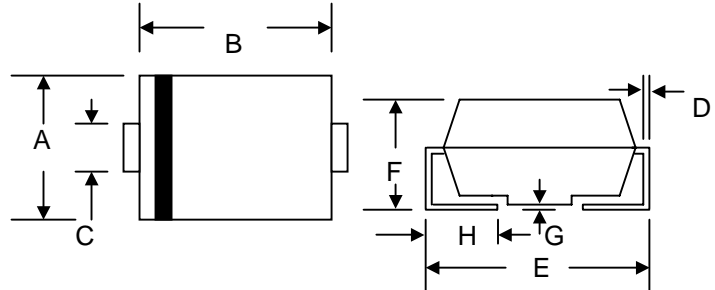


Data Sheet 1246 Rev. D

Features

- Glass Passivated Die Construction
- 1500W 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-214AB 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: 0.21 grams (approx.)

SMC/DO-214AB				
Dim	Min	Max	Min	Max
A	5.59	6.22	0.220	0.245
B	6.60	7.11	0.260	0.280
C	2.75	3.25	0.108	0.128
D	0.152	0.305	0.006	0.012
E	7.75	8.13	0.305	0.320
F	2.00	2.62	0.079	0.103
G	0.051	0.203	0.002	0.008
H	0.76	1.27	0.030	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	1500	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	200	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 8.0mm² copper pads to each terminal
 3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum

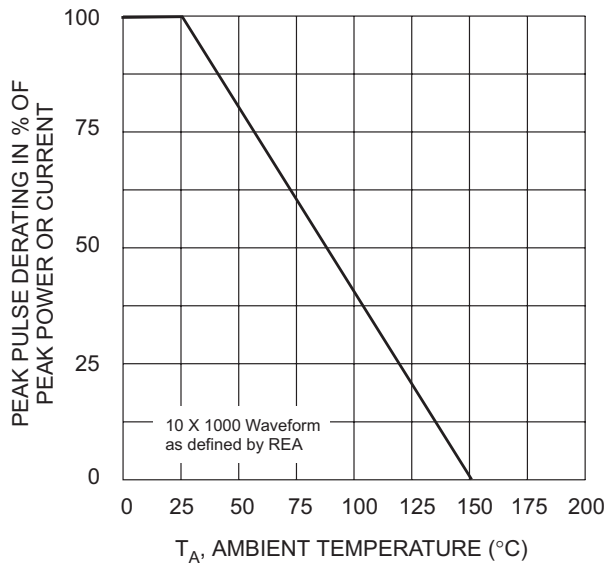


Fig. 1 Pulse Derating Curve

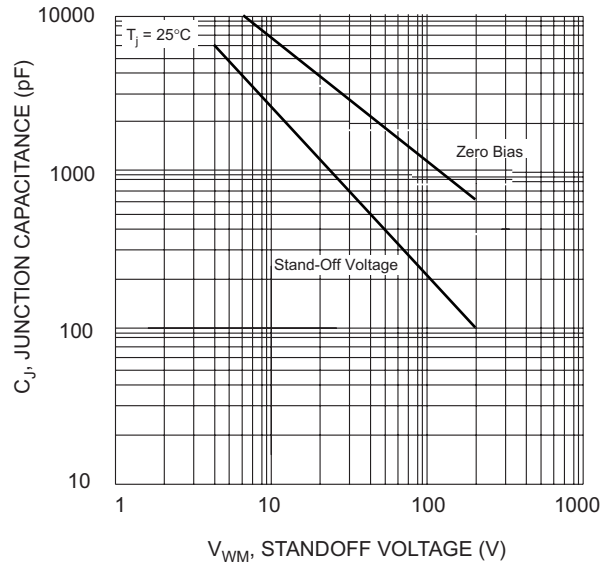


Fig. 2 Typical Junction Capacitance

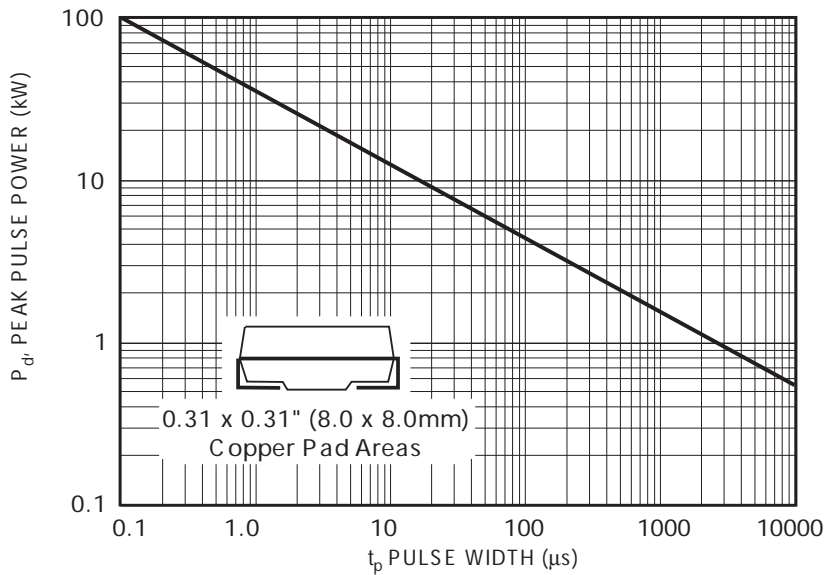


Fig. 3 Pulse Rating Curve

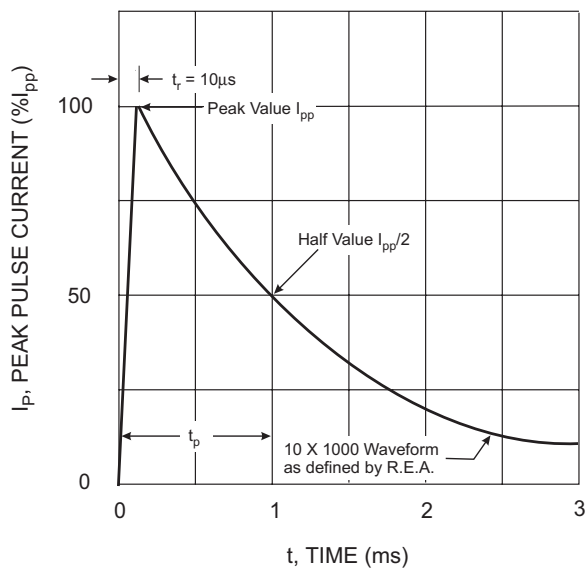


Fig. 4 Pulse Waveform

UNI-DIRECTIONAL 1500 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)
SMCJ5.0	GDD	5.00	6.40	7.82	10	9.6	156.2	1000
SMCJ5.0A	GDE	5.00	6.40	7.07	10	9.2	163.0	1000
SMCJ6.0	GDF	6.00	6.67	8.15	10	11.4	131.6	1000
SMCJ6.0A	GDG	6.00	6.67	7.37	10	10.3	145.6	1000
SMCJ6.5	GDH	6.50	7.22	8.82	10	12.3	122.0	500
SMCJ6.5A	GDK	6.50	7.22	7.98	10	11.2	133.9	500
SMCJ7.0	GDL	7.00	7.78	9.51	10	13.3	112.8	200
SMCJ7.0A	GDM	7.00	7.78	8.60	10	12.0	125.0	200
SMCJ7.5	GDN	7.50	8.33	10.18	1	14.3	104.9	100
SMCJ7.5A	GDP	7.50	8.33	9.21	1	12.9	116.3	100
SMCJ8.0	GDQ	8.00	8.99	10.99	1	15.0	100.0	50
SMCJ8.0A	GDR	8.00	8.99	9.94	1	13.6	110.3	50
SMCJ8.5	GDS	8.50	9.44	11.54	1	15.9	94.3	25
SMCJ8.5A	GDT	8.50	9.44	10.43	1	14.4	104.2	25
SMCJ9.0	GDU	9.00	10.00	12.22	1	16.9	88.7	10
SMCJ9.0A	GDV	9.00	10.00	11.05	1	15.4	97.4	10
SMCJ10	GDW	10.00	11.10	13.57	1	18.8	79.8	5
SMCJ10A	GDX	10.00	11.10	12.27	1	17.0	88.2	5
SMCJ11	GDY	11.00	12.20	14.91	1	20.1	74.6	5
SMCJ11A	GDZ	11.00	12.20	13.48	1	18.2	82.4	5
SMCJ12	GED	12.00	13.30	16.26	1	22.0	68.2	5
SMCJ12A	GEE	12.00	13.30	14.70	1	19.9	75.3	5
SMCJ13	GEF	13.00	14.40	17.60	1	23.8	63.0	5
SMCJ13A	GEG	13.00	14.40	15.92	1	21.5	69.7	5
SMCJ14	GEH	14.00	15.60	19.07	1	25.8	58.1	5
SMCJ14A	GEK	14.00	15.60	17.24	1	23.2	64.7	5
SMCJ15	GEL	15.00	16.70	20.41	1	26.9	55.8	5
SMCJ15A	GEM	15.00	16.70	18.46	1	24.4	61.5	5
SMCJ16	GEN	16.00	17.80	21.76	1	28.8	52.1	5
SMCJ16A	GEP	16.00	17.80	19.67	1	26.0	57.7	5
SMCJ17	GEQ	17.00	18.90	23.10	1	30.5	49.2	5
SMCJ17A	GER	17.00	18.90	20.89	1	27.6	53.3	5
SMCJ18	GES	18.00	20.00	24.44	1	32.2	46.6	5
SMCJ18A	GET	18.00	20.00	22.11	1	29.2	51.4	5
SMCJ20	GEU	20.00	22.20	27.13	1	35.8	41.9	5
SMCJ20A	GEV	20.00	22.20	24.54	1	32.4	46.3	5
SMCJ22	GEW	22.00	24.40	29.82	1	39.4	38.1	5
SMCJ22A	GEX	22.00	24.40	26.97	1	35.5	42.2	5
SMCJ24	GEY	24.00	26.70	32.63	1	43.0	34.9	5
SMCJ24A	GEZ	24.00	26.70	29.51	1	38.9	38.6	5
SMCJ26	GFD	26.00	28.90	35.32	1	46.6	32.2	5
SMCJ26A	GFE	26.00	28.90	31.94	1	42.1	35.6	5
SMCJ28	GFF	28.00	31.10	38.01	1	50.0	30.0	5
SMCJ28A	GFG	28.00	31.10	34.37	1	45.4	33.0	5
SMCJ30	GFH	30.00	33.30	40.70	1	53.5	28.0	5
SMCJ30A	GFK	30.00	33.30	36.81	1	48.4	31.0	5
SMCJ33	GFL	33.00	36.70	44.86	1	59.0	25.2	5
SMCJ33A	GFM	33.00	36.70	40.56	1	53.3	28.1	5
SMCJ36	GFN	36.00	40.00	48.89	1	64.3	23.3	5
SMCJ36A	GFP	36.00	40.00	44.21	1	58.1	25.8	5
SMCJ40	GFQ	40.00	44.40	54.27	1	71.4	21.0	5
SMCJ40A	GFR	40.00	44.40	49.07	1	64.5	23.2	5
SMCJ43	GFS	43.00	47.80	58.42	1	76.6	19.6	5
SMCJ43A	GFT	43.00	47.80	52.83	1	69.4	21.6	5
SMCJ45	GFU	45.00	50.00	61.11	1	80.3	18.7	5
SMCJ45A	GFV	45.00	50.00	55.26	1	72.7	20.6	5
SMCJ48	GFW	48.00	53.30	65.14	1	85.5	17.5	5
SMCJ48A	GFY	48.00	53.30	58.91	1	77.4	19.4	5
SMCJ51	GFY	51.00	56.70	69.30	1	91.1	18.5	5
SMCJ51A	GFZ	51.00	56.70	62.67	1	82.4	18.2	5
SMCJ54	GGD	54.00	60.00	73.33	1	96.3	15.6	5
SMCJ54A	GGE	54.00	60.00	66.32	1	87.1	17.2	5
SMCJ58	GGF	58.00	64.40	78.71	1	103.0	14.6	5
SMCJ58A	GGG	58.00	64.40	71.18	1	93.6	16.0	5
SMCJ60	GGH	60.00	66.70	81.52	1	107.0	14.0	5
SMCJ60A	G GK	60.00	66.70	73.72	1	96.8	15.5	5
SMCJ64	GGL	64.00	71.10	86.90	1	114.0	13.2	5
SMCJ64A	GGM	64.00	71.10	78.58	1	103.0	14.6	5
SMCJ70	GGN	70.00	77.80	95.09	1	125.0	12.0	5
SMCJ70A	GGP	70.00	77.80	85.99	1	113.0	13.3	5
SMCJ75	GGQ	75.00	83.30	101.81	1	134.0	11.2	5
SMCJ75A	GGR	75.00	83.30	92.07	1	121.0	12.4	5
SMCJ78	GGS	78.00	86.70	105.97	1	139.0	10.8	5
SMCJ78A	GGT	78.00	86.70	95.83	1	126.0	11.4	5
SMCJ85	GGU	85.00	94.40	115.38	1	151.0	9.9	5
SMCJ85A	GGV	85.00	94.40	104.34	1	137.0	10.4	5
SMCJ90	GGW	90.00	100.00	122.22	1	160.0	9.4	5
SMCJ90A	GGX	90.00	100.00	110.53	1	146.0	10.3	5
SMCJ100	GGY	100.00	111.00	135.67	1	179.0	8.4	5
SMCJ100A	GGZ	100.00	111.00	122.68	1	162.0	9.3	5
SMCJ110	GHD	110.00	122.00	149.11	1	196.0	7.7	5
SMCJ110A	GHE	110.00	122.00	134.84	1	177.0	8.4	5
SMCJ120	GHF	120.00	133.00	162.56	1	214.0	7.0	5
SMCJ120A	GHG	120.00	133.00	147.00	1	193.0	7.9	5
SMCJ130	GHH	130.00	144.00	176.00	1	231.0	6.5	5
SMCJ130A	GHK	130.00	144.00	159.16	1	209.0	7.2	5
SMCJ150	GHL	150.00	167.00	204.11	1	269.0	5.6	5
SMCJ150A	GHM	150.00	167.00	184.58	1	243.0	6.2	5
SMCJ160	GHN	160.00	178.00	217.56	1	287.0	5.2	5
SMCJ160A	GHP	160.00	178.00	196.74	1	259.0	5.8	5
SMCJ170	GHQ	170.00	189.00	231.00	1	304.0	4.9	5
SMCJ170A	GHR	170.00	189.00	208.89	1	275.0	5.5	5

BI-DIRECTIONAL 1500 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)
SMCJ5.0C	BDD	5.00	6.40	7.82	10	9.6	156.2	2000
SMCJ5.0CA	BDE	5.00	6.40	7.07	10	9.2	163.0	2000
SMCJ6.0C	BDF	6.00	6.67	8.15	10	11.4	131.6	2000
SMCJ6.0CA	BDG	6.00	6.67	7.37	10	10.3	145.6	2000
SMCJ6.5C	BDH	6.50	7.22	8.82	10	12.3	122.0	1000
SMCJ6.5CA	BDK	6.50	7.22	7.98	10	11.2	133.9	1000
SMCJ7.0C	BDL	7.00	7.78	9.51	10	13.3	112.8	400
SMCJ7.0CA	BDM	7.00	7.78	8.60	10	12.0	125.0	400
SMCJ7.5C	BDN	7.50	8.33	10.18	1	14.3	104.9	200
SMCJ7.5CA	BDP	7.50	8.33	9.21	1	12.9	116.3	200
SMCJ8.0C	BDQ	8.00	8.99	10.99	1	15.0	100.0	100
SMCJ8.0CA	BDR	8.00	8.99	9.94	1	13.6	110.3	100
SMCJ8.5C	BDS	8.50	9.44	11.54	1	15.9	94.3	50
SMCJ8.5CA	BDT	8.50	9.44	10.43	1	14.4	104.2	50
SMCJ9.0C	BDU	9.00	10.00	12.22	1	16.9	88.7	20
SMCJ9.0CA	BDV	9.00	10.00	11.05	1	15.4	97.4	20
SMCJ10C	BDW	10.00	11.10	13.57	1	18.8	79.8	5
SMCJ10CA	BDX	10.00	11.10	12.27	1	17.0	88.2	5
SMCJ11C	BDY	11.00	12.20	14.91	1	20.1	74.6	5
SMCJ11CA	BDZ	11.00	12.20	13.48	1	18.2	82.4	5
SMCJ12C	BED	12.00	13.30	16.26	1	22.0	68.2	5
SMCJ12CA	BEE	12.00	13.30	14.70	1	19.9	75.3	5
SMCJ13C	BEF	13.00	14.40	17.60	1	23.8	63.0	5
SMCJ13CA	BEG	13.00	14.40	15.92	1	21.5	69.7	5
SMCJ14C	BEH	14.00	15.60	19.07	1	25.8	58.1	5
SMCJ14CA	BEK	14.00	15.60	17.24	1	23.2	64.7	5
SMCJ15C	BEL	15.00	16.70	20.41	1	26.9	55.8	5
SMCJ15CA	BEM	15.00	16.70	18.46	1	24.4	61.5	5
SMCJ16C	BEN	16.00	17.80	21.76	1	28.8	52.1	5
SMCJ16CA	BEP	16.00	17.80	19.67	1	26.0	57.7	5
SMCJ17C	BEQ	17.00	18.90	23.10	1	30.5	49.2	5
SMCJ17CA	BER	17.00	18.90	20.89	1	27.6	53.3	5
SMCJ18C	BES	18.00	20.00	24.44	1	32.2	46.6	5
SMCJ18CA	BET	18.00	20.00	22.11	1	29.2	51.4	5
SMCJ20C	BEU	20.00	22.20	27.13	1	35.8	41.9	5
SMCJ20CA	BEV	20.00	22.20	24.54	1	32.4	46.3	5
SMCJ22C	BEW	22.00	24.40	29.82	1	39.4	38.1	5
SMCJ22CA	BEX	22.00	24.40	26.97	1	35.5	42.2	5
SMCJ24C	BEY	24.00	26.70	32.63	1	43.0	34.9	5
SMCJ24CA	BEZ	24.00	26.70	29.51	1	38.9	38.6	5
SMCJ26C	BFD	26.00	28.90	35.32	1	46.6	32.2	5
SMCJ26CA	BFE	26.00	28.90	31.94	1	42.1	35.6	5
SMCJ28C	BFF	28.00	31.10	38.01	1	50.0	30.0	5
SMCJ28CA	BFG	28.00	31.10	34.37	1	45.4	33.0	5
SMCJ30C	BFH	30.00	33.30	40.70	1	53.5	28.0	5
SMCJ30CA	BFK	30.00	33.30	36.81	1	48.4	31.0	5
SMCJ33C	BFL	33.00	36.70	44.86	1	59.0	25.2	5
SMCJ33CA	BFM	33.00	36.70	40.56	1	53.3	28.1	5
SMCJ36C	BFN	36.00	40.00	48.89	1	64.3	23.3	5
SMCJ36CA	BFP	36.00	40.00	44.21	1	58.1	25.8	5
SMCJ40C	BFQ	40.00	44.40	54.27	1	71.4	21.0	5
SMCJ40CA	BFR	40.00	44.40	49.07	1	64.5	23.2	5
SMCJ43C	BFS	43.00	47.80	58.42	1	76.6	19.6	5
SMCJ43CA	BFT	43.00	47.80	52.83	1	69.4	21.6	5
SMCJ45C	BFU	45.00	50.00	61.11	1	80.3	18.7	5
SMCJ45CA	BFV	45.00	50.00	55.26	1	72.7	20.6	5
SMCJ48C	BFW	48.00	53.30	65.14	1	85.5	17.5	5
SMCJ48CA	BFX	48.00	53.30	58.91	1	77.4	19.4	5
SMCJ51C	BFY	51.00	56.70	69.30	1	91.1	18.5	5
SMCJ51CA	BFZ	51.00	56.70	62.67	1	82.4	18.2	5
SMCJ54C	BGD	54.00	60.00	73.33	1	96.3	15.6	5
SMCJ54CA	BGE	54.00	60.00	66.32	1	87.1	17.2	5
SMCJ58C	BGF	58.00	64.40	78.71	1	103.0	14.6	5
SMCJ58CA	BGG	58.00	64.40	71.18	1	93.6	16.0	5
SMCJ60C	BGH	60.00	66.70	81.52	1	107.0	14.0	5
SMCJ60CA	BGK	60.00	66.70	73.72	1	96.8	15.5	5
SMCJ64C	BGL	64.00	71.10	86.90	1	114.0	13.2	5
SMCJ64CA	BGM	64.00	71.10	78.58	1	103.0	14.6	5
SMCJ70C	BGN	70.00	77.80	95.09	1	125.0	12.0	5
SMCJ70CA	BGP	70.00	77.80	85.99	1	113.0	13.3	5
SMCJ75C	BGQ	75.00	83.30	101.81	1	134.0	11.2	5
SMCJ75CA	BGR	75.00	83.30	92.07	1	121.0	12.4	5
SMCJ78C	BGS	78.00	86.70	105.97	1	139.0	10.8	5
SMCJ78CA	BGT	78.00	86.70	95.83	1	126.0	11.4	5
SMCJ85C	BGU	85.00	94.40	115.38	1	151.0	9.9	5
SMCJ85CA	BGV	85.00	94.40	104.34	1	137.0	10.4	5
SMCJ90C	BGW	90.00	100.00	122.22	1	160.0	9.4	5
SMCJ90CA	BGX	90.00	100.00	110.53	1	146.0	10.3	5
SMCJ100C	BGY	100.00	111.00	135.67	1	179.0	8.4	5
SMCJ100CA	BGZ	100.00	111.00	122.68	1	162.0	9.3	5
SMCJ110C	BHD	110.00	122.00	149.11	1	196.0	7.7	5
SMCJ110CA	BHE	110.00	122.00	134.84	1	177.0	8.4	5
SMCJ120C	BHF	120.00	133.00	162.56	1	214.0	7.0	5
SMCJ120CA	BHG	120.00	133.00	147.00	1	193.0	7.9	5
SMCJ130C	BHH	130.00	144.00	176.00	1	231.0	6.5	5
SMCJ130CA	BHK	130.00	144.00	159.16	1	209.0	7.2	5
SMCJ150C	BHL	150.00	167.00	204.11	1	269.0	5.6	5
SMCJ150CA	BHM	150.00	167.00	184.58	1	243.0	6.2	5
SMCJ160C	BHN	160.00	178.00	217.56	1	287.0	5.2	5
SMCJ160CA	BHP	160.00	178.00	196.74	1	259.0	5.8	5
SMCJ170C	BHQ	170.00	189.00	231.00	1	304.0	4.9	5
SMCJ170CA	BHR	170.00	189.00	208.89	1	275.0	5.5	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.