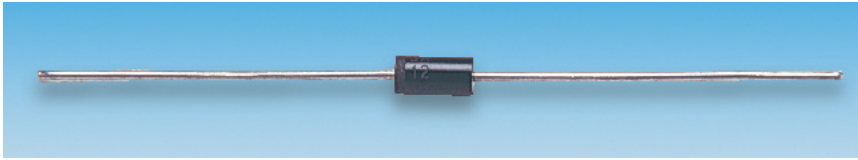


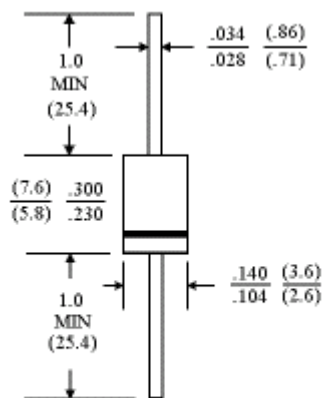
Transient Voltage Suppressors

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Features:

- Glass passivated chip junction.
- 500W peak pulse power capability on 10/1000 $\leq \mu\text{S}$ waveform.
- Excellent clamping capability.
- Repetition rate (duty cycle) : 0.01%.
- Low incremental surge resistance.
- Fast response time. (Typically less than 1.0 ps from 0 volts to BV for unidirectional and 5.0ns for bi-directional types).
- Typical I_D less than 1 μA above 10V.
- High temperature soldering guaranteed. 300°C/10 seconds / .375", (9.5mm) lead length/5lbs, (2.3kg) tension.
- Low clamping voltages.
- Wide voltage range.
- High transient power dissipation.
- No wear-out limitation.
- Small physical size.



MECHANICAL DATA

Case	: JEDEC DO-15 molded plastic over passivated junction.
Terminals	: Plated axial leads, solderable per MIL-STD-750, Method 2026.
Polarity	: Colour band denotes positive end (cathode) except Bidirectionals
Mounting Position	: Any.
Weight	: 0.015 ounce, 0.4 gram.



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Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 $\leq \mu\text{S}$ waveform (Note 1, FIG.1)	P_{PPM}	Minimum 500	Watts
Peak Pulse Current of on 10/1000 $\leq \mu\text{S}$ waveform (Note 1, FIG.3)	I_{PPM}	See Table 1	Amps
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths .375", (9.5mm) (Note 2)	$P_{M(AV)}$	1.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, Unidirectional only (JECED Method) (Note 3)	I_{FSM}	70	Amps
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-65 to +175	$^\circ\text{C}$

NOTES:

1. Non-repetitive current pulse, per Figure 3 and derated above $T_A=25^\circ\text{C}$ per Figure 2.
2. Mounted on Copper Leaf area of 1.57in² (40mm²) per Figure 5.
3. 8.3ms single half sine - wave or equivalent square wave, Duty cycle = 4 pulses per minute maximum.

RATING AND CHARACTERISTIC CURVES

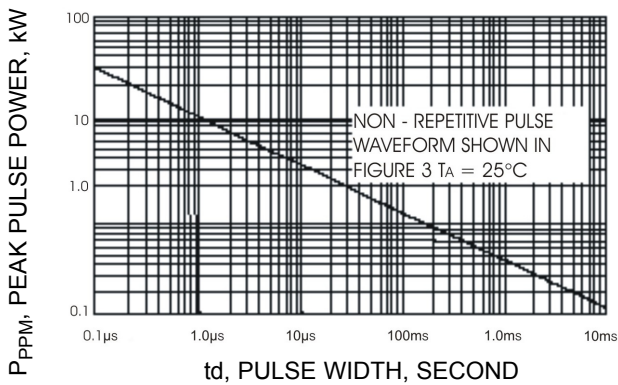


Figure 1 - PEAK PULSE POWER RATING CURVE

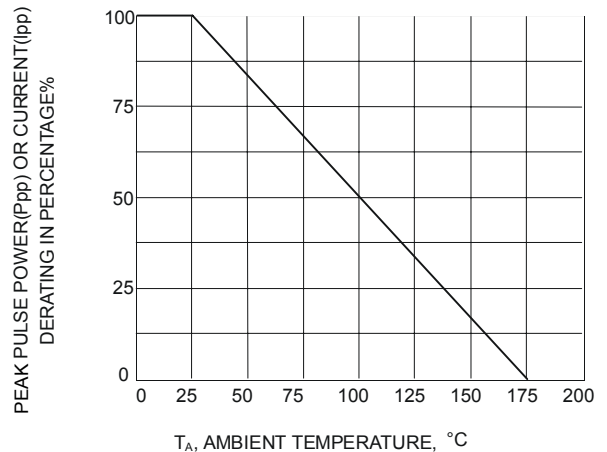


Figure 2 - PULSE DERATING CURVE



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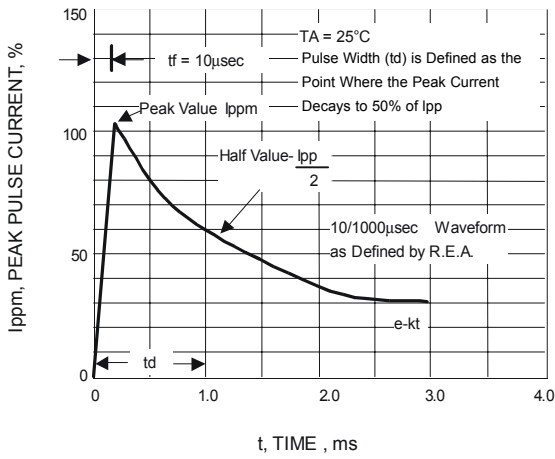
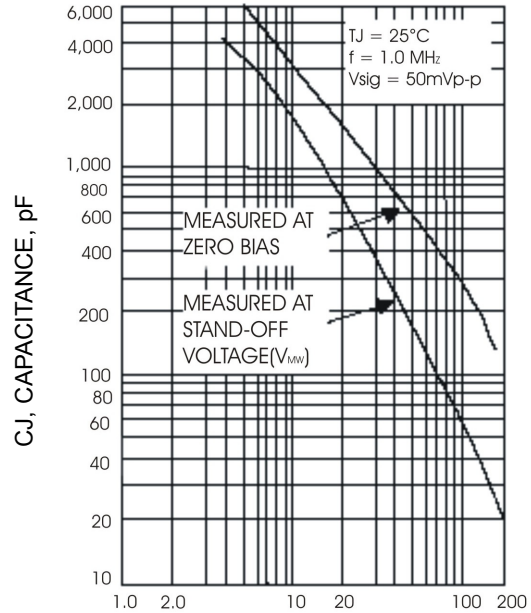


Figure 3 - PULSE WAVEFORM



V (WM), REVERSE STAND-OFF VOLTAGE, VOLTS

Figure 4 - TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

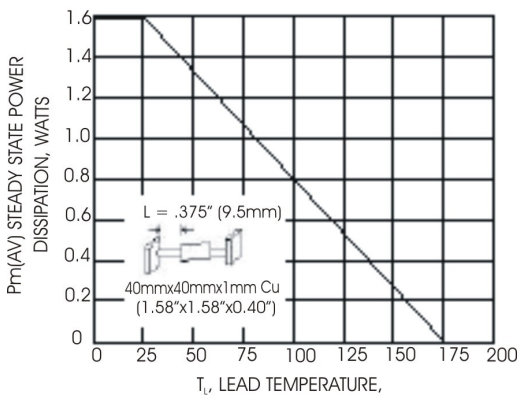


Figure 5 - STEADY STATE POWER DERATING CURVE

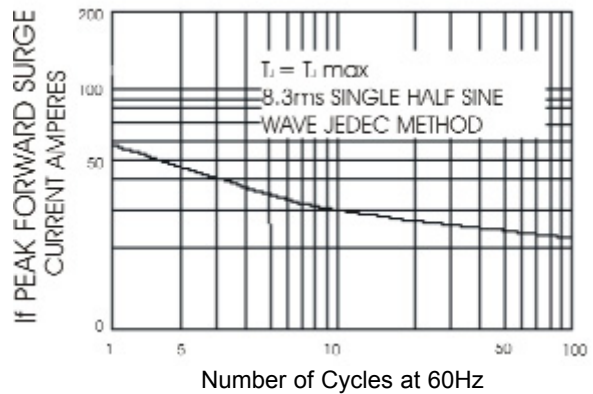


Figure 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL



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Uni-Directional 500 Watt Axial Lead TVS

Reverse Stand-off Voltage V_{rm} (V) at IT	Breakdown Voltage V_{br} (V) Minimum at IT	Breakdown Voltage V_{br} (V) Maximum at IT	Test Current IT (mA)	Maximum Clamping Voltage V_{clamp} A at I_{pp}	Peak Pulse Current I_{pp} (A)	P_{tot} at $T_L=75^\circ\text{C}$ (W)	Reverse Leakage at VRWM IR (μA)	Uni-Directional Part Number	
5	6.40	7.25	10	9.2	54.3	1	3	600	SA5A
12	13.30	15.30	1	19.9	25.1			SA12A	
15	16.70	19.20		24.4	20.6			SA15A	
24	26.70	30.70		38.9	12.8			SA24A	
30	33.30	38.30		48.4	10.3			SA30A	

Bi-Directional 500 Watt Axial Lead TVS

Reverse Stand-off Voltage V_{rm} (V)	Breakdown Voltage V_{br} (V) Minimum at IT	Breakdown Voltage V_{br} (V) Maximum at IT	Test Current IT (mA)	Maximum Clamping Voltage V_{clamp} A at I_{pp}	Peak Pulse Current I_{pp} (A)	P_{tot} at $T_L=75^\circ\text{C}$ (W)	Reverse Leakage at VRWM IR (μA)	Bi-Directional Part Number	
5	6.40	7.25	10	9.2	54.3	1	3	1200	SA5CA
12	13.30	15.30	1	19.9	25.1			SA12CA	
15	16.70	19.20		24.4	20.6			SA15CA	
24	26.70	30.70		38.9	12.8			SA24CA	
30	33.30	38.30		48.4	10.3			SA30CA	



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