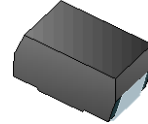


RoHS Compliant Product  
A suffix of "-C" specifies halogen-free and lead-free

## FEATURES

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Available in Unidirectional and Bidirectional
- Low incremental surge resistance, excellent clamping capability
- Very fast response time
- High temperature soldering guaranteed: 260°C/10s at terminals

**SMB**



## MECHANICAL DATA

- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: For uni-directional types the band denotes cathode end, no marking on bi-directional types

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SMB	3K	13 inch

## ORDER INFORMATION

Part Number	Type
SMBJ Series-C	Lead (Pb)-free and Halogen-free

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating 25°C ambient temperature unless otherwise specified. Resistive or inductive load, For capacitive load, de-rate current by 20%.)

Parameter	Symbol	Ratings	Unit
Peak Pulse Power Dissipation <sup>1 2</sup> @10/1000µs waveform	P <sub>PP</sub>	600	W
Peak Pulse Current <sup>1</sup> @10/1000µs waveform	I <sub>PP</sub>	See next table.	A
Peak Forward Surge Current <sup>2</sup> @8.3ms single Half Sine-Wave for unidirectional only	I <sub>FSM</sub>	100	A
Power Dissipation @T <sub>L</sub> =75°C	P <sub>D</sub>	5	W
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55~150	°C

Notes:

1. Non-repetitive current pulse, per Fig.5 and derated above T<sub>A</sub>=25°C per Fig.1.
2. Mounted on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.

**ELECTRICAL CHARACTERISTICS** (Rating  $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Part Number		Working Peak Reverse Voltage	Breakdown Voltage $V_{BR}$ @ $I_T$		Test Current	Maximum Clamping Voltage $V_C$ @ $I_{PP}$	Maximum Peak Pulse Current	Maximum Reverse Leakage $I_R$ @ $V_{RWM}$
			Min	Max				
Directional		$V_{RWM}$	$V_{BR}$		$I_T$	$V_C$	$I_{PP}$	$I_R$
Uni	Bi	V	V	V	mA	V	A	$\mu\text{A}$
SMBJ5.0A-C	SMBJ5.0CA-C	5	6.4	7	10	9.2	65.22	800
SMBJ6.0A-C	SMBJ6.0CA-C	6	6.67	7.37	10	10.3	58.3	800
SMBJ6.5A-C	SMBJ6.5CA-C	6.5	7.22	7.98	10	11.2	53.6	500
SMBJ7.0A-C	SMBJ7.0CA-C	7	7.78	8.6	10	12	50	200
SMBJ7.5A-C	SMBJ7.5CA-C	7.5	8.33	9.21	1	12.9	46.5	100
SMBJ8.0A-C	SMBJ8.0CA-C	8	8.89	9.83	1	13.6	44.1	50
SMBJ8.5A-C	SMBJ8.5CA-C	8.5	9.44	10.4	1	14.4	41.7	10
SMBJ9.0A-C	SMBJ9.0CA-C	9	10	11.1	1	15.4	39	5
SMBJ10A-C	SMBJ10CA-C	10	11.1	12.3	1	17	35.3	5
SMBJ11A-C	SMBJ11CA-C	11	12.2	13.5	1	18.2	33	1
SMBJ12A-C	SMBJ12CA-C	12	13.3	14.7	1	19.9	30.2	1
SMBJ13A-C	SMBJ13CA-C	13	14.4	15.9	1	21.5	27.9	1
SMBJ14A-C	SMBJ14CA-C	14	15.6	17.2	1	23.2	25.9	1
SMBJ15A-C	SMBJ15CA-C	15	16.7	18.5	1	24.4	24.6	1
SMBJ16A-C	SMBJ16CA-C	16	17.8	19.7	1	26	23.1	1
SMBJ17A-C	SMBJ17CA-C	17	18.9	20.9	1	27.6	21.8	1
SMBJ18A-C	SMBJ18CA-C	18	20	22.1	1	29.2	20.6	1
SMBJ20A-C	SMBJ20CA-C	20	22.2	24.5	1	32.4	18.6	1
SMBJ22A-C	SMBJ22CA-C	22	24.4	26.9	1	35.5	16.9	1
SMBJ24A-C	SMBJ24CA-C	24	26.7	29.5	1	38.9	15.4	1
SMBJ26A-C	SMBJ26CA-C	26	28.9	31.9	1	42.1	14.3	1
SMBJ28A-C	SMBJ28CA-C	28	31.1	34.4	1	45.4	13.2	1
SMBJ30A-C	SMBJ30CA-C	30	33.3	36.8	1	48.4	12.4	1
SMBJ33A-C	SMBJ33CA-C	33	36.7	40.6	1	53.3	11.3	1
SMBJ36A-C	SMBJ36CA-C	36	40	44.2	1	58.1	10.4	1
SMBJ40A-C	SMBJ40CA-C	40	44.4	49.1	1	64.5	9.3	1
SMBJ43A-C	SMBJ43CA-C	43	47.8	52.8	1	69.4	8.7	1
SMBJ45A-C	SMBJ45CA-C	45	50	55.3	1	72.7	8.3	1
SMBJ48A-C	SMBJ48CA-C	48	53.3	58.9	1	77.4	7.8	1
SMBJ51A-C	SMBJ51CA-C	51	56.7	62.7	1	82.4	7.3	1
SMBJ54A-C	SMBJ54CA-C	54	60	66.3	1	87.1	6.9	1
SMBJ58A-C	SMBJ58CA-C	58	64.4	71.2	1	93.6	6.4	1

**ELECTRICAL CHARACTERISTICS** (Rating  $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Part Number		Working Peak Reverse Voltage	Breakdown Voltage $V_{BR}$ @ $I_T$		Test Current	Maximum Clamping Voltage $V_C$ @ $I_{PP}$	Maximum Peak Pulse Current	Maximum Reverse Leakage $I_R$ @ $V_{RWM}$
			Min	Max				
Directional		$V_{RWM}$	$V_{BR}$		$I_T$	$V_C$	$I_{PP}$	$I_R$
Uni	Bi	V	V	V	mA	V	A	$\mu\text{A}$
SMBJ60A-C	SMBJ60CA-C	60	66.7	73.7	1	96.8	6.2	1
SMBJ64A-C	SMBJ64CA-C	64	71.1	78.6	1	103	5.8	1
SMBJ70A-C	SMBJ70CA-C	70	77.8	86	1	113	5.3	1
SMBJ75A-C	SMBJ75CA-C	75	83.3	92.1	1	121	5	1
SMBJ78A-C	SMBJ78CA-C	78	86.7	95.8	1	126	4.8	1
SMBJ85A-C	SMBJ85CA-C	85	94.4	104	1	137	4.4	1
SMBJ90A-C	SMBJ90CA-C	90	100	111	1	146	4.1	1
SMBJ100A-C	SMBJ100CA-C	100	111	123	1	162	3.7	1
SMBJ110A-C	SMBJ110CA-C	110	122	135	1	177	3.4	1
SMBJ120A-C	SMBJ120CA-C	120	133	147	1	193	3.1	1
SMBJ130A-C	SMBJ130CA-C	130	144	159	1	209	2.9	1
SMBJ150A-C	SMBJ150CA-C	150	167	185	1	243	2.5	1
SMBJ160A-C	SMBJ160CA-C	160	178	197	1	259	2.3	1
SMBJ170A-C	SMBJ170CA-C	170	189	209	1	275	2.2	1
SMBJ180A-C	SMBJ180CA-C	180	200	220	1	292	2.1	1
SMBJ190A-C	SMBJ190CA-C	190	211	232	1	307	2	1
SMBJ200A-C	SMBJ200CA-C	200	224	247	1	324	1.9	1
SMBJ210A-C	SMBJ210CA-C	210	233	258	1	337	1.8	1
SMBJ220A-C	SMBJ220CA-C	220	246	272	1	356	1.7	1
SMBJ250A-C	SMBJ250CA-C	250	279	309	1	405	1.5	1
SMBJ300A-C	SMBJ300CA-C	300	335	371	1	486	1.3	1
SMBJ350A-C	SMBJ350CA-C	350	391	432	1	567	1.1	1
SMBJ400A-C	SMBJ400CA-C	400	447	494	1	648	0.9	1
SMBJ440A-C	SMBJ440CA-C	440	492	543	1	713	0.8	1

Note:  
1. Surge waveform: 10/1000 $\mu\text{s}$ .

**CHARACTERISTICS CURVE**

Fig.1 Derating Curve

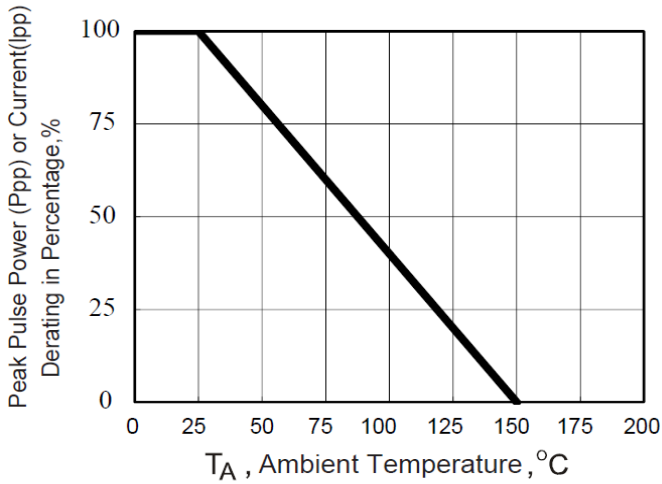


Fig.2 Maximum Non-repetitive Forward Surge Current Unidirectional only

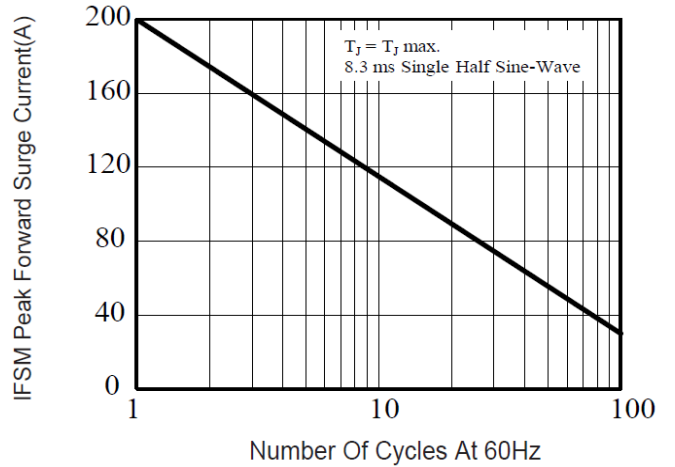


Fig.3 Steady State Power Derating Curve

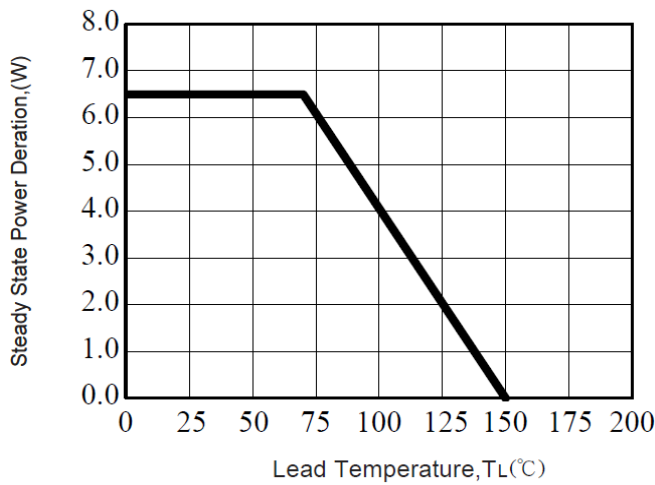


Fig. 4 Peak Pulse Power Rating Curve

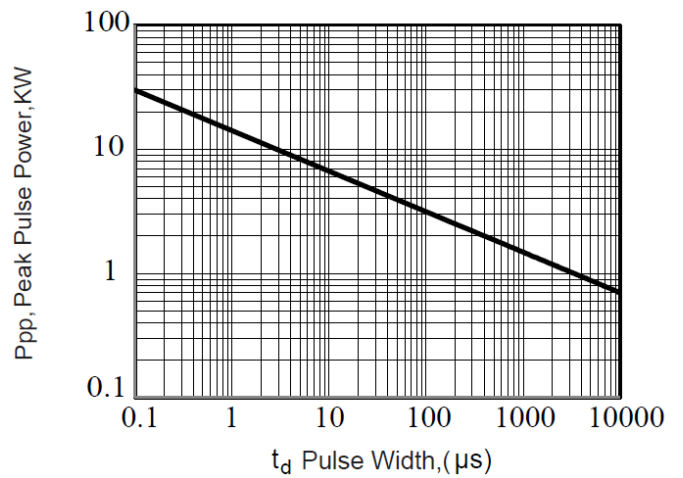
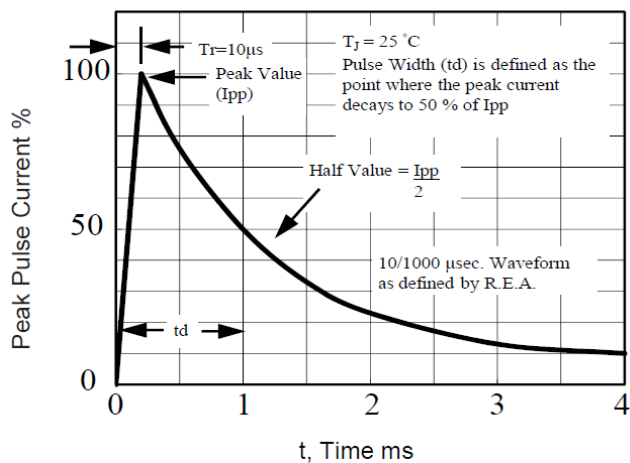
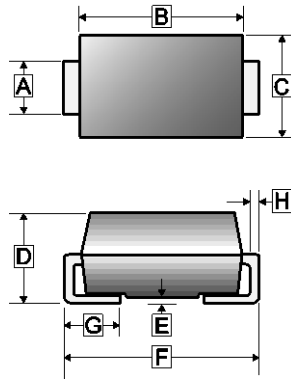


Fig.5 Clamping Power Pulse Waveform



**PACKAGE OUTLINE DIMENSIONS**

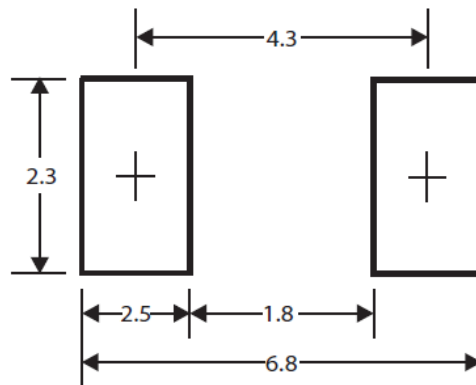
**SMB**



REF.	Millimeter	
	Min.	Max.
A	1.80	2.20
B	4.00	4.85
C	3.25	3.94
D	1.90	2.61
E	-	0.25
F	5.00	5.59
G	0.75	1.55
H	0.10	0.31

**MOUNTING PAD LAYOUT**

**SMB**



\*Dimensions in millimeters