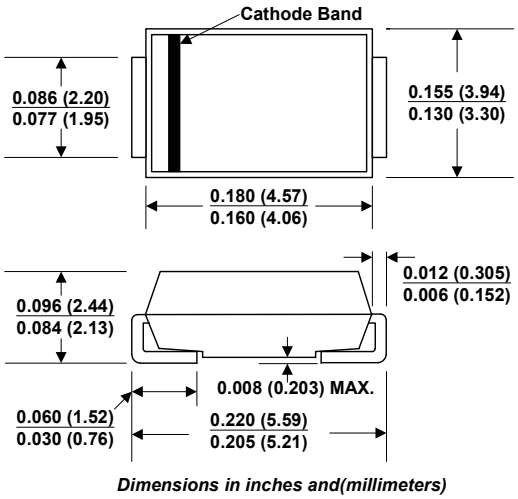
1.5SMBJ SERIES
SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
STAND-OFF VOLTAGE - 12 TO 85 Volts
1500 Watt Peak Pulse Power

DO-214AA (SMB J-Bend)



Dimensions in inches and(millimeters)

FEATURES

◎ For surface mounted applications in order to optimize board space
◎ Halogen-Free
◎ RoHS compliant
◎ Typical maximum temperature coefficient $\triangle V_{BR}$=0.1%xV_{BR}@25℃x$\triangle$T
◎ Low profile package
◎ Built-in strain relief
◎ Glass passivated junction
◎ Low inductance
◎ Excellent clamping capability
◎ Repetition Rate(duty cycle):0.05%
◎ Fast response time: typically less than 1.0ps from 0 Volts to BV
◎ High temperature soldering: 260°C/40 seconds at terminals
◎ Plastic package has Underwriters Laboratory Flammability 94V-0
◎ Matte Tin Lead-free plated

MECHANICAL DATA

Case: JEDEC DO214AA. Molded plastic over glass passivated junction
Terminal: Solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes positive end (cathode) except Bidirectional
Standard Packaging: 12mm tape(EIA STD RS-481)
Weight: 0.003ounce, 0.093gram

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000μs waveform (Note 1,2,FIG.1)	P_{PPM}	Minimum 1500	Watts
Peak Pulse Current of on 10/1000μs waveform (Note 1,FIG.3)	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note 2,3)	I_{FSM}	100	Amps
Operating junction and Storage Temperature Range	T_J , T_{STG}	-55 to + 150	℃

Notes :
1.Non-repetitive current pulse , per Fig. 3 and derated above T_A = 25℃ per Fig. 2 .
2.Mounted on 8.0mm x 8.0mm Copper Pads to each terminal
3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

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SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
STAND-OFF VOLTAGE - 12 TO 85 Volts
1500 Watt Peak Pulse Power

1.5SMBJ PART NUMBER		DEVICE MARKING CODE		REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE V_{BR}(V) @I_T		TEST CURRENT I_T (mA)	MAXIMUN CLAMPING VOLTAGE @Ipp Vc(V) (10/1000uS)	PEAK PULSE CURRENT Ipp (A) (10/1000uS)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc(V) (8/20uS)	PEAK PULSE CURRENT Ipp (A) (8/20uS)	REVERSE LEAKAGE @V_{RWM} I_R(μA)
UNI- POLAR	BI-POLAR	UNI	BI	V_{RWM}(V)	MIN	MAX						
1.5SMBJ12A	1.5SMBJ12CA	GEE	BEE	12.0	13.30	14.70	1	19.9	75.4	25.9	377.0	1.0
1.5SMBJ13A	1.5SMBJ13CA	GEG	BEG	13.0	14.40	15.90	1	21.5	69.8	28.0	349.0	1.0
1.5SMBJ14A	1.5SMBJ14CA	GEK	BEK	14.0	15.60	17.20	1	23.2	64.7	30.2	323.5	1.0
1.5SMBJ15A	1.5SMBJ15CA	GEM	BEM	15.0	16.70	18.50	1	24.4	61.5	31.7	307.5	1.0
1.5SMBJ16A	1.5SMBJ16CA	GEP	BEP	16.0	17.80	19.70	1	26.0	57.7	33.8	288.5	1.0
1.5SMBJ17A	1.5SMBJ17CA	GER	BER	17.0	18.90	20.90	1	27.6	54.4	35.9	272.0	1.0
1.5SMBJ18A	1.5SMBJ18CA	GET	BET	18.0	20.00	22.10	1	29.2	51.4	38.0	257.0	1.0
1.5SMBJ20A	1.5SMBJ20CA	GEV	BEV	20.0	22.20	24.50	1	32.4	46.3	42.1	231.5	1.0
1.5SMBJ22A	1.5SMBJ22CA	GEX	BEX	22.0	24.40	26.90	1	35.5	42.3	46.2	211.5	1.0
1.5SMBJ24A	1.5SMBJ24CA	GEZ	BEZ	24.0	26.70	29.50	1	38.9	38.6	50.6	193.0	1.0
1.5SMBJ26A	1.5SMBJ26CA	GFE	BFE	26.0	28.90	31.90	1	42.1	35.7	54.7	178.5	1.0
1.5SMBJ28A	1.5SMBJ28CA	GFG	BFG	28.0	31.10	34.40	1	45.4	33.1	59.0	165.5	1.0
1.5SMBJ30A	1.5SMBJ30CA	GFK	BFK	30.0	33.30	36.80	1	48.4	31.0	62.9	155.0	1.0
1.5SMBJ33A	1.5SMBJ33CA	GFM	BFM	33.0	36.70	40.60	1	53.3	28.2	69.3	141.0	1.0
1.5SMBJ36A	1.5SMBJ36CA	GFP	BFP	36.0	40.00	44.20	1	58.1	25.9	75.5	129.5	1.0
1.5SMBJ40A	1.5SMBJ40CA	GFR	BFR	40.0	44.40	49.10	1	64.5	23.3	83.9	116.5	1.0
1.5SMBJ43A	1.5SMBJ43CA	GFT	BFT	43.0	47.80	52.80	1	69.4	21.7	90.2	108.5	1.0
1.5SMBJ45A	1.5SMBJ45CA	GFV	BFV	45.0	50.00	55.30	1	72.7	20.6	94.5	103.0	1.0
1.5SMBJ48A	1.5SMBJ48CA	GFX	BFX	48.0	53.30	58.90	1	77.4	19.4	100.6	97.0	1.0
1.5SMBJ51A	1.5SMBJ51CA	GFZ	BFZ	51.0	56.70	62.70	1	82.4	18.2	107.1	91.0	1.0
1.5SMBJ54A	1.5SMBJ54CA	GGE	BGE	54.0	60.00	66.30	1	87.1	17.3	113.2	86.5	1.0
1.5SMBJ58A	1.5SMBJ58CA	GGG	BGG	58.0	64.40	71.20	1	93.6	16.1	121.7	80.5	1.0
1.5SMBJ60A		GGK		60.0	66.70	73.70	1	96.8	15.5	125.8	77.5	1.0
1.5SMBJ64A		GGM		64.0	71.10	78.60	1	103.0	14.6	133.9	73.0	1.0
1.5SMBJ70A		GGP		70.0	77.80	86.00	1	113.0	13.3	146.9	66.5	1.0
1.5SMBJ75A		GGR		75.0	83.30	92.10	1	121.0	12.4	157.3	62.0	1.0
1.5SMBJ78A		GGT		78.0	86.70	95.80	1	126.0	11.9	163.8	59.5	1.0
1.5SMBJ85A		GGV		85.0	94.40	104.00	1	137.0	11.0	178.1	55.0	1.0

RATINGS AND CHARACTERISTIC CURVES

Ratings and Characteristic Curves(T_A=25℃ unless otherwise noted)

Fig. 1 - Peak Pulse Power

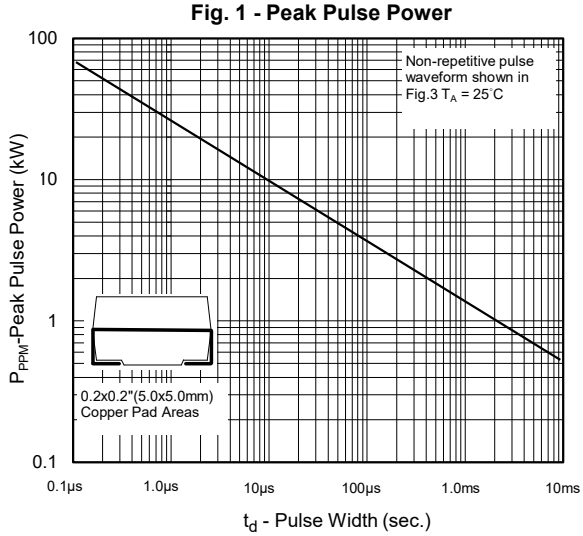


Fig.2 - Pulse Derating Curve

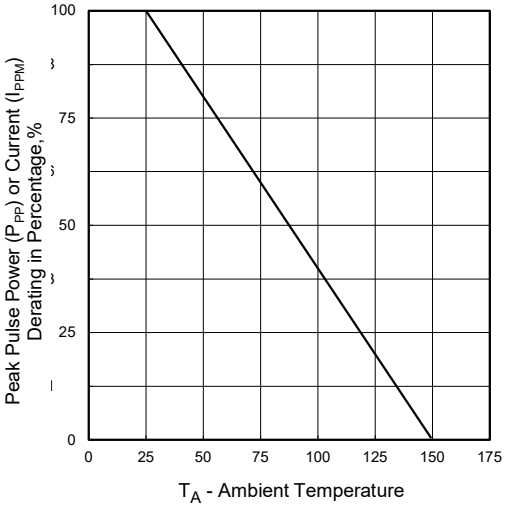


Fig.3 - Pulse Waveform

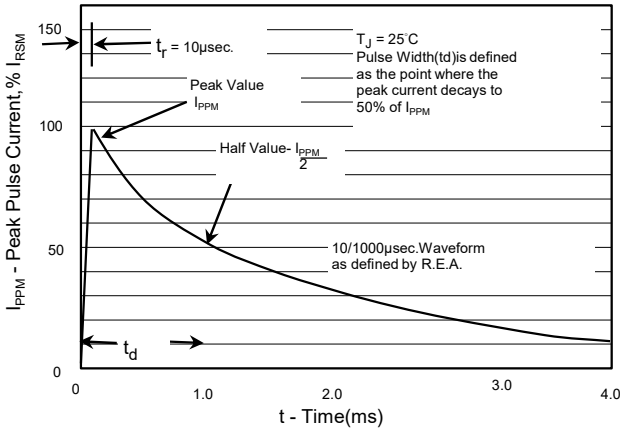


Fig. 4 - Typical Junction Capacitance

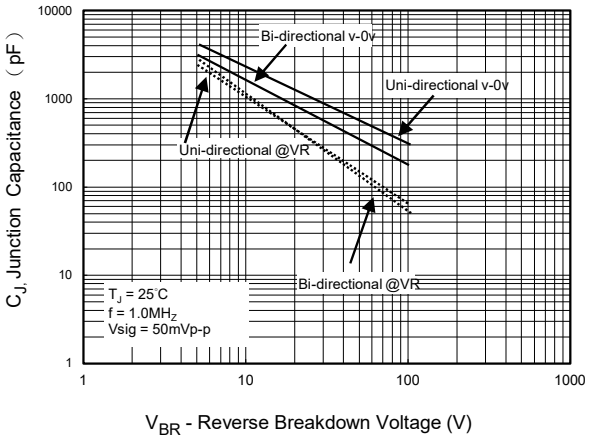


Fig. 5 - Steady State Power Derating Curve

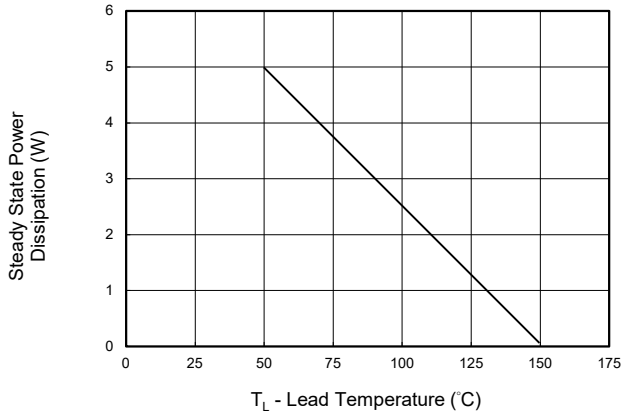
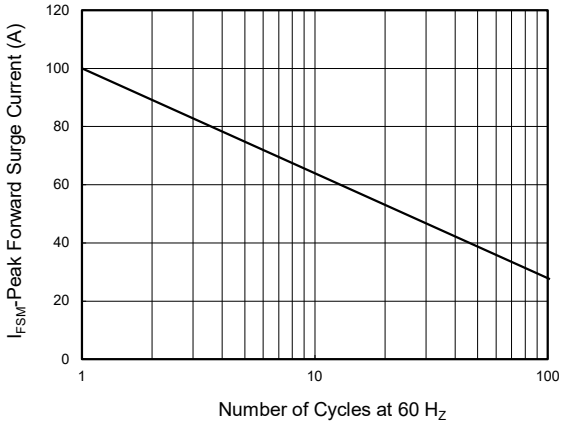


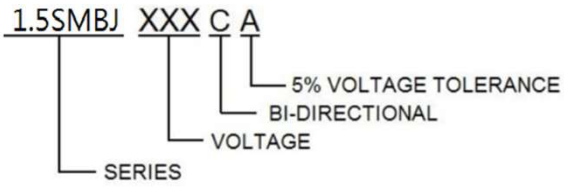
Fig.6 - Maximum Non-repetitive Forward Surge current uni-directional only



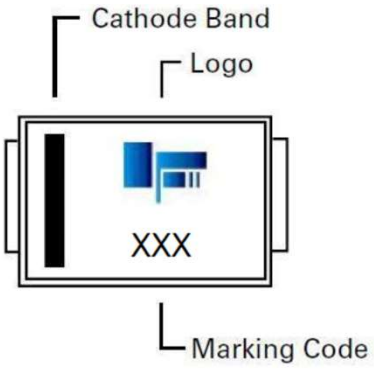
1.5SMBJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
1.5SMBJxxXX	DO-214AA	3000	Tape & Reel - 16mm/13" tape	EIA STD RS-481
1.5SMBJxxXX	DO-214AA	500	Tape & Reel - 16mm/ 7" tape	EIA STD RS-481