

Surface Mount Transient Voltage Suppressors (TVS)

8.0SMDJ Series 22 To 36 V 8000W

Description

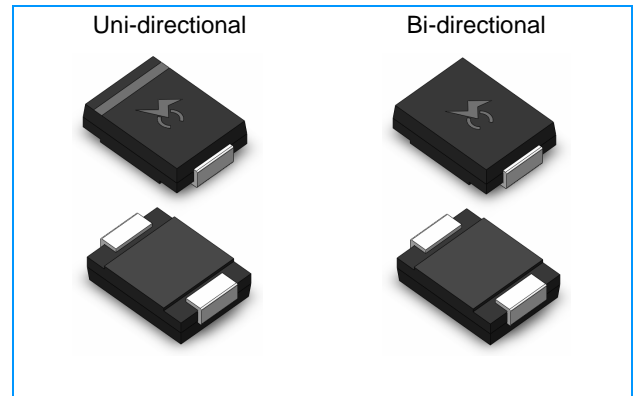
The 8.0SMDJ series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Features

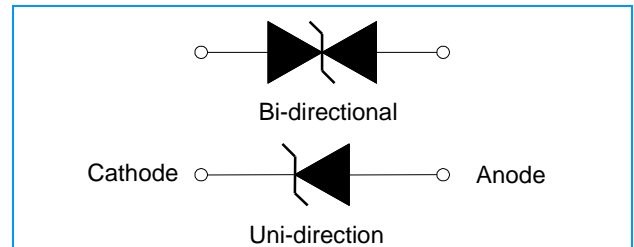
- u Glass passivated chip
- u Low leakage
- u Uni and Bidirectional unit
- u Excellent clamping capability
- u 8000W Peak power capability at 10 × 1000µs waveform
Repetition rate (duty cycle):0.01%
- u Very fast response time
- u RoHS compliant

Applications

TVS devices are ideal for the protection of I/O interfaces, V_{CC} bus and other vulnerable circuits used in Telecom, Computer, Industrial and Consumer electronic applications.



Functional Diagram



Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation with a 10/1000µs waveform (Fig.1)(Note 1), (Note 2)	P _{PPM}	8000	Watts
Peak Pulse Current with a 10/1000µs waveform.(Note1,Fig.3)	I _{PP}	See Next Table	Amps
Power Dissipation on Infinite Heat Sink at T _L =75°C	P _{M(AV)}	6.5	Watt
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I _{FSM}	300	Amps
Maximum Instantaneous Forward Voltage at 25A for Unidirectional Only (Note 4)	V _F	3.5/5.0	Voltage
Operating junction and Storage Temperature Range.	T _J , T _{STG}	-55 to +150	°C

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on 5.0mm x 5.0mm (0.03mm thick) Copper Pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.
4. V_F < 3.5V for V_{BR} < 200V and V_F < 6.5V for V_{BR} > 201V.

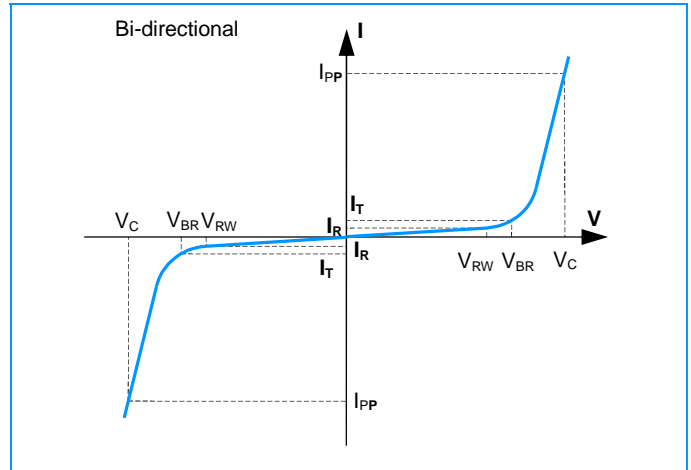
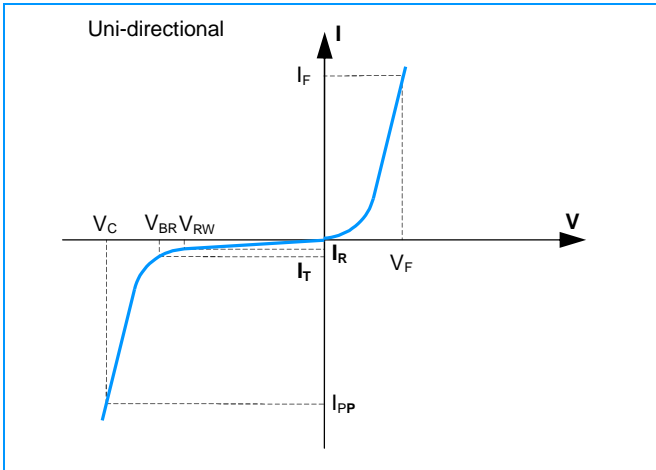
Electrical Characteristics (T_A=25°C unless otherwise noted)

Part Number		Marking		Reverse Stand-Off Voltage V _{RWM} (V)	Breakdown Voltage V _{BR} (V) @I _T		Test Current I _T (mA)	Maximum Clamping Voltage V _C @IPP (V)	Maximum Peak Pulse Current IPP (A)	Maximum Reverse Leakage I _R @V _{RWM} (µA)
Uni	Bi	Uni	Bi		MIN	MAX				
8.0SMDJ22A	8.0SMDJ22CA	8PEX	8BEX	22	24.4	26.9	1	35.5	225	5
8.0SMDJ24A	8.0SMDJ24CA	8PEZ	8BEZ	24	26.7	29.5	1	38.9	206	5
8.0SMDJ26A	8.0SMDJ26CA	8PFE	8BFE	26	28.9	31.9	1	42.1	190	5
8.0SMDJ33A	8.0SMDJ33CA	8PFM	8BFM	33	36.7	40.6	1	53.3	150	5
8.0SMDJ36A	8.0SMDJ36CA	8PFP	8BFP	36	40.0	44.2	1	58.1	138	5

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I-V Curve Characteristics



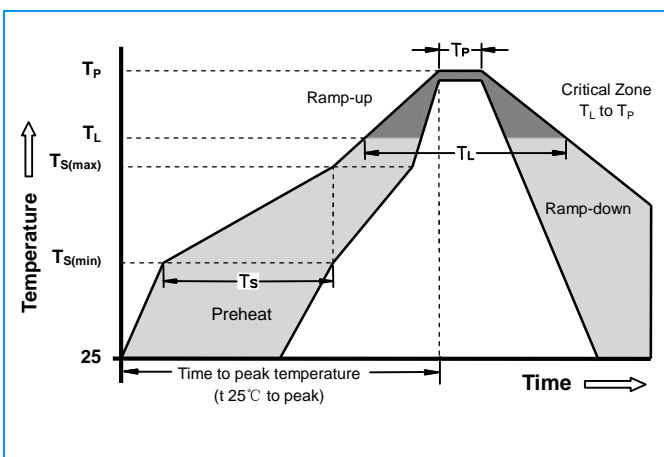
Physical Specifications

Weight	0.007 ounce, 0.21 gram
Case	JEDEC DO-214AB Molded Plastic over glass passivated junction
Polarity	Color band denotes cathode except Bipolar
Terminal	Matte Tin-plated leads, Solderable per JESD22-B102D

Environmental Specifications

Temperature Cycle	JESD22-A104
Pressure Cooker	JESD22-A102
High Temp. Storage	JESD22-A103
HTRB	JESD22-A108
Thermal Shock	JESD22-A106

Soldering Parameters

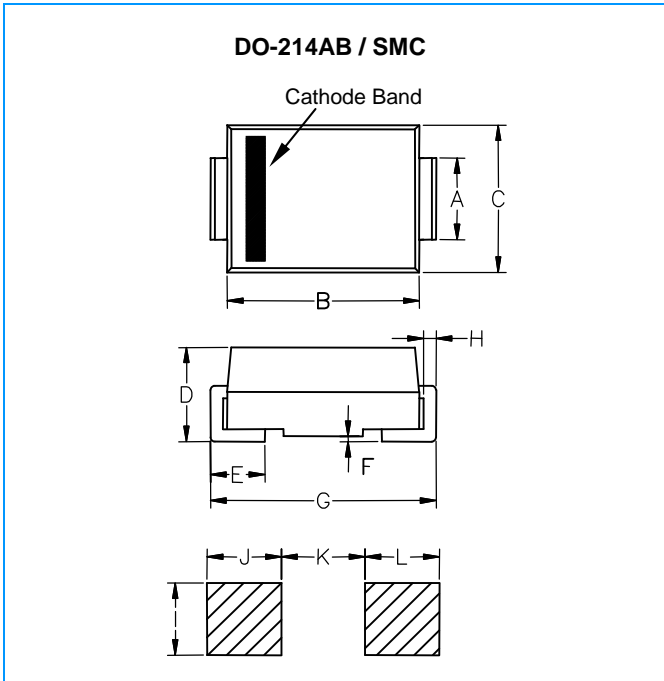


Reflow Condition		Lead-free assembly
Pre Heat	-Temperature Min ($T_{S(min)}$)	150°C
	-Temperature Max ($T_{S(max)}$)	200°C
	- Time (min to max) (T_S)	60 -180 Seconds
Average ramp up rate (Liquidus Temp T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (min to max) (T_L)	60 -150 Seconds
Peak Temperature (T_P)		260 +0/-5°C
Time within 5°C of actual peak Temperature (t_p)		20 -40 Seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max
Do not exceed		280°C

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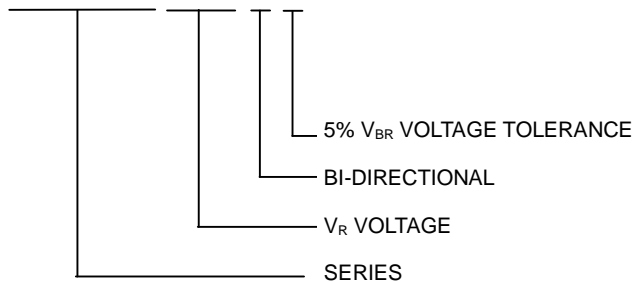
Dimensions



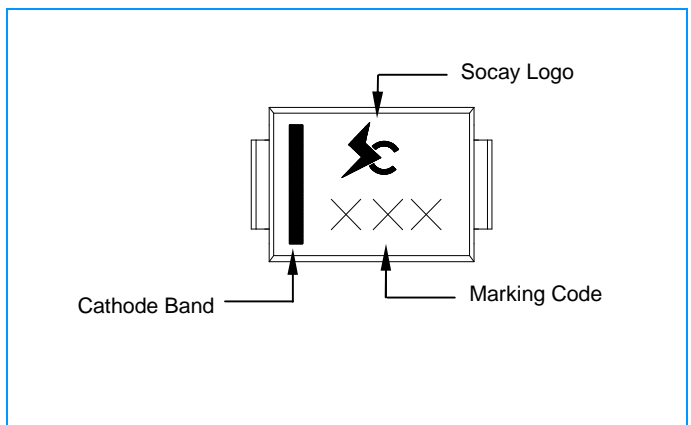
Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.114	0.126	2.86	3.160
B	0.260	0.280	6.520	7.020
C	0.220	0.245	5.520	6.150
D	0.079	0.103	1.980	2.590
E	0.030	0.060	0.750	1.510
F	-	0.008	-	0.203
G	0.305	0.320	7.640	8.020
H	0.006	0.012	0.152	0.305
I	0.129	-	3.300	-
J	0.094	-	2.400	-
K	-	0.165	-	4.200
L	0.094	-	2.400	-

Part Numbering

8.0SMDJ × × × CA



Part Marking



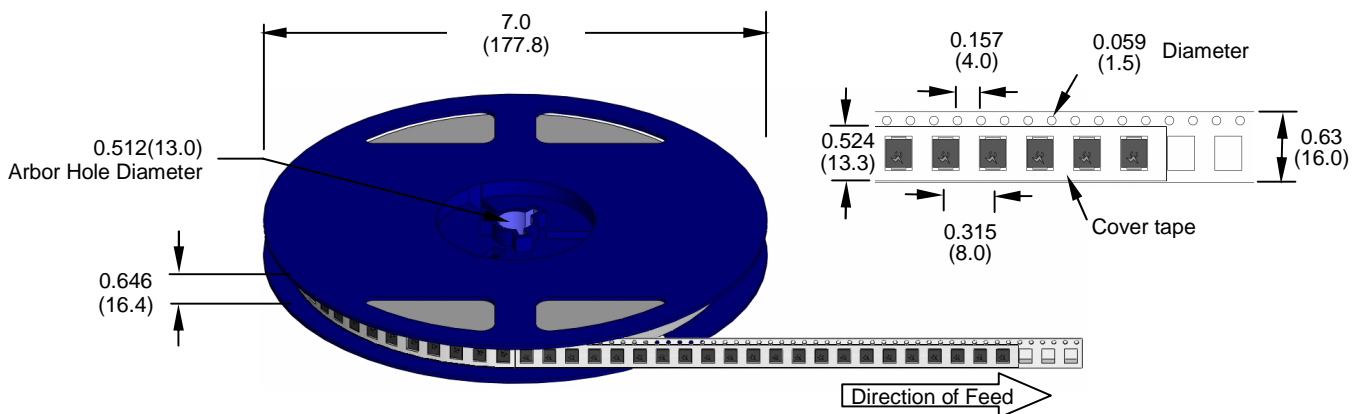
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Packaging

Part Number	Component Package	Quantity	Packaging Option	Packaging Specification
8.0SMDJXXXXX	DO-214AB	500	Tape & Reel -16mm/7"tape	EIA STD RS-481

Tape and Reel Specifications



Dimensions are in inches
(and millimeters)