
SMBJ10A-G	KX	10.00	11.10	12.80	1	17.0	35.3	5
SMBJ11-G	KY	11.00	12.20	15.40	1	20.1	29.9	5
SMBJ11A-G	KZ	11.00	12.20	14.00	1	18.2	33.0	5
SMBJ12-G	LD	12.00	13.30	16.90	1	22.0	27.3	5
SMBJ12A-G	LE	12.00	13.30	15.30	1	19.9	30.2	5
SMBJ13-G	LF	13.00	14.40	18.20	1	23.8	25.2	5
SMBJ13A-G	LG	13.00	14.40	16.50	1	21.5	27.9	5
SMBJ14-G	LH	14.00	15.60	19.80	1	25.8	23.3	5
SMBJ14A-G	LK	14.00	15.60	17.90	1	23.2	25.8	5
SMBJ15-G	LL	15.00	16.70	21.10	1	26.9	22.3	5
SMBJ15A-G	LM	15.00	16.70	19.20	1	24.4	24.0	5
SMBJ16-G	LN	16.00	17.80	22.60	1	28.8	20.8	5
SMBJ16A-G	LP	16.00	17.80	20.50	1	26.0	23.1	5
SMBJ17-G	LQ	17.00	18.90	23.90	1	30.5	19.7	5
SMBJ17A-G	LR	17.00	18.90	21.70	1	27.6	21.7	5
SMBJ18-G	LS	18.00	20.00	25.30	1	32.2	18.6	5
SMBJ18A-G	LT	18.00	20.00	23.30	1	29.2	20.5	5
SMBJ20-G	LU	20.00	22.20	28.10	1	35.8	16.7	5
SMBJ20A-G	LV	20.00	22.20	25.50	1	32.4	18.5	5
SMBJ22-G	LW	22.00	24.40	30.90	1	39.4	15.2	5
SMBJ22A-G	LX	22.00	24.40	28.00	1	35.5	16.9	5
SMBJ24-G	LY	24.00	26.70	33.80	1	43.0	14.0	5
SMBJ24A-G	LZ	24.00	26.70	30.70	1	38.9	15.4	5
SMBJ26-G	MD	26.00	28.90	36.60	1	46.6	12.4	5
SMBJ26A-G	ME	26.00	28.90	33.20	1	42.1	14.2	5
SMBJ28-G	MF	28.00	31.10	39.40	1	50.0	12.0	5
SMBJ28A-G	MG	28.00	31.10	35.80	1	45.4	13.2	5
SMBJ30-G	MH	30.00	33.30	42.20	1	53.5	11.2	5
SMBJ30A-G	MK	30.00	33.30	38.30	1	48.4	12.4	5
SMBJ33-G	ML	33.00	36.70	46.50	1	59.0	10.2	5
SMBJ33A-G	MM	33.00	36.70	42.20	1	53.3	13.2	5
SMBJ36-G	MN	36.00	40.00	50.70	1	64.3	9.3	5
SMBJ36A-G	MP	36.00	40.00	46.00	1	58.1	10.3	5
SMBJ40-G	MQ	40.00	44.40	56.30	1	71.4	8.4	5
SMBJ40A-G	MR	40.00	44.40	51.10	1	64.5	9.3	5
SMBJ43-G	MS	43.00	47.80	60.50	1	76.7	7.8	5
SMBJ43A-G	MT	43.00	47.80	54.90	1	69.4	8.6	5
SMBJ45-G	MU	45.00	50.00	63.30	1	80.3	7.5	5
SMBJ45A-G	MV	45.00	50.00	57.50	1	72.7	8.3	5
SMBJ48-G	MW	48.00	53.30	67.50	1	85.5	7.0	5
SMBJ48A-G	MX	48.00	53.30	61.30	1	77.4	7.7	5
SMBJ51-G	MY	51.00	56.70	71.80	1	91.1	6.6	5
SMBJ51A-G	MZ	51.00	56.70	65.20	1	82.4	7.3	5
SMBJ54-G	ND	54.00	60.00	76.00	1	96.3	6.2	5
SMBJ54A-G	NE	54.00	60.00	69.00	1	87.1	6.9	5
SMBJ58-G	NF	58.00	64.40	81.60	1	103.0	5.8	5
SMBJ58A-G	NG	58.00	64.40	74.10	1	93.6	6.4	5
SMBJ60-G	NH	60.00	66.70	84.50	1	107.0	5.6	5
SMBJ60A-G	NK	60.00	66.70	76.70	1	96.8	6.2	5
SMBJ64-G	NL	64.00	71.10	90.10	1	114.0	5.3	5
SMBJ64A-G	NM	64.00	71.10	81.80	1	103.0	5.8	5
SMBJ70-G	NN	70.00	77.80	98.60	1	125.0	4.8	5
SMBJ70A-G	NP	70.00	77.80	89.50	1	113.0	5.3	5
SMBJ75-G	NQ	75.00	83.30	105.70	1	134.0	4.5	5
SMBJ75A-G	NR	75.00	83.30	95.80	1	121.0	4.9	5
SMBJ78-G	NS	78.00	86.70	109.80	1	139.0	4.3	5
SMBJ78A-G	NT	78.00	86.70	99.70	1	126.0	4.7	5
SMBJ85-G	NU	85.00	94.40	119.20	1	151.0	3.9	5
SMBJ85A-G	NV	85.00	94.40	108.20	1	137.0	4.4	5
SMBJ90-G	NW	90.00	100.00	126.50	1	160.0	3.8	5
SMBJ90A-G	NX	90.00	100.00	115.50	1	146.0	4.1	5
SMBJ100-G	NY	100.00	111.00	141.00	1	179.0	3.4	5
SMBJ100A-G	NZ	100.00	111.00	128.00	1	162.0	3.7	5
SMBJ110-G	PD	110.00	122.00	154.50	1	196.0	3.0	5
SMBJ110A-G	PE	110.00	122.00	140.50	1	177.0	3.4	5
SMBJ120-G	PF	120.00	133.00	169.00	1	214.0	2.8	5
SMBJ120A-G	PG	120.00	133.00	153.00	1	193.0	3.1	5
SMBJ130-G	PH	130.00	144.00	182.50	1	231.0	2.6	5
SMBJ130A-G	PK	130.00	144.00	165.50	1	209.0	2.9	5
SMBJ150-G	PL	150.00	167.00	211.50	1	269.0	2.2	5
SMBJ150A-G	PM	150.00	167.00	192.50	1	243.0	2.5	5
SMBJ160-G	PN	160.00	178.00	226.00	1	287.0	2.1	5
SMBJ160A-G	PP	160.00	178.00	205.00	1	259.0	2.3	5
SMBJ170-G	PQ	170.00	189.00	239.50	1	304.0	2.0	5
SMBJ170A-G	PR	170.00	189.00	217.50	1	275.0	2.2	5

BI-DIRECTIONAL 600 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)
SMBJ5.0C-G	AD	5.00	6.40	7.55	10	9.6	62.5	1600
SMBJ5.0CA-G	AE	5.00	6.40	7.25	10	9.2	65.2	1600
SMBJ6.0C-G	AF	6.00	6.67	8.45	10	11.4	52.6	1600
SMBJ6.0CA-G	AG	6.00	6.67	7.67	10	10.3	58.3	1600
SMBJ6.5C-G	AH	6.50	7.22	9.14	10	12.3	48.7	1000
SMBJ6.5CA-G	AK	6.50	7.22	8.30	10	11.2	53.6	1000
SMBJ7.0C-G	AL	7.00	7.78	9.86	10	13.3	45.1	400
SMBJ7.0CA-G	AM	7.00	7.78	8.95	10	12.0	50.0	400
SMBJ7.5C-G	AN	7.50	8.33	10.67	1	14.3	42.0	200
SMBJ7.5CA-G	AP	7.50	8.33	9.58	1	12.9	46.5	200
SMBJ8.0C-G	AQ	8.00	8.99	11.30	1	15.0	40.0	100
SMBJ8.0CA-G	AR	8.00	8.99	10.23	1	13.6	44.1	100
SMBJ8.5C-G	AS	8.50	9.44	11.92	1	15.9	37.7	20
SMBJ8.5CA-G	AT	8.50	9.44	10.82	1	14.4	41.7	20
SMBJ9.0C-G	AU	9.00	10.00	12.60	1	16.9	35.5	10
SMBJ9.0CA-G	AV	9.00	10.00	11.50	1	15.4	39.0	10
SMBJ10C-G	AW	10.00	11.10	14.10	1	18.8	31.9	5
SMBJ10CA-G	AX	10.00	11.10	12.80	1	17.0	35.3	5
SMBJ11C-G	AY	11.00	12.20	15.40	1	20.1	29.9	5
SMBJ11CA-G	AZ	11.00	12.20	14.00	1	18.2	33.0	5
SMBJ12C-G	BD	12.00	13.30	16.90	1	22.0	27.3	5
SMBJ12CA-G	BE	12.00	13.30	15.30	1	19.9	30.2	5
SMBJ13C-G	BF	13.00	14.40	18.20	1	23.8	25.2	5
SMBJ13CA-G	BG	13.00	14.40	16.50	1	21.5	27.9	5
SMBJ14C-G	BH	14.00	15.60	19.80	1	25.8	23.3	5
SMBJ14CA-G	BK	14.00	15.60	17.90	1	23.2	25.8	5
SMBJ15C-G	BL	15.00	16.70	21.10	1	26.9	22.3	5
SMBJ15CA-G	BM	15.00	16.70	19.20	1	24.4	24.0	5
SMBJ16C-G	BN	16.00	17.80	22.60	1	28.8	20.8	5
SMBJ16CA-G	BP	16.00	17.80	20.50	1	26.0	23.1	5
SMBJ17C-G	BQ	17.00	18.90	23.90	1	30.5	19.7	5
SMBJ17CA-G	BR	17.00	18.90	21.70	1	27.6	21.7	5
SMBJ18C-G	BS	18.00	20.00	25.30	1	32.2	18.6	5
SMBJ18CA-G	BT	18.00	20.00	23.30	1	29.2	20.5	5
SMBJ20C-G	BU	20.00	22.20	28.10	1	35.8	16.7	5
SMBJ20CA-G	BV	20.00	22.20	25.50	1	32.4	18.5	5
SMBJ22C-G	BW	22.00	24.40	30.90	1	39.4	15.2	5
SMBJ22CA-G	BX	22.00	24.40	28.00	1	35.5	16.9	5
SMBJ24C-G	BY	24.00	26.70	33.80	1	43.0	14.0	5
SMBJ24CA-G	BZ	24.00	26.70	30.70	1	38.9	15.4	5
SMBJ26C-G	CD	26.00	28.90	36.60	1	46.6	12.4	5
SMBJ26CA-G	CE	26.00	28.90	33.20	1	42.1	14.2	5
SMBJ28C-G	CF	28.00	31.10	39.40	1	50.0	12.0	5
SMBJ28CA-G	CG	28.00	31.10	35.80	1	45.4	13.2	5
SMBJ30C-G	CH	30.00	33.30	42.20	1	53.5	11.2	5
SMBJ30CA-G	CK	30.00	33.30	38.30	1	48.4	12.4	5
SMBJ33C-G	CL	33.00	36.70	46.50	1	59.0	10.2	5
SMBJ33CA-G	CM	33.00	36.70	42.20	1	53.3	13.2	5
SMBJ36C-G	CN	36.00	40.00	50.70	1	64.3	9.3	5
SMBJ36CA-G	CP	36.00	40.00	46.00	1	58.1	10.3	5
SMBJ40C-G	CQ	40.00	44.40	56.30	1	71.4	8.4	5
SMBJ40CA-G	CR	40.00	44.40	51.10	1	64.5	9.3	5
SMBJ43C-G	CS	43.00	47.80	60.50	1	76.7	7.8	5
SMBJ43CA-G	CT	43.00	47.80	54.90	1	69.4	8.6	5
SMBJ45C-G	CU	45.00	50.00	63.30	1	80.3	7.5	5
SMBJ45CA-G	CV	45.00	50.00	57.50	1	72.7	8.3	5
SMBJ48C-G	CW	48.00	53.30	67.50	1	85.5	7.0	5
SMBJ48CA-G	CX	48.00	53.30	61.30	1	77.4	7.7	5
SMBJ51C-G	CY	51.00	56.70	71.80	1	91.1	6.6	5
SMBJ51CA-G	CZ	51.00	56.70	65.20	1	82.4	7.3	5
SMBJ54C-G	DD	54.00	60.00	76.00	1	96.3	6.2	5
SMBJ54CA-G	DE	54.00	60.00	69.00	1	87.1	6.9	5
SMBJ58C-G	DF	58.00	64.40	81.60	1	103.0	5.8	5
SMBJ58CA-G	DG	58.00	64.40	74.10	1	93.6	6.4	5
SMBJ60C-G	DH	60.00	66.70	84.50	1	107.0	5.6	5
SMBJ60CA-G	DK	60.00	66.70	76.70	1	96.8	6.2	5
SMBJ64C-G	DL	64.00	71.10	90.10	1	114.0	5.3	5
SMBJ64CA-G	DM	64.00	71.10	81.80	1	103.0	5.8	5
SMBJ70C-G	DN	70.00	77.80	98.60	1	125.0	4.8	5
SMBJ70CA-G	DP	70.00	77.80	89.50	1	113.0	5.3	5
SMBJ75C-G	DQ	75.00	83.30	105.70	1	134.0	4.5	5
SMBJ75CA-G	DR	75.00	83.30	95.80	1	121.0	4.9	5
SMBJ78C-G	DS	78.00	86.70	109.80	1	139.0	4.3	5
SMBJ78CA-G	DT	78.00	86.70	99.70	1	126.0	4.7	5
SMBJ85C-G	DU	85.00	94.40	119.20	1	151.0	3.9	5
SMBJ85CA-G	DV	85.00	94.40	108.20	1	137.0	4.4	5
SMBJ90C-G	DW	90.00	100.00	126.50	1	160.0	3.8	5
SMBJ90CA-G	DX	90.00	100.00	115.50	1	146.0	4.1	5
SMBJ100C-G	DY	100.00	111.00	141.00	1	179.0	3.4	5
SMBJ100CA-G	DZ	100.00	111.00	128.00	1	162.0	3.7	5
SMBJ110C-G	ED	110.00	122.00	154.50	1	196.0	3.0	5
SMBJ110CA-G	EE	110.00	122.00	140.50	1	177.0	3.4	5
SMBJ120C-G	EF	120.00	133.00	169.00	1	214.0	2.8	5
SMBJ120CA-G	EG	120.00	133.00	153.00	1	193.0	3.1	5
SMBJ130C-G	EH	130.00	144.00	182.50	1	231.0	2.6	5
SMBJ130CA-G	EK	130.00	144.00	165.50	1	209.0	2.9	5
SMBJ150C-G	EL	150.00	167.00	211.50	1	269.0	2.2	5
SMBJ150CA-G	EM	150.00	167.00	192.50	1	243.0	2.5	5
SMBJ160C-G	EN	160.00	178.00	226.00	1	287.0	2.1	5
SMBJ160CA-G	EP	160.00	178.00	205.00	1	259.0	2.3	5
SMBJ170C-G	EQ	170.00	189.00	239.50	1	304.0	2.0	5
SMBJ170CA-G	ER	170.00	189.00	217.50	1	275.0	2.2	5

DISCLAIMER:

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).
- 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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