Elektronische Bauelemente

SMB15J Series-C

Voltage 8V~85V

1500W Peak Power Surface Mount TVS

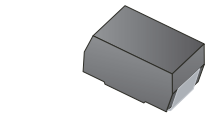
RoHS Compliant Product

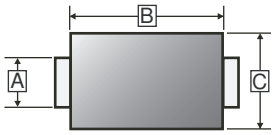
A suffix of "-C" specifies halogen-free and lead-free

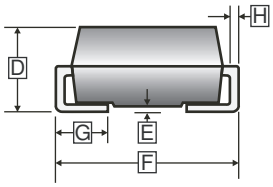
FEATURES

- For Surface Mount Applications
- Low-Profile Package
- Ideal For Automated Placement
- Available in Unidirectional and Bidirectional
- 1500W Peak Pulse Power Capability with a 10/1000μs Waveform
- Low Incremental Surge Resistance, Excellent Clamping Capability
- Very Fast Response Time
- High Temperature Soldering Guaranteed: 260℃/10s at Terminals
- Meets MSL Level 1

SMB







REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.85	2.20	E	-	0.25
B	4.00	4.85	F	5.05	5.59
C	3.25	3.94	G	0.75	1.55
D	1.90	2.61	H	0.15	0.31

MECHANICAL DATA

- Case: Molded Plastic
- Epoxy: UL 94V-0 Rate Flame Retardant
- Terminals: Matte Tin Plated Leads, Solderable per J-STD-002B and JESD22-B102D
- Polarity: Color Band Denotes Cathode End Except Bi-directional
- Mounting Position: Any

PACKAGE INFORMATION

Package	MPQ	Leader Size
SMB	3K	13 inch

ORDER INFORMATION

Part Number	Type
SMB15J Series-C	Lead (Pb)-free and Halogen-free

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating 25℃ ambient temperature unless otherwise s pecified. Single phase half wave, 60Hz, resistive or inductive load. For capacitive load, de-rate current by 20%.)

Parameter	Symbol	Ratings	Unit
Peak Power Dissipation @10/1000μs waveform [1]	P_{PP}	1500	W
Peak Pulsed Current @10/1000μs waveform [1]	I_{PP}	(See next table.)	A
Power Dissipation on Infinite Heatsink @T_L=75℃	P_D	5	W
Peak Forward Surge Current, 8.3ms single half sine-wave for uni-directional only [2]	I_{FSM}	100	A
Maximum Instantaneous Forward Voltage @25A for uni-directional only	V_F	3.5	V
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55~150	℃

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ELECTRICAL CHARACTERISTICS (Rating T_A=25℃ unless otherwise specified)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage V_{BR} @I_T		Test Current [3]	Maximum Clamping Voltage V_C @I_{PP}	Maximum Reverse Surge Current [4]	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	μA
SMB15J8.0A-C	SMB15J8.0CA-C	8	8.89	9.83	1	13.6	110.29	50
SMB15J8.5A-C	SMB15J8.5CA-C	8.5	9.44	10.4	1	14.4	104.17	20
SMB15J9.0A-C	SMB15J9.0CA-C	9	10	11.1	1	15.4	97.4	10
SMB15J10A-C	SMB15J10CA-C	10	11.1	12.3	1	17	88.24	5
SMB15J11A-C	SMB15J11CA-C	11	12.2	13.5	1	18.2	82.42	5
SMB15J12A-C	SMB15J12CA-C	12	13.3	14.7	1	19.9	75.38	5
SMB15J13A-C	SMB15J13CA-C	13	14.4	15.9	1	21.5	69.77	5
SMB15J14A-C	SMB15J14CA-C	14	15.6	17.2	1	23.2	64.66	5
SMB15J15A-C	SMB15J15CA-C	15	16.7	18.5	1	24.4	61.48	5
SMB15J16A-C	SMB15J16CA-C	16	17.8	19.7	1	26	57.69	5
SMB15J17A-C	SMB15J17CA-C	17	18.9	20.9	1	27.6	54.35	5
SMB15J18A-C	SMB15J18CA-C	18	20	22.1	1	29.2	51.37	5
SMB15J19A-C	SMB15J19CA-C	19	21.1	23.3	1	30.8	48.73	5
SMB15J20A-C	SMB15J20CA-C	20	22.2	24.5	1	32.4	46.3	5
SMB15J22A-C	SMB15J22CA-C	22	24.4	26.9	1	35.5	42.25	5
SMB15J24A-C	SMB15J24CA-C	24	26.7	29.5	1	38.9	38.56	5
SMB15J26A-C	SMB15J26CA-C	26	28.9	31.9	1	42.1	35.63	5
SMB15J28A-C	SMB15J28CA-C	28	31.1	34.4	1	45.4	33.04	5
SMB15J30A-C	SMB15J30CA-C	30	33.3	36.8	1	48.4	30.99	5
SMB15J33A-C	SMB15J33CA-C	33	36.7	40.6	1	53.3	28.14	5
SMB15J36A-C	SMB15J36CA-C	36	40	44.2	1	58.1	25.82	5
SMB15J40A-C	SMB15J40CA-C	40	44.4	49.1	1	64.5	23.26	5
SMB15J43A-C	SMB15J43CA-C	43	47.8	52.8	1	69.4	21.61	5
SMB15J45A-C	SMB15J45CA-C	45	50	55.3	1	72.7	20.63	5
SMB15J48A-C	SMB15J48CA-C	48	53.3	58.9	1	77.4	19.38	5
SMB15J51A-C	SMB15J51CA-C	51	56.7	62.7	1	82.4	18.2	5
SMB15J54A-C	SMB15J54CA-C	54	60	66.3	1	87.1	17.22	5
SMB15J58A-C	SMB15J58CA-C	58	64.4	71.2	1	93.6	16.03	5
SMB15J60A-C	SMB15J60CA-C	60	66.7	73.7	1	96.8	15.5	5
SMB15J64A-C	SMB15J64CA-C	64	71.1	78.6	1	103	14.56	5
SMB15J70A-C	SMB15J70CA-C	70	77.8	86	1	113	13.27	5
SMB15J75A-C	SMB15J75CA-C	75	83.3	92.1	1	121	12.4	5
SMB15J78A-C	SMB15J78CA-C	78	86.7	95.8	1	126	11.9	5
SMB15J80A-C	SMB15J80CA-C	80	88.8	97.6	1	129.6	11.57	5
SMB15J85A-C	SMB15J85CA-C	85	94.4	104	1	137	10.95	5

Notes:

1. Non-repetitive current pulse, per Fig. 3 and de-rated above T_A= 25℃ per Fig.2.
2. Mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pads to each terminal.
3. Pule test: tp≤50ms.
4. Surge current waveform per Fig.3 and de-rated per Fig.2.

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RATINGS AND CHARACTERISTIC CURVES

FIG1:Peak Pulse Power Rating Curve

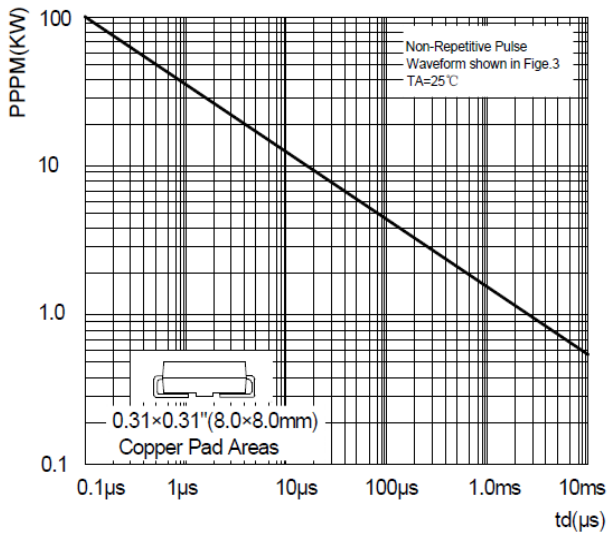


FIG2: Pulse Power or Current vs. Initial Junction Temperature

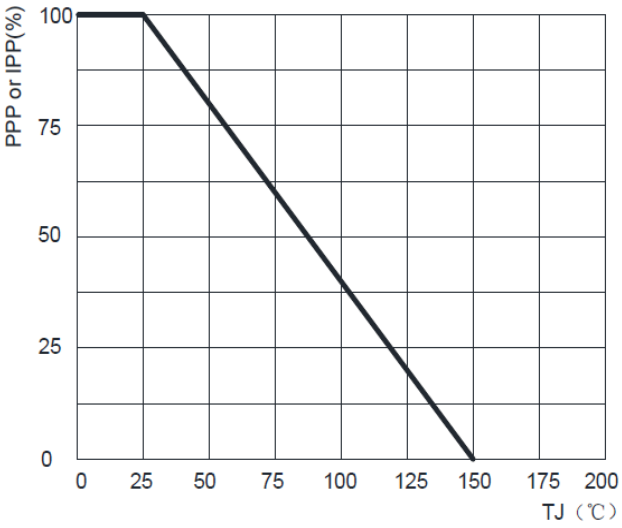


FIG3: Pulse Waveform

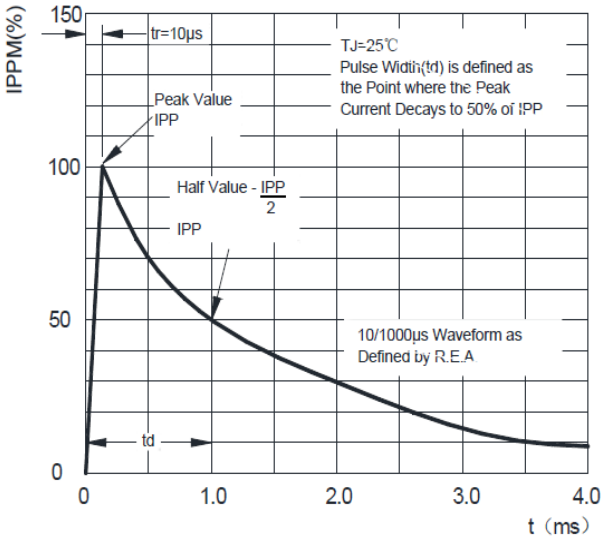


FIG4: Maximum Non-Repetitive Surge Current

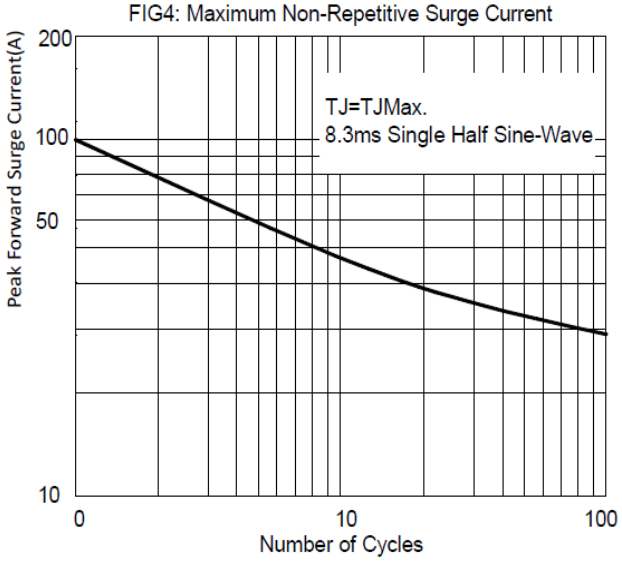


FIG5:Steady State Power Dissipation

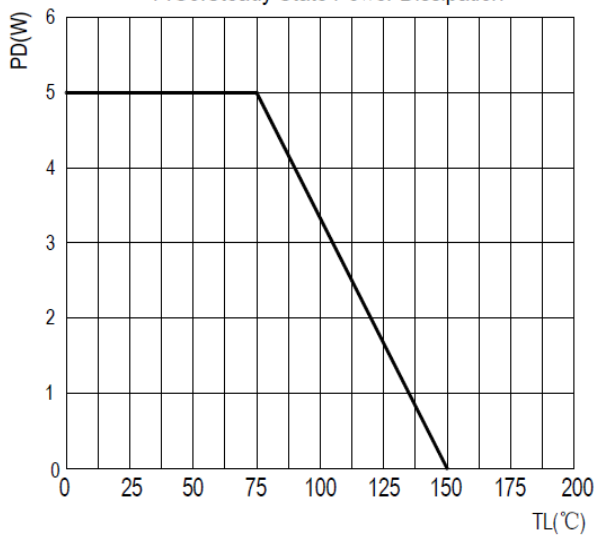
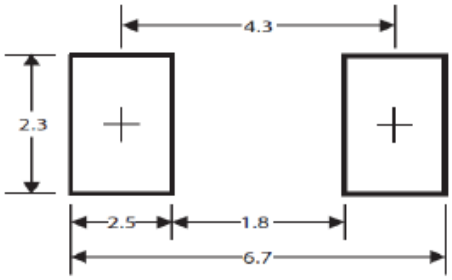


FIG6: Mounting Pad Layout



*Dimensions in millimeters