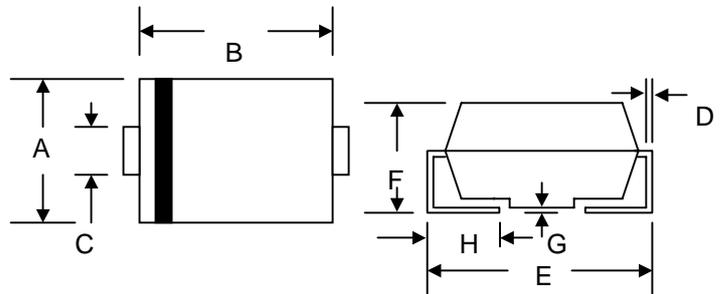


Data Sheet 1244 Rev.C

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



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	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

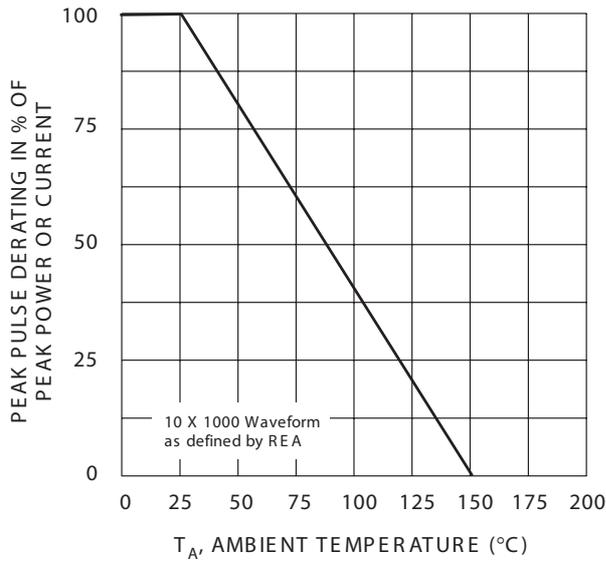


Fig. 1 Pulse Derating Curve

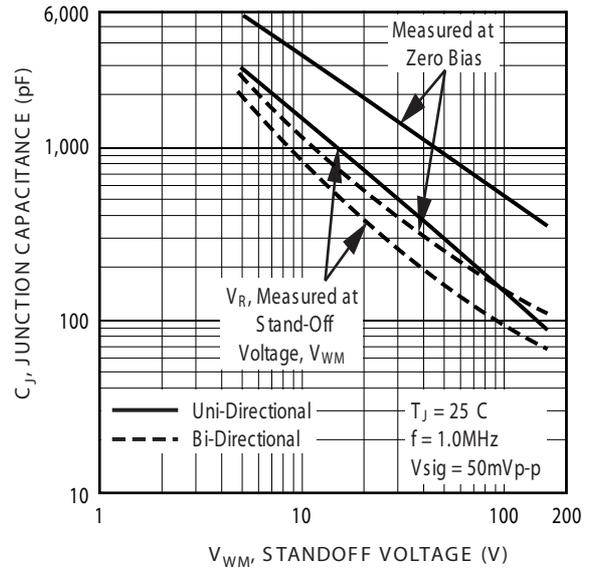


Fig. 2 Typical Junction Capacitance

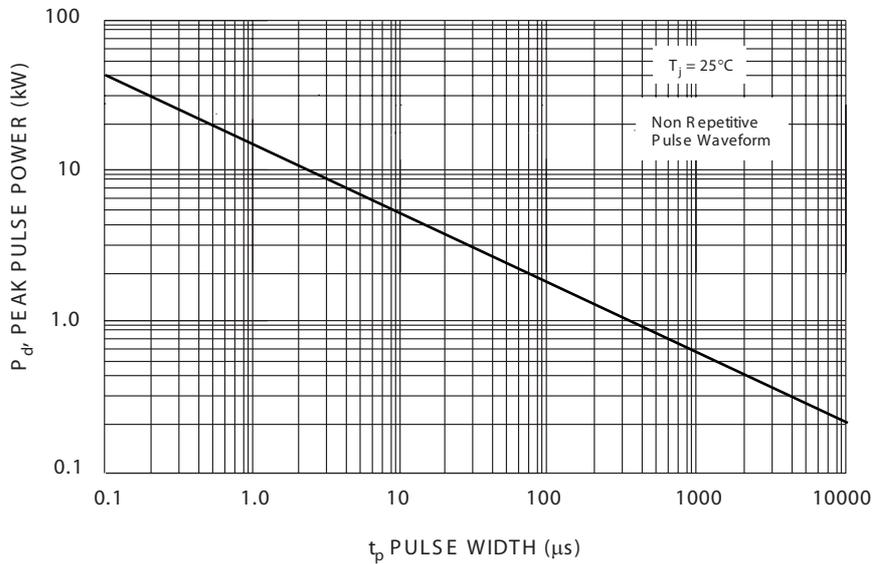


Fig. 3 Pulse Rating Curve

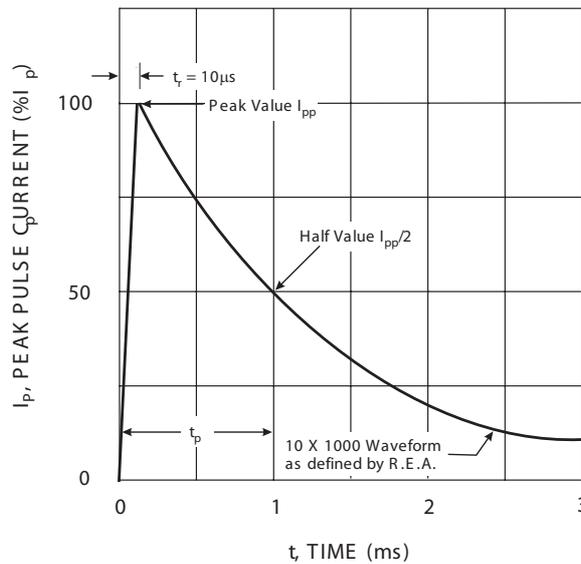


Fig. 4 Pulse Waveform

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	KD	5.00	6.40	7.82	10	9.6	62.5	800
SMBJ5.0A	KE	5.00	6.40	7.07	10	9.2	65.2	800
SMBJ6.0	KF	6.00	6.67	8.15	10	11.4	52.6	800
SMBJ6.0A	KG	6.00	6.67	7.37	10	10.3	58.3	800
SMBJ6.5	KH	6.50	7.22	8.82	10	12.3	48.7	500
SMBJ6.5A	KK	6.50	7.22	7.98	10	11.2	53.6	500
SMBJ7.0	KL	7.00	7.78	9.51	10	13.3	45.1	200
SMBJ7.0A	KM	7.00	7.78	8.60	10	12.0	50.0	200
SMBJ7.5	KN	7.50	8.33	10.18	1	14.3	42.0	100
SMBJ7.5A	KP	7.50	8.33	9.21	1	12.9	46.5	100
SMBJ8.0	KQ	8.00	8.99	10.99	1	15.0	40.0	50
SMBJ8.0A	KR	8.00	8.99	9.94	1	13.6	44.1	50
SMBJ8.5	KS	8.50	9.44	11.54	1	15.9	37.7	10
SMBJ8.5A	KT	8.50	9.44	10.43	1	14.4	41.7	10
SMBJ9.0	KU	9.00	10.00	12.22	1	16.9	35.5	5
SMBJ9.0A	KV	9.00	10.00	11.05	1	15.4	39.0	5
SMBJ10	KW	10.00	11.10	13.57	1	18.8	31.9	5
SMBJ10A	KX	10.00	11.10	12.27	1	17.0	35.3	5
SMBJ11	KY	11.00	12.20	14.91	1	20.1	29.9	5
SMBJ11A	KZ	11.00	12.20	13.48	1	18.2	33.0	5
SMBJ12	LD	12.00	13.30	16.26	1	22.0	27.3	5
SMBJ12A	LE	12.00	13.30	14.70	1	19.9	30.2	5
SMBJ13	LF	13.00	14.40	17.60	1	23.8	25.2	5
SMBJ13A	LG	13.00	14.40	15.92	1	21.5	27.9	5
SMBJ14	LH	14.00	15.60	19.07	1	25.8	23.3	5
SMBJ14A	LK	14.00	15.60	17.24	1	23.2	25.8	5
SMBJ15	LL	15.00	16.70	20.41	1	26.9	22.3	5
SMBJ15A	LM	15.00	16.70	18.46	1	24.4	24.0	5
SMBJ16	LN	16.00	17.80	21.76	1	28.8	20.8	5
SMBJ16A	LP	16.00	17.80	19.67	1	26.0	23.1	5
SMBJ17	LQ	17.00	18.90	23.10	1	30.5	19.7	5
SMBJ17A	LR	17.00	18.90	20.89	1	27.6	21.7	5
SMBJ18	LS	18.00	20.00	24.44	1	32.2	18.6	5
SMBJ18A	LT	18.00	20.00	22.11	1	29.2	20.5	5
SMBJ20	LU	20.00	22.20	27.13	1	35.8	16.7	5
SMBJ20A	LV	20.00	22.20	24.54	1	32.4	18.5	5
SMBJ22	LW	22.00	24.40	29.82	1	39.4	15.2	5
SMBJ22A	LX	22.00	24.40	26.97	1	35.5	16.9	5
SMBJ24	LY	24.00	26.70	32.63	1	43.0	14.0	5
SMBJ24A	LZ	24.00	26.70	29.51	1	38.9	15.4	5
SMBJ26	MD	26.00	28.90	35.32	1	46.6	12.4	5
SMBJ26A	ME	26.00	28.90	31.94	1	42.1	14.2	5
SMBJ28	MF	28.00	31.10	38.01	1	50.0	12.0	5
SMBJ28A	MG	28.00	31.10	34.37	1	45.4	13.2	5
SMBJ30	MH	30.00	33.30	40.70	1	53.5	11.2	5
SMBJ30A	MK	30.00	33.30	36.81	1	48.4	12.4	5
SMBJ33	ML	33.00	36.70	44.86	1	59.0	10.2	5
SMBJ33A	MM	33.00	36.70	40.56	1	53.3	13.2	5
SMBJ36	MN	36.00	40.00	48.89	1	64.3	9.3	5
SMBJ36A	MP	36.00	40.00	44.21	1	58.1	10.3	5
SMBJ40	MQ	40.00	44.40	54.27	1	71.4	8.4	5
SMBJ40A	MR	40.00	44.40	49.07	1	64.5	9.3	5
SMBJ43	MS	43.00	47.80	58.42	1	76.7	7.8	5
SMBJ43A	MT	43.00	47.80	52.83	1	69.4	8.6	5
SMBJ45	MU	45.00	50.00	61.11	1	80.3	7.5	5
SMBJ45A	MV	45.00	50.00	55.26	1	72.7	8.3	5
SMBJ48	MW	48.00	53.30	65.14	1	85.5	7.0	5
SMBJ48A	MX	48.00	53.30	58.91	1	77.4	7.7	5
SMBJ51	MY	51.00	56.70	69.30	1	91.1	6.6	5
SMBJ51A	MZ	51.00	56.70	62.67	1	82.4	7.3	5
SMBJ54	ND	54.00	60.00	73.33	1	96.3	6.2	5
SMBJ54A	NE	54.00	60.00	66.32	1	87.1	6.9	5
SMBJ58	NF	58.00	64.40	78.71	1	103.0	5.8	5
SMBJ58A	NG	58.00	64.40	71.18	1	93.6	6.4	5
SMBJ60	NH	60.00	66.70	81.52	1	107.0	5.6	5
SMBJ60A	NK	60.00	66.70	73.72	1	96.8	6.2	5
SMBJ64	NL	64.00	71.10	86.90	1	114.0	5.3	5
SMBJ64A	NM	64.00	71.10	78.58	1	103.0	5.8	5
SMBJ70	NN	70.00	77.80	95.09	1	125.0	4.8	5
SMBJ70A	NP	70.00	77.80	85.99	1	113.0	5.3	5
SMBJ75	NQ	75.00	83.30	101.81	1	134.0	4.5	5
SMBJ75A	NR	75.00	83.30	92.07	1	121.0	4.9	5
SMBJ78	NS	78.00	86.70	105.97	1	139.0	4.3	5
SMBJ78A	NT	78.00	86.70	95.83	1	126.0	4.7	5
SMBJ85	NU	85.00	94.40	115.38	1	151.0	3.9	5
SMBJ85A	NV	85.00	94.40	104.34	1	137.0	4.4	5
SMBJ90	NW	90.00	100.00	122.22	1	160.0	3.8	5
SMBJ90A	NX	90.00	100.00	110.53	1	146.0	4.1	5
SMBJ100	NY	100.00	111.00	135.67	1	179.0	3.4	5
SMBJ100A	NZ	100.00	111.00	122.68	1	162.0	3.7	5
SMBJ110	PD	110.00	122.00	149.11	1	196.0	3.0	5
SMBJ110A	PE	110.00	122.00	134.84	1	177.0	3.4	5
SMBJ120	PF	120.00	133.00	162.56	1	214.0	2.8	5
SMBJ120A	PG	120.00	133.00	147.00	1	193.0	3.1	5
SMBJ130	PH	130.00	144.00	176.00	1	231.0	2.6	5
SMBJ130A	PK	130.00	144.00	159.16	1	209.0	2.9	5
SMBJ150	PL	150.00	167.00	204.11	1	269.0	2.2	5
SMBJ150A	PM	150.00	167.00	184.58	1	243.0	2.5	5
SMBJ160	PN	160.00	178.00	217.56	1	287.0	2.1	5
SMBJ160A	PP	160.00	178.00	196.74	1	259.0	2.3	5
SMBJ170	PQ	170.00	189.00	231.00	1	304.0	2.0	5
SMBJ170A	PR	170.00	189.00	208.89	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	AD	5.00	6.40	7.82	10	9.6	62.5	1600
SMBJ5.0CA	AE	5.00	6.40	7.07	10	9.2	65.2	1600
SMBJ6.0C	AF	6.00	6.67	8.15	10	11.4	52.6	1600
SMBJ6.0CA	AG	6.00	6.67	7.37	10	10.3	58.3	1600
SMBJ6.5C	AH	6.50	7.22	8.82	10	12.3	48.7	1000
SMBJ6.5CA	AK	6.50	7.22	7.98	10	11.2	53.6	1000
SMBJ7.0C	AL	7.00	7.78	9.51	10	13.3	45.1	400
SMBJ7.0CA	AM	7.00	7.78	8.60	10	12.0	50.0	400
SMBJ7.5C	AN	7.50	8.33	10.18	1	14.3	42.0	200
SMBJ7.5CA	AP	7.50	8.33	9.21	1	12.9	46.5	200
SMBJ8.0C	AQ	8.00	8.99	10.99	1	15.0	40.0	100
SMBJ8.0CA	AR	8.00	8.99	9.94	1	13.6	44.1	100
SMBJ8.5C	AS	8.50	9.44	11.54	1	15.9	37.7	20
SMBJ8.5CA	AT	8.50	9.44	10.43	1	14.4	41.7	20
SMBJ9.0C	AU	9.00	10.00	12.22	1	16.9	35.5	10
SMBJ9.0CA	AV	9.00	10.00	11.05	1	15.4	39.0	10
SMBJ10C	AW	10.00	11.10	13.57	1	18.8	31.9	5
SMBJ10CA	AX	10.00	11.10	12.27	1	17.0	35.3	5
SMBJ11C	AY	11.00	12.20	14.91	1	20.1	29.9	5
SMBJ11CA	AZ	11.00	12.20	13.48	1	18.2	33.0	5
SMBJ12C	BD	12.00	13.30	16.26	1	22.0	27.3	5
SMBJ12CA	BE	12.00	13.30	14.70	1	19.9	30.2	5
SMBJ13C	BF	13.00	14.40	17.60	1	23.8	25.2	5
SMBJ13CA	BG	13.00	14.40	15.92	1	21.5	27.9	5
SMBJ14C	BH	14.00	15.60	19.07	1	25.8	23.3	5
SMBJ14CA	BK	14.00	15.60	17.24	1	23.2	25.8	5
SMBJ15C	BL	15.00	16.70	20.41	1	26.9	22.3	5
SMBJ15CA	BM	15.00	16.70	18.46	1	24.4	24.0	5
SMBJ16C	BN	16.00	17.80	21.76	1	28.8	20.8	5
SMBJ16CA	BP	16.00	17.80	19.67	1	26.0	23.1	5
SMBJ17C	BQ	17.00	18.90	23.10	1	30.5	19.7	5
SMBJ17CA	BR	17.00	18.90	20.89	1	27.6	21.7	5
SMBJ18C	BS	18.00	20.00	24.44	1	32.2	18.6	5
SMBJ18CA	BT	18.00	20.00	22.11	1	29.2	20.5	5
SMBJ20C	BU	20.00	22.20	27.13	1	35.8	16.7	5
SMBJ20CA	BV	20.00	22.20	24.54	1	32.4	18.5	5
SMBJ22C	BW	22.00	24.40	29.82	1	39.4	15.2	5
SMBJ22CA	BX	22.00	24.40	26.97	1	35.5	16.9	5
SMBJ24C	BY	24.00	26.70	32.63	1	43.0	14.0	5
SMBJ24CA	BZ	24.00	26.70	29.51	1	38.9	15.4	5
SMBJ26C	CD	26.00	28.90	35.32	1	46.6	12.4	5
SMBJ26CA	CE	26.00	28.90	31.94	1	42.1	14.2	5
SMBJ28C	CF	28.00	31.10	38.01	1	50.0	12.0	5
SMBJ28CA	CG	28.00	31.10	34.37	1	45.4	13.2	5
SMBJ30C	CH	30.00	33.30	40.70	1	53.5	11.2	5
SMBJ30CA	CK	30.00	33.30	36.81	1	48.4	12.4	5
SMBJ33C	CL	33.00	36.70	44.86	1	59.0	10.2	5
SMBJ33CA	CM	33.00	36.70	40.56	1	53.3	13.2	5
SMBJ36C	CN	36.00	40.00	48.89	1	64.3	9.3	5
SMBJ36CA	CP	36.00	40.00	44.21	1	58.1	10.3	5
SMBJ40C	CQ	40.00	44.40	54.27	1	71.4	8.4	5
SMBJ40CA	CR	40.00	44.40	49.07	1	64.5	9.3	5
SMBJ43C	CS	43.00	47.80	58.42	1	76.7	7.8	5
SMBJ43CA	CT	43.00	47.80	52.83	1	69.4	8.6	5
SMBJ45C	CU	45.00	50.00	61.11	1	80.3	7.5	5
SMBJ45CA	CV	45.00	50.00	55.26	1	72.7	8.3	5
SMBJ48C	CW	48.00	53.30	65.14	1	85.5	7.0	5
SMBJ48CA	CX	48.00	53.30	58.91	1	77.4	7.7	5
SMBJ51C	CY	51.00	56.70	69.30	1	91.1	6.6	5
SMBJ51CA	CZ	51.00	56.70	62.67	1	82.4	7.3	5
SMBJ54C	DD	54.00	60.00	73.33	1	96.3	6.2	5
SMBJ54CA	DE	54.00	60.00	66.32	1	87.1	6.9	5
SMBJ58C	DF	58.00	64.40	78.71	1	103.0	5.8	5
SMBJ58CA	DG	58.00	64.40	71.18	1	93.6	6.4	5
SMBJ60C	DH	60.00	66.70	81.52	1	107.0	5.6	5
SMBJ60CA	DK	60.00	66.70	73.72	1	96.8	6.2	5
SMBJ64C	DL	64.00	71.10	86.90	1	114.0	5.3	5
SMBJ64CA	DM	64.00	71.10	78.58	1	103.0	5.8	5
SMBJ70C	DN	70.00	77.80	95.09	1	125.0	4.8	5
SMBJ70CA	DP	70.00	77.80	85.99	1	113.0	5.3	5
SMBJ75C	DQ	75.00	83.30	101.81	1	134.0	4.5	5
SMBJ75CA	DR	75.00	83.30	92.07	1	121.0	4.9	5
SMBJ78C	DS	78.00	86.70	105.97	1	139.0	4.3	5
SMBJ78CA	DT	78.00	86.70	95.83	1	126.0	4.7	5
SMBJ85C	DU	85.00	94.40	115.38	1	151.0	3.9	5
SMBJ85CA	DV	85.00	94.40	104.34	1	137.0	4.4	5
SMBJ90C	DW	90.00	100.00	122.22	1	160.0	3.8	5
SMBJ90CA	DX	90.00	100.00	110.53	1	146.0	4.1	5
SMBJ100C	DY	100.00	111.00	135.67	1	179.0	3.4	5
SMBJ100CA	DZ	100.00	111.00	122.68	1	162.0	3.7	5
SMBJ110C	ED	110.00	122.00	149.11	1	196.0	3.0	5
SMBJ110CA	EE	110.00	122.00	134.84	1	177.0	3.4	5
SMBJ120C	EF	120.00	133.00	162.56	1	214.0	2.8	5
SMBJ120CA	EG	120.00	133.00	147.00	1	193.0	3.1	5
SMBJ130C	EH	130.00	144.00	176.00	1	231.0	2.6	5
SMBJ130CA	EK	130.00	144.00	159.16	1	209.0	2.9	5
SMBJ150C	EL	150.00	167.00	204.11	1	269.0	2.2	5
SMBJ150CA	EM	150.00	167.00	184.58	1	243.0	2.5	5
SMBJ160C	EN	160.00	178.00	217.56	1	287.0	2.1	5
SMBJ160CA	EP	160.00	178.00	196.74	1	259.0	2.3	5
SMBJ170C	EQ	170.00	189.00	231.00	1	304.0	2.0	5
SMBJ170CA	ER	170.00	189.00	208.89	1	275.0	2.2	5

SENSITRON

SEMICONDUCTOR

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.

3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.