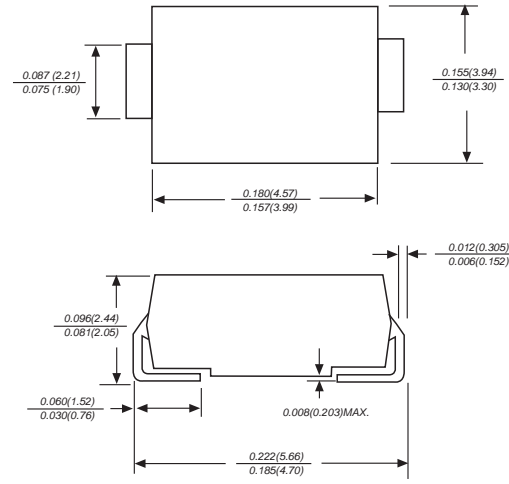


**V. Transient Voltage Suppressor**

**1500W Surface Mount TVS (Reverse Stand-off Voltage: 5.0~220 Volts)  
SMB15J Series (Package: SMB (DO-214AA))**

<p><b><u>FEATURES</u></b></p> <ul style="list-style-type: none"> <li>• Glass passivated chip</li> <li>• 1500W peak pulse power capability with a 10/1000µs waveform, repetitive rate (duty cycle): 0.01%</li> <li>• Excellent clamping capability</li> <li>• Low reverse leakage</li> <li>• Very fast response time</li> <li>• Lead and body according with RoHS standard</li> </ul> <p><b><u>MECHANICAL DATA</u></b></p> <ul style="list-style-type: none"> <li>• Case : Molded plastic</li> <li>• Lead : Solderable per MIL-STD-750, Method 2026</li> <li>• Epoxy : UL 94V-0 rate flame retardant</li> <li>• Polarity : Color band denotes cathode end except Bipolar</li> <li>• Mounting position : Any</li> </ul>	 <p>Case: SMB Dimensions in inches and (millimetres)</p>
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**Devices for Bi-Directional Applications**

For bi-directional devices use suffix “CA” for types SMB15J5.0CA thru SMB15J180CA (e.g. SMB15J28CA)  
Electrical characteristics apply in both directions.

**Maximum Ratings, Thermal & Electrical Characteristics**

(Ratings at 25 ambient temperature unless otherwise specified)

Ratings	Symbol	Value	Units
Peak power dissipation with a 10/1000µs waveform <sup>(1)</sup>	P <sub>PPM</sub>	1500	Watts
Peak pulse current with a 10/1000µs waveform <sup>(1)</sup>	I <sub>PPM</sub>	See next table	Amps
Power dissipation on infinite heatsink at T <sub>L</sub> = 75	P <sub>D</sub>	5.0	Watts
Peak forward surge current, 8.3ms single half sine-wave unidirectional only <sup>(2)</sup>	I <sub>FSM</sub>	100	Amps
Maximum instantaneous forward voltage at 50A for unidirectional only <sup>(3)</sup>	V <sub>F</sub>	3.5/6.5	Volts
Operating junction and storage temperature range	T <sub>j</sub> , T <sub>stg</sub>	-55 to +150	

Note:

1. Non-repetitive current pulse per Fig.5 and derated above Ta = 25 per Fig.1
2. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
3. V<sub>F</sub><3.5V for devices of V(BR)<200V and V<sub>F</sub><6.5V for devices of V(BR)>201V

**V. Transient Voltage Suppressor**

**1500W Surface Mount TVS (Reverse Stand-off Voltage: 5.0~220 Volts)**

**SMB15J Series**

**(Package: SMB (DO-214AA))**

Device Type	Device Marking Code			Reverse Stand-off Voltage	Breakdown Voltage $V_{(BR)}$ @ $I_T$		Test Current	Max. Clamping Voltage @ $I_{PPM}$	Max. Peak Pulse Current	Max. Reverse Leakage @ $V_{RWM}$
	Option 1	Option 2			Min (V)	Max (V)				
	Full Part Number	UNI-	BI-	$V_{RWM}$ (V)			$I_T$ (mA)	$V_C$ Max.(V)	$I_{PPM}$ (A)	$I_R$ ( $\mu$ A)
SMB15J5.0(C)A	Full PN	GDE	BDE	5.0	6.40	7.00	10	9.2	163.0	800
SMB15J6.0(C)A	Full PN	GDG	BDG	6.0	6.67	7.37	10	10.3	145.7	800
SMB15J6.5(C)A	Full PN	GDK	BDK	6.5	7.22	7.98	10	11.2	134.0	500
SMB15J7.0(C)A	Full PN	GDM	BDM	7.0	7.78	8.60	10	12.0	125.0	200
SMB15J7.5(C)A	Full PN	GDP	BDP	7.5	8.33	9.21	1	12.9	116.3	100
SMB15J8.0(C)A	Full PN	GDR	BDR	8.0	8.89	9.83	1	13.6	110.3	50
SMB15J8.5(C)A	Full PN	GDT	BDT	8.5	9.44	10.40	1	14.4	104.2	20
SMB15J9.0(C)A	Full PN	GDV	BDV	9.0	10.00	11.10	1	15.4	97.4	10
SMB15J10(C)A	Full PN	GDX	BDX	10.0	11.10	12.30	1	17.0	88.3	5
SMB15J11(C)A	Full PN	GDZ	BDZ	11.0	12.20	13.50	1	18.2	82.5	1
SMB15J12(C)A	Full PN	GEE	BEE	12.0	13.30	14.70	1	19.9	75.4	1
SMB15J13(C)A	Full PN	GEG	BEG	13.0	14.40	15.90	1	21.5	69.8	1
SMB15J14(C)A	Full PN	GEK	BEK	14.0	15.60	17.20	1	23.2	64.7	1
SMB15J15(C)A	Full PN	GEM	BEM	15.0	16.70	18.50	1	24.4	61.5	1
SMB15J16(C)A	Full PN	GEP	BEP	16.0	17.80	19.70	1	26.0	57.7	1
SMB15J17(C)A	Full PN	GER	BER	17.0	18.90	20.90	1	27.6	54.4	1
SMB15J18(C)A	Full PN	GET	BET	18.0	20.00	22.10	1	29.2	51.4	1
SMB15J20(C)A	Full PN	GEV	BEV	20.0	22.20	24.50	1	32.4	46.3	1
SMB15J22(C)A	Full PN	GEX	BEX	22.0	24.40	26.90	1	35.5	42.3	1
SMB15J24(C)A	Full PN	GEZ	BEZ	24.0	26.70	29.50	1	38.9	38.6	1
SMB15J26(C)A	Full PN	GFE	BFE	26.0	28.90	31.90	1	42.1	35.7	1
SMB15J28(C)A	Full PN	GFG	BFG	28.0	31.10	34.40	1	45.4	33.1	1
SMB15J30(C)A	Full PN	GFK	BFK	30.0	33.50	36.80	1	48.4	31.0	1
SMB15J33(C)A	Full PN	GFM	BFM	33.0	36.70	40.60	1	53.3	28.2	1
SMB15J36(C)A	Full PN	GFP	BFP	36.0	40.00	44.20	1	58.1	25.9	1
SMB15J40(C)A	Full PN	GFR	BFR	40.0	44.40	49.10	1	64.5	23.3	1
SMB15J43(C)A	Full PN	GFT	BFT	43.0	47.80	52.80	1	69.4	21.7	1
SMB15J45(C)A	Full PN	GFV	BFV	45.0	50.00	55.30	1	72.7	20.6	1
SMB15J48(C)A	Full PN	GFX	BFX	48.0	53.30	58.90	1	77.4	19.4	1
SMB15J51(C)A	Full PN	GFZ	BFZ	51.0	56.70	62.70	1	82.4	18.2	1
SMB15J54(C)A	Full PN	GGE	BGE	54.0	60.00	66.30	1	87.1	17.3	1
SMB15J58(C)A	Full PN	GGG	BGG	58.0	64.40	71.20	1	93.6	16.1	1
SMB15J60(C)A	Full PN	GGK	BGK	60.0	66.70	73.70	1	96.8	15.5	1
SMB15J64(C)A	Full PN	GGM	BGM	64.0	71.10	78.60	1	103.0	14.6	1
SMB15J70(C)A	Full PN	GGP	BGP	70.0	77.80	86.00	1	113.0	13.3	1
SMB15J75(C)A	Full PN	GGR	BGR	75.0	83.30	92.10	1	121.0	12.4	1
SMB15J78(C)A	Full PN	GGT	BGT	78.0	86.70	95.80	1	126.0	11.9	1
SMB15J85(C)A	Full PN	GGV	BGV	85.0	94.40	104.0	1	137.0	11.0	1
SMB15J90(C)A	Full PN	GGX	BGX	90.0	100.0	111.0	1	146.0	10.3	1
SMB15J100(C)A	Full PN	GGZ	BGZ	100.0	111.0	123.0	1	162.0	9.3	1
SMB15J110(C)A	Full PN	GHE	BHE	110.0	122.0	135.0	1	177.0	8.5	1
SMB15J120(C)A	Full PN	GHG	BHG	120.0	133.0	147.0	1	193.0	7.8	1
SMB15J130(C)A	Full PN	GHK	BHK	130.0	144.0	159.0	1	209.0	7.2	1
SMB15J150(C)A	Full PN	GHM	BHM	150.0	167.0	185.0	1	243.0	6.2	1
SMB15J160(C)A	Full PN	GHP	BHP	160.0	178.0	197.0	1	259.0	5.8	1
SMB15J170(C)A	Full PN	GHR	BHR	170.0	189.0	209.0	1	275.0	5.5	1
SMB15J180(C)A	Full PN	GHT	BHT	180.0	201.0	222.0	1	292.0	5.1	1
SMB15J190A	Full PN	GHU		190.0	209.0	243.0	1	308.0	4.8	1
SMB15J200A	Full PN	GHV		200.0	224.0	247.0	1	324.0	4.6	1
SMB15J210A	Full PN	GHW		210.0	231.0	268.0	1	340.0	4.4	1
SMB15J220A	Full PN	GHX		220.0	246.0	272.0	1	356.0	4.2	1

## Ratings and Characteristic Curves of SMB15J Series

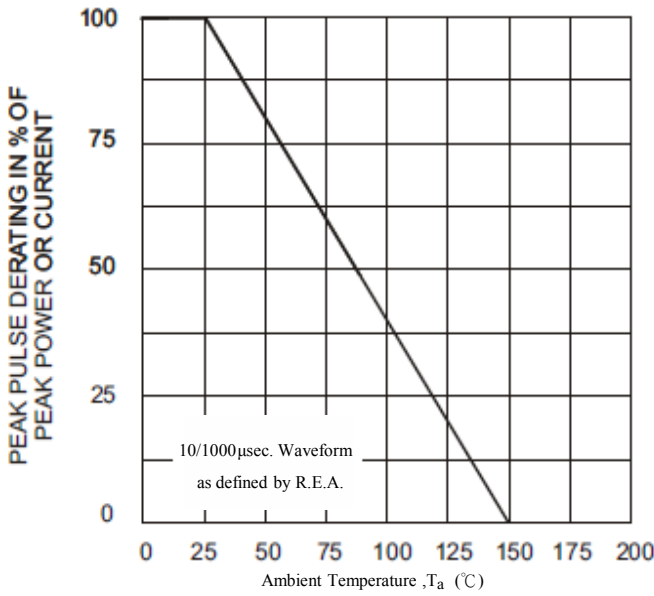


Fig. 1 - Pulse Derating Curve

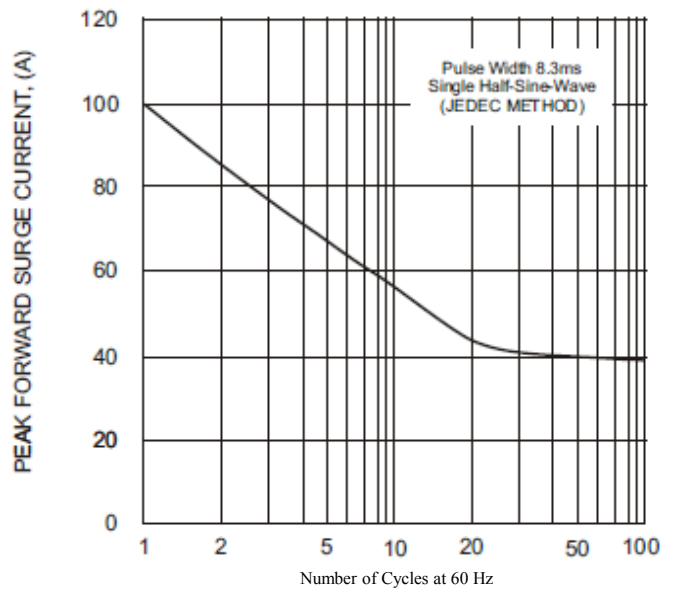


Fig. 2 - Maximum Non-Repetitive Surge Current

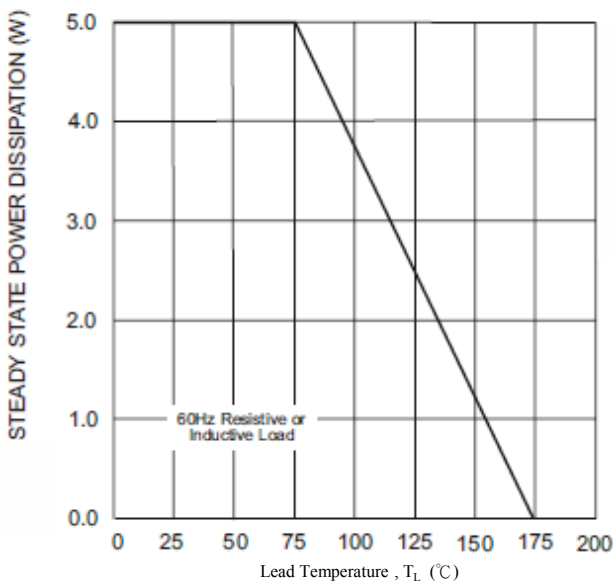


Fig. 3 - Steady State Power Derating Curve

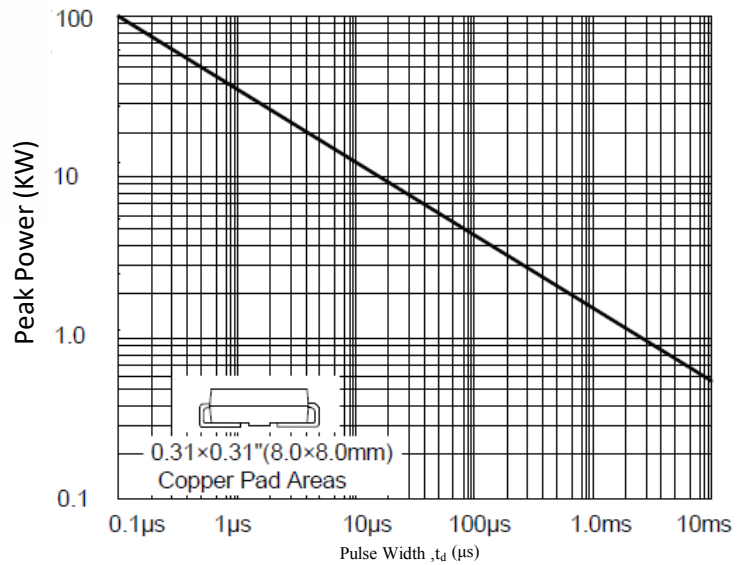


Fig. 4 - Peak Pulse Power Rating Curve

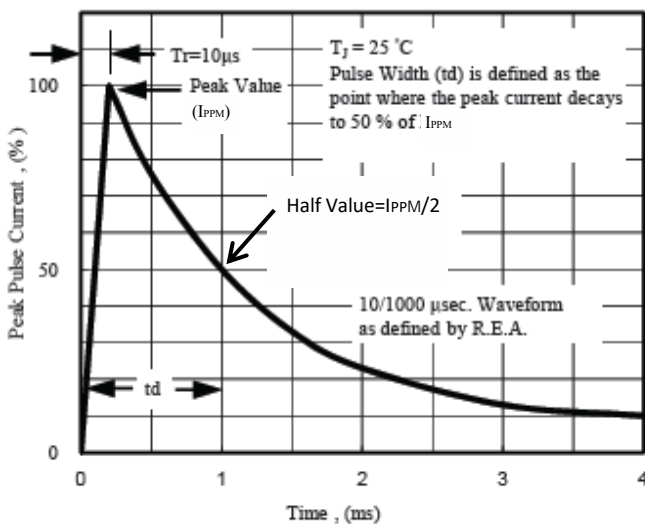


Fig. 5 - Pulse Waveform

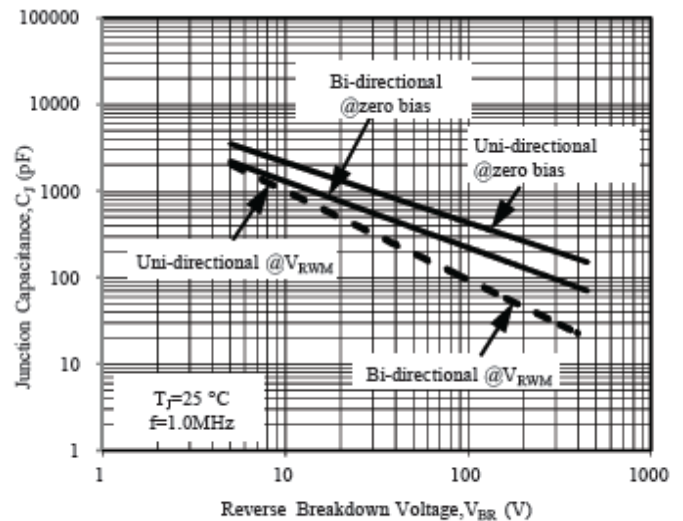


Fig. 6 - Typical Junction Capacitance