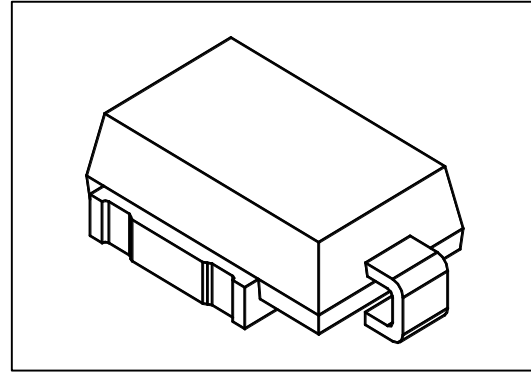


**Working Voltage: 10 to 43 V**  
**Peak Pulse Power: 4600 W**

## Surface Mount Transient Voltage Suppressors

### Features

- Optimized glass passivated chip
- $T_J = 175\text{ }^\circ\text{C}$  capability suitable for high reliability and automotive requirement
- 4600 W peak pulse power capability with a 10/1000  $\mu\text{s}$  waveform, repetitive rate (duty cycle):0.01 %
- Meet ISO 7637-2 5a/5b and ISO 16750 load dump test (varied by test condition)
- AEC-Q101 qualified
- Low leakage current
- Low forward voltage drop
- Uni-directional polarity
- Excellent clamping capability
- Very fast response time
- RoHS compliant



DO-218AB

### Mechanical Data

- Case: DO-218AB
- Molding compound: UL94V-0 flammability
- Polarity: Heatsink is anode

### Maximum Ratings( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000 $\mu\text{s}$ waveform <sup>(1)</sup>	$P_{PP}$	4600	W
Peak power dissipation with a 10/10,000 $\mu\text{s}$ waveform	$P_{PP}$	3600	W
Peak pulse current with a 10/1000 $\mu\text{s}$ waveform <sup>(1)</sup>	$I_{PP}$	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 25\text{ }^\circ\text{C}$	$P_D$	6.0	W
Peak forward surge current 8.3 ms single half sine-wave	$I_{FSM}$	600	A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to +175	$^\circ\text{C}$

**Note:**

(1)Non-repetitive current pulse per Fig.2 and derated above  $T_A= 25\text{ }^\circ\text{C}$  per Fig.1



Ratings and Characteristics Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)

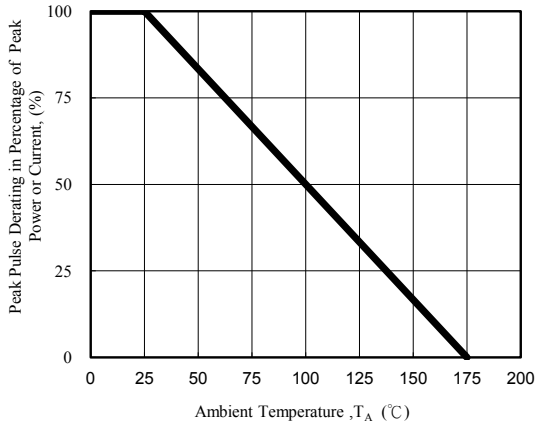


Fig. 1 - Pulse Derating Curve

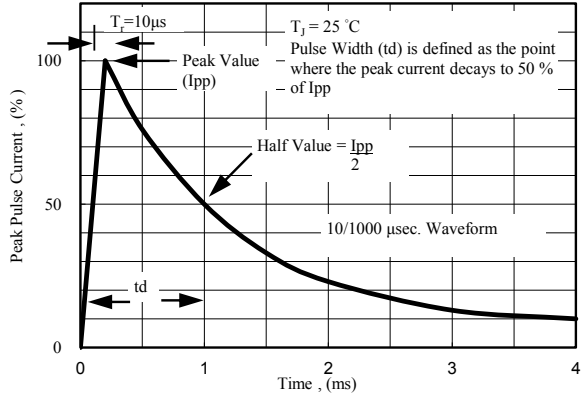


Fig. 2 - Pulse Waveform

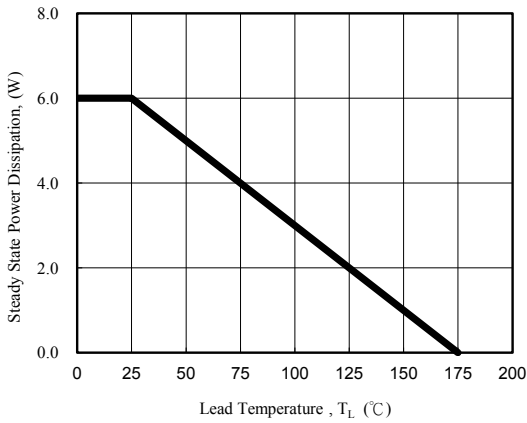


Fig. 3 - Steady State Power Derating Curve

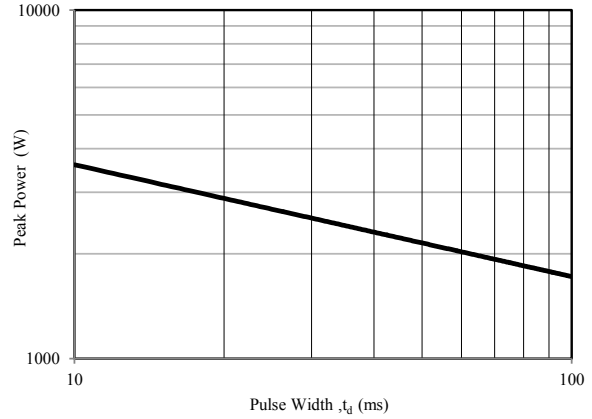
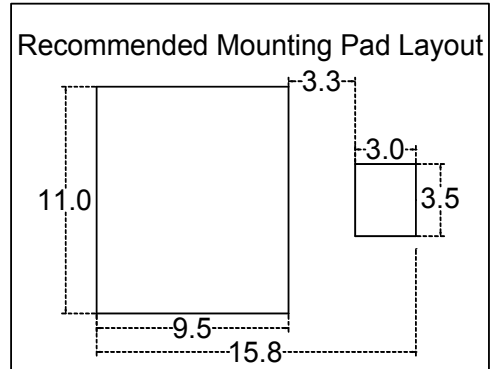
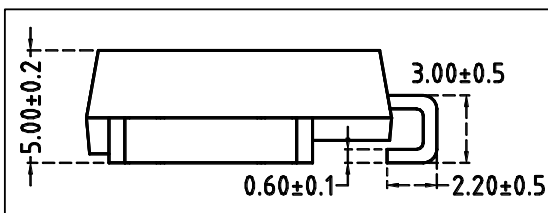
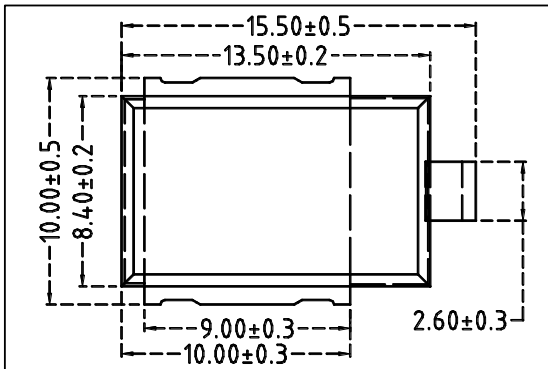


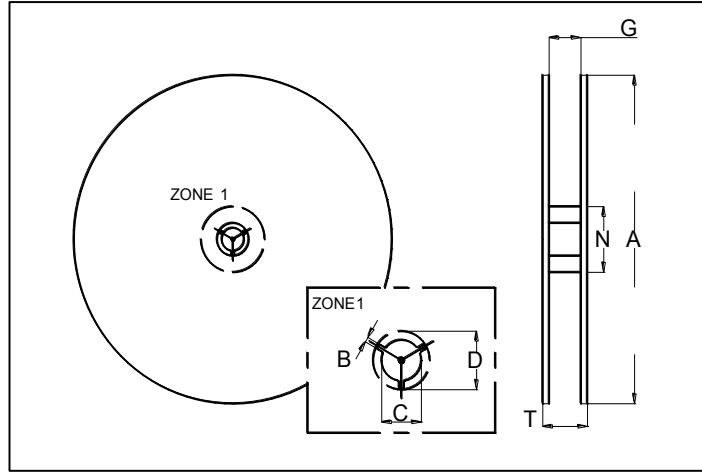
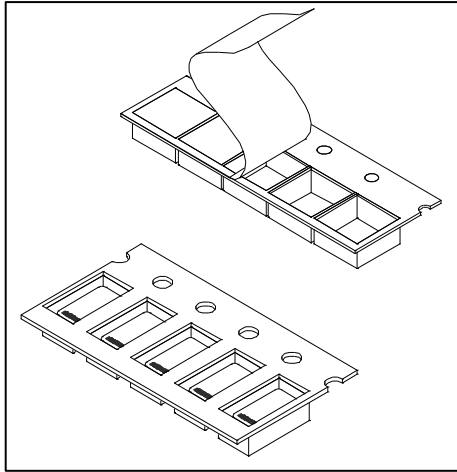
Fig. 4 - Peak Pulse Power Rating Curve

Package Outline Dimensions (millimeters)





Surface Mount Tape and Reel Packaging



Dimensions in Millimeters (inches)

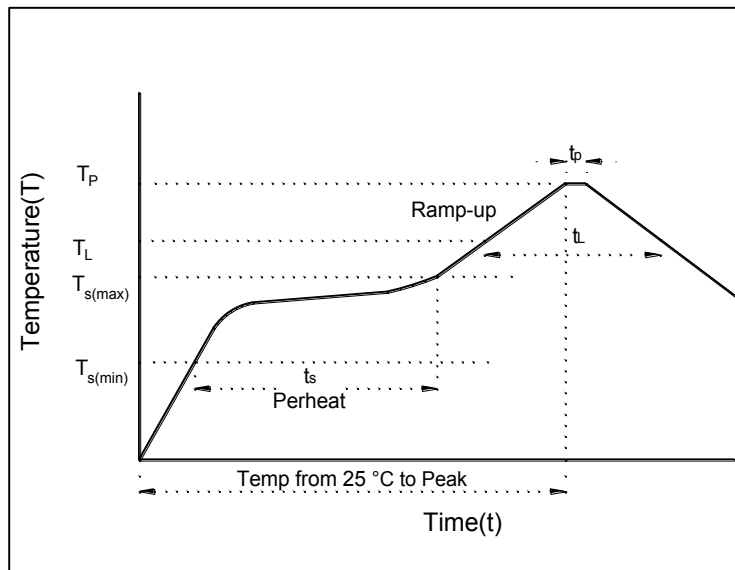
TAPE SIZE	A MAX.	B MIN.	C	D MIN.	N MIN.	G MAX.	T MAX.
24 mm (0.945)	330 ± 2.0 (13.0 ± 0.079) 178 ± 2.0 (7.0 ± 0.079)	1.5 (0.059)	13.5 ± 0.50 (0.53 ± 0.02)	20.2 (0.795)	50 (1.97)	26.4 (1.039)	30.4 (1.197)

Recommended Soldering Parameters

IR-Reflow Condition			
Pre Heat	Temp. min	150	°C
	Temp. max	200	°C
	Time(min to max)	60-180	sec
Ramp up rate (150-200°C)		<3	°C/sec

Reflow	Liquidus Temp.	>220	°C
	Peak Temp.	245	°C
	Time(Liq. to Peak)	60-150	sec
Ramp up rate (220-200°C)		<3	°C/sec
Time within actual peak temp.		10-30	sec

Ramp down Rate	<5	°C/sec
Time(25°C to Peak temp.)	<6	min
Do not exceed	280	°C





**Electrical Characteristics( $T_A=25^{\circ}\text{C}$  unless otherwise noted)**

Part Number (Uni)	Breakdown Voltage $V_{BR}$ @ $I_T$			Maximum Reverse Leakage $I_R$ @ $V_{RWM}$ (uA)	Maximum $I_R$ @ $V_{RWM}$ $T_J=175$ (uA)	Working Peak Reverse Voltage $V_{RWM}$ (V)	Maximum Reverse Surge Current $I_{PP}$ (A) <sup>(1)</sup>	Maximum Clamping Voltage $V_C$ @ $I_{PP}$ (V)
	Min (V)	Max (V)	$I_T$ (mA)					
SM6S10A	11.1	12.3	5.0	15	250	10	271	17.0
SM6S11A	12.2	13.5	5.0	10	150	11	253	18.2
SM6S12A	13.3	14.7	5.0	10	150	12	231	19.9
SM6S13A	14.4	15.9	5.0	10	150	13	214	21.5
SM6S14A	15.6	17.2	5.0	10	150	14	198	23.2
SM6S15A	16.7	18.5	5.0	10	150	15	189	24.4
SM6S16A	17.8	19.7	5.0	10	150	16	177	26.0
SM6S17A	18.9	20.9	5.0	10	150	17	167	27.6
SM6S18A	20.0	22.1	5.0	10	150	18	158	29.2
SM6S20A	22.2	24.5	5.0	10	150	20	142	32.4
SM6S22A	24.4	26.9	5.0	10	150	22	130	35.5
SM6S24A	26.7	29.5	5.0	10	150	24	118	38.9
SM6S26A	28.9	31.9	5.0	10	150	26	109	42.1
SM6S28A	31.1	34.4	5.0	10	150	28	101	45.4
SM6S30A	33.3	36.8	5.0	10	150	30	95	48.4
SM6S33A	36.7	40.6	5.0	10	150	33	86	53.3
SM6S36A	40.0	44.2	5.0	10	150	36	79	58.1
SM6S40A	44.4	49.1	5.0	10	150	40	71	64.5
SM6S43A	47.8	52.8	5.0	10	150	43	66	69.4

**NOTE:**

1. Surge current waveform is defined at 10/1000uS waveform

2. For all types maximum VF = 1.9 V at IF = 100 A measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum