

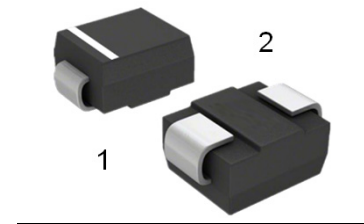
8000W Surface Mount Transient Voltage Suppressor

Description

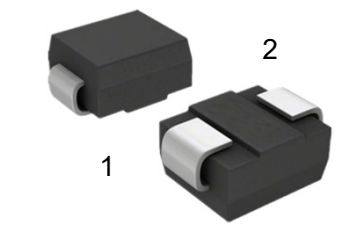
The 8.0SMDJxxA Series are designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Feature

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- 8000W peak pulse power capability with a 10/1000us waveform
- Low incremental surge resistance, excellent clamping capability
- Very fast response time
- Component in accordance to RoHS
- Solder dip 265°C max. 10s, per JESD 22-B106



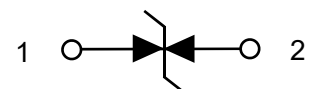
SMC(Uni)



SMC(Bi)

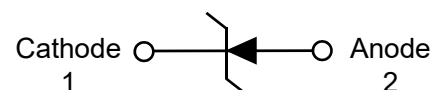
Mechanical Characteristics

- Case: DO-214AB(SMC)
- Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, Halogen-free
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
- Polarity: Cathode line denotes the cathode end



Bi-directional

Circuit Diagram



Uni-directional

Circuit Diagram

Applications

- Power lines
- I/O Interface.
- Automotive and Telecommunication Industrial Electronics

Absolute maximum rating@25°C

Rating		Symbol	Value	Units
Peak Pulse Power Dissipation with 10/1000 μ s Waveform ¹⁾²⁾		P_{PPM}	8000	W
Power Dissipation on Infinite Heatsink @ $T_L=75^\circ\text{C}$		P_D	6.5	W
Peak Pulse Current with 10/1000 μ s Waveform ¹⁾		I_{PPM}	See next table	A
Peak Forward Surge Current , 8.3 ms single half sine-wave ³⁾		I_{FSM}	300(Uni)	A
Maximum Instantaneous Forward Voltage	100A	V_F	3.5/5.0(Uni)	V
	1A		1.5(Uni)	
Electrostatic Discharge	IEC61000-4-2 Air Discharge	ESD	± 30	kV
	IEC61000-4-2 Contact Discharge		± 30	
Thermal Resistance Junction-to-Lead		$R_{\theta JL}$	15	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Ambient ⁴⁾		$R_{\theta JA}$	48	$^\circ\text{C/W}$
Operating Junction Temperature and Storage Temperature Range		T_J, T_{STG}	-55~+150	$^\circ\text{C}$

Transient Voltage Suppressor

8.0SMDJxxA Series

Electrical characteristics per line@25°C(unless otherwise specified)

Part Number		Marking		V _{RMW}	V _{BR@I_T}		I _T	V _{C@I_{PP}}	I _{PP}	I _{R@V_{RWM}}
Uni	Bi	Uni	Bi	V	min(V)	max(V)	mA	V	A	μA
8.0SMDJ13AA	8.0SMDJ13CAA	8.0PEG	8.0BEG	13	14.4	15.9	1	21.5	372.09	200
8.0SMDJ14AA	8.0SMDJ14CAA	8.0PEK	8.0BEK	14	15.6	17.2	1	23.2	344.82	200
8.0SMDJ15AA	8.0SMDJ15CAA	8.0PEM	8.0BEM	15	16.7	18.5	1	24.4	327.86	100
8.0SMDJ16AA	8.0SMDJ16CAA	8.0PEP	8.0BEP	16	17.8	19.7	1	26	307.69	50
8.0SMDJ17AA	8.0SMDJ17CAA	8.0PER	8.0BER	17	18.9	20.9	1	27.6	289.85	20
8.0SMDJ18AA	8.0SMDJ18CAA	8.0PET	8.0BET	18	20	22.1	1	29.2	273.97	10
8.0SMDJ20AA	8.0SMDJ20CAA	8.0PEV	8.0BEV	20	22.2	24.5	1	32.4	246.91	5
8.0SMDJ22AA	8.0SMDJ22CAA	8.0PEX	8.0BEX	22	24.4	26.9	1	35.5	225.35	5
8.0SMDJ24AA	8.0SMDJ24CAA	8.0PEZ	8.0BEZ	24	26.7	29.5	1	38.9	205.65	5
8.0SMDJ26AA	8.0SMDJ26CAA	8.0PFE	8.0BFE	26	28.9	31.9	1	42.1	190.02	5
8.0SMDJ28AA	8.0SMDJ28CAA	8.0PFG	8.0BFG	28	31.1	34.4	1	45.4	176.21	5
8.0SMDJ30AA	8.0SMDJ30CAA	8.0PFK	8.0BFK	30	33.3	36.8	1	48.4	165.28	5
8.0SMDJ33AA	8.0SMDJ33CAA	8.0PFM	8.0BFM	33	36.7	40.6	1	53.3	150.09	5
8.0SMDJ36AA	8.0SMDJ36CAA	8.0PFP	8.0BFP	36	40	44.2	1	58.1	137.69	5
8.0SMDJ40AA	8.0SMDJ40CAA	8.0PFR	8.0BFR	40	44.4	49.1	1	64.5	124.03	5
8.0SMDJ43AA	8.0SMDJ43CAA	8.0PFT	8.0BFT	43	47.8	52.8	1	69.4	115.27	5
8.0SMDJ45AA	8.0SMDJ45CAA	8.0PFV	8.0BFV	45	50	55.3	1	72.7	110.04	5
8.0SMDJ48AA	8.0SMDJ48CAA	8.0PFX	8.0BFX	48	53.3	58.9	1	77.4	103.35	5
8.0SMDJ51AA	8.0SMDJ51CAA	8.0PFZ	8.0BFZ	51	56.7	62.7	1	82.4	97.08	5
8.0SMDJ54AA	8.0SMDJ54CAA	8.0PGE	8.0BGE	54	60	66.3	1	87.1	91.84	5
8.0SMDJ58AA	8.0SMDJ58CAA	8.0PGG	8.0BGG	58	64.4	71.2	1	93.6	85.47	5
8.0SMDJ60AA	8.0SMDJ60CAA	8.0PGK	8.0BGK	60	66.7	73.7	1	96.8	82.64	5
8.0SMDJ64AA	8.0SMDJ64CAA	8.0PGM	8.0BGM	64	71.1	78.6	1	103	77.66	5
8.0SMDJ70AA	8.0SMDJ70CAA	8.0PGP	8.0BGP	70	77.8	86	1	113	70.79	5
8.0SMDJ75AA	8.0SMDJ75CAA	8.0PGR	8.0BGR	75	83.3	92.1	1	121	66.11	5
8.0SMDJ78AA	8.0SMDJ78CAA	8.0PGT	8.0BGT	78	86.7	95.8	1	126	63.49	5
8.0SMDJ85AA	8.0SMDJ85CAA	8.0PGV	8.0BGV	85	94.4	104	1	137	58.39	5

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above TA=25°C per Fig.2.
2. Mounted on 0.6 x 0.6" (16.0 x 16.0 mm) copper pads to each terminal
3. Measured on 8.3ms single half sine-wave or equivalent square wave,duty cycle=4 pulses per minute maximum.
4. Mounted on minimum recommended pad layout
5. Pulse Test: tp≤50ms
6. Surge current waveform per Fig. 3 and derated per Fig.2

Typical Characteristics

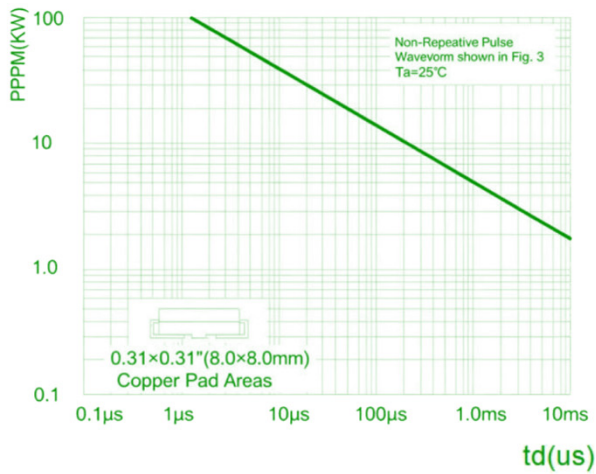


Fig. 1 - Power Derating Curve

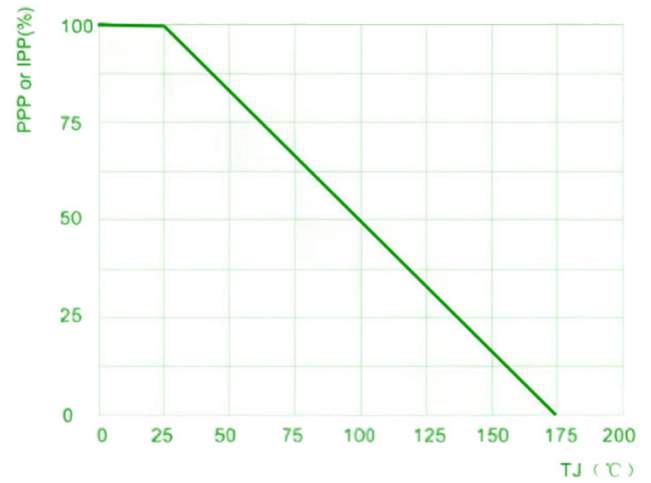


Fig. 2 - Pulse Power or Current vs. Initial Junction Temperature

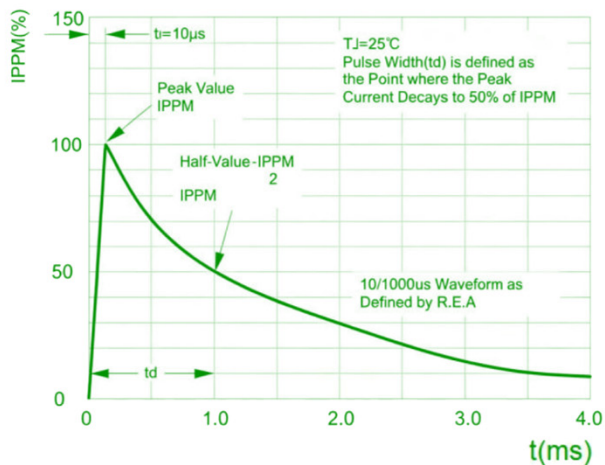


Fig. 3 - Pulse Waveform

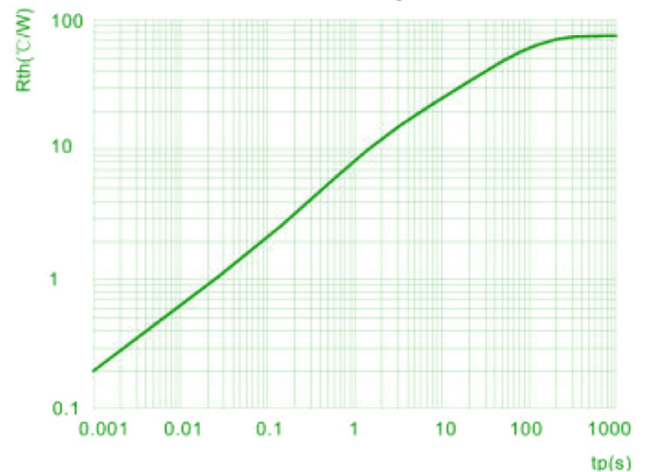


Fig. 4 - Typical Transient Thermal Impedance

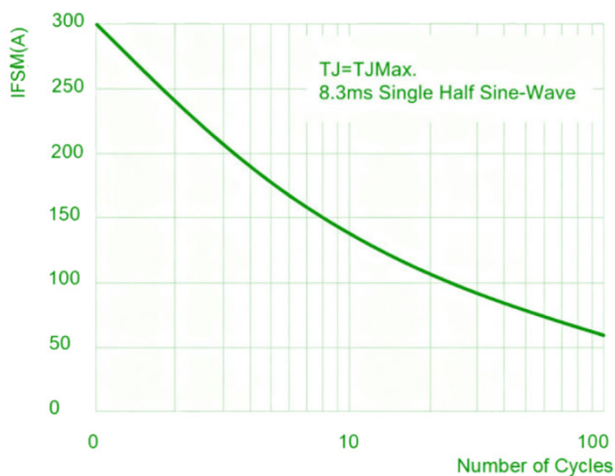


Fig. 5 - Maximum Non-Repetitive Surge Current

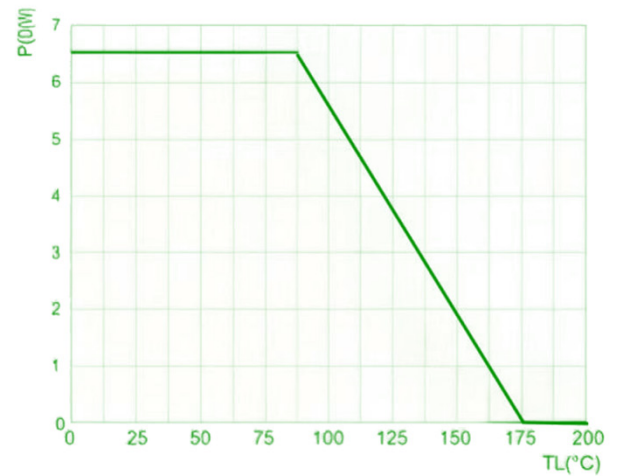
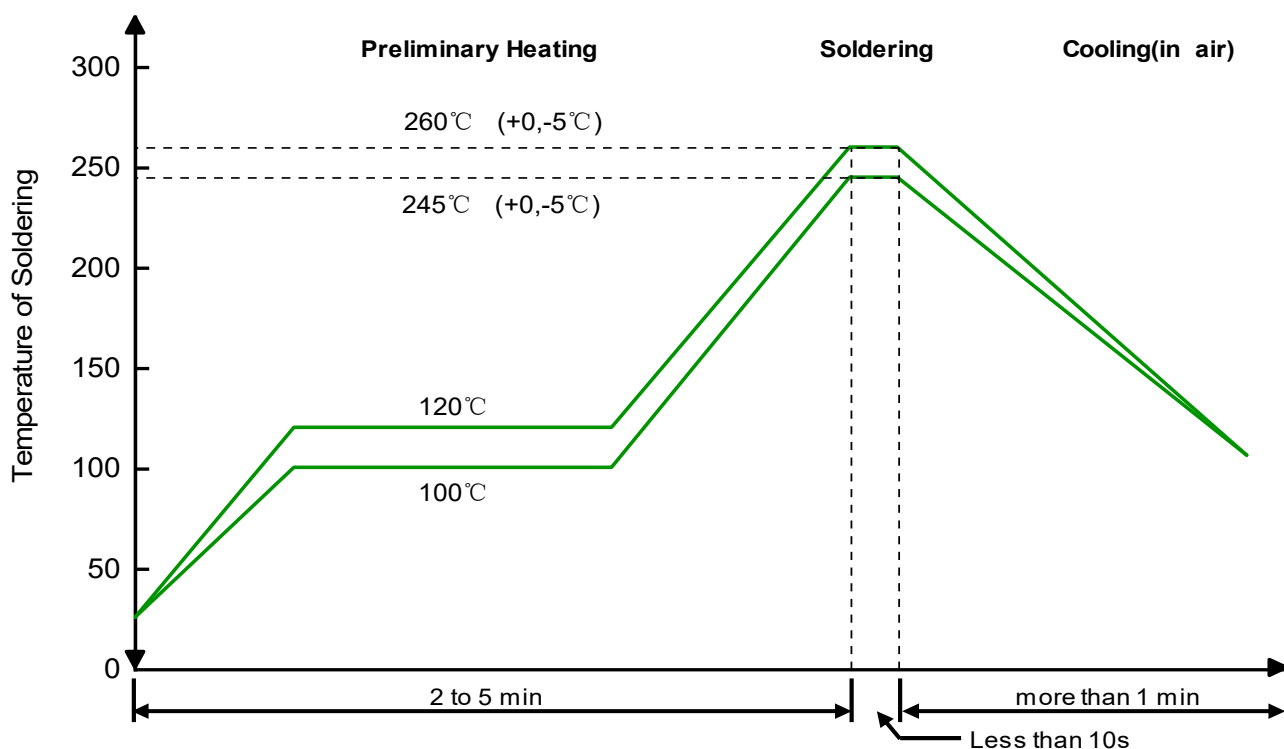


Fig. 6 - Steady State Power Dissipation

Solder Reflow Recommendation

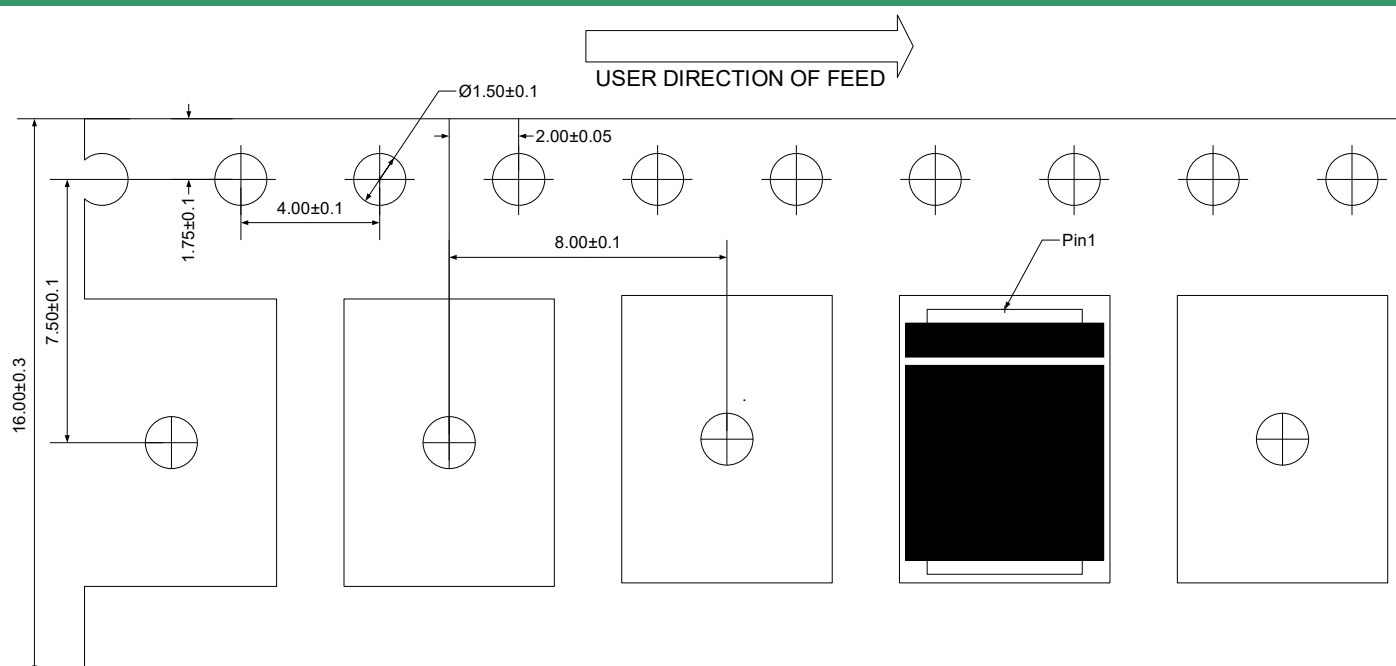


Remark: Pb free for 260°C; Pb for 245°C.

Ordering information

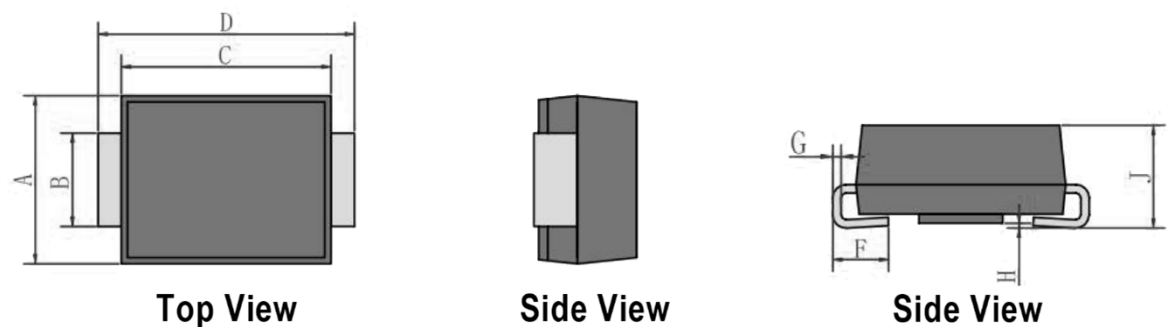
Package	Reel	Shipping
SMC	13"	3000 / Tape & Reel

Load with information

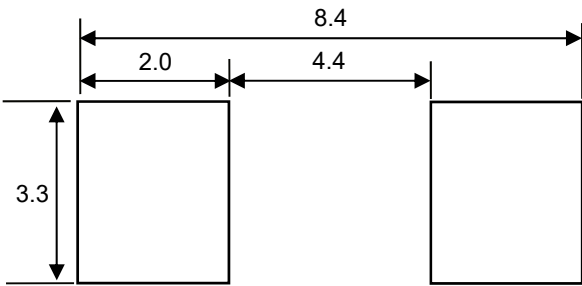


Unit:mm

Product Dimension (SMC)



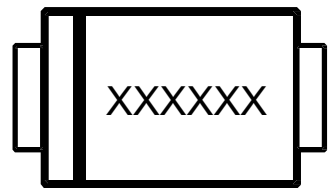
Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	5.59	6.22	0.220	0.245
B	2.85	3.27	0.112	0.129
C	6.60	7.11	0.260	0.280
D	7.75	8.13	0.305	0.320
F	0.76	1.52	0.030	0.060
G	0.15	0.31	0.006	0.012
H	0.05	0.20	0.002	0.008
J	1.99	2.61	0.078	0.103



Unit: mm

Suggested PCB Layout

Marking information



Uni-directional



Bi-directional

Note: Detailed Marking See table above

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