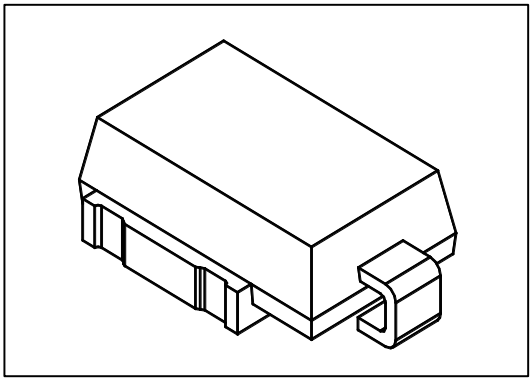
Automotive Protection Surface Mount Transient Voltage Suppressors

Working Voltage: 10 to 48 V
Peak Pulse Power: 6600 W

Features

- Optimized glass passivated chip
- T_J = 175 °C capability suitable for high reliability and automotive requirement
- 6600 W peak pulse power capability with a 10/1000 µs 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℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000µs waveform(1)	P_{PP}	6600	W
Peak power dissipation with a 10/10,000µs waveform	P_{PP}	5200	W
Peak pulse current wih a 10/1000µs waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at T_L = 25 °C	P_D	8.0	W
Peak forward surge current 8.3 ms single half sine-wave	I_{FSM}	700	A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to +175	°C

Note:

(1)Non-repetitive current pulse per Fig.2 and derated above T_A= 25 °C per Fig.1

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

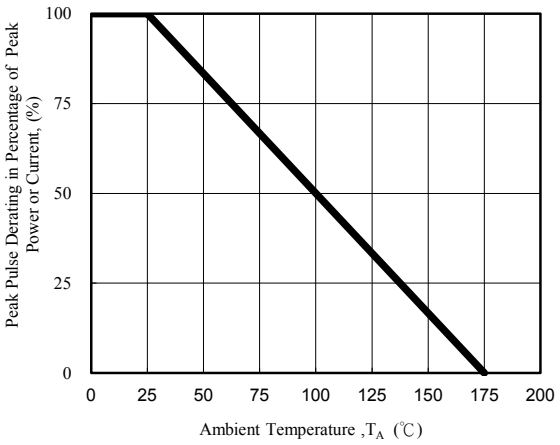


Fig. 1 - Pulse Derating Curve

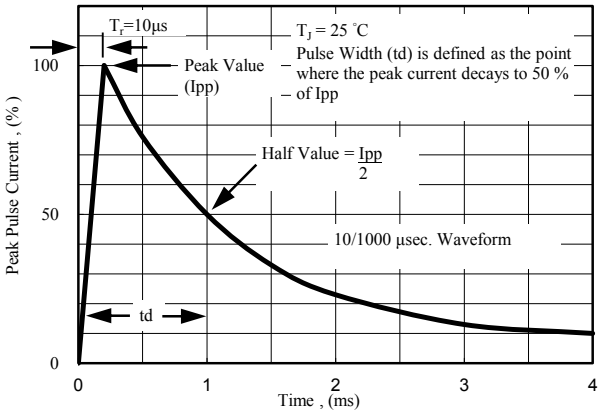


Fig. 2 - Pulse Waveform

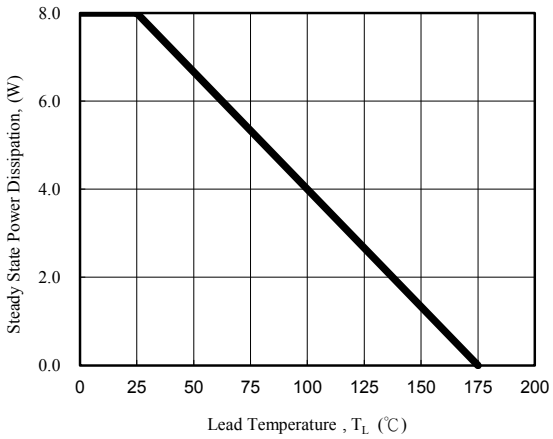


Fig. 3 - Steady State Power Derating Curve

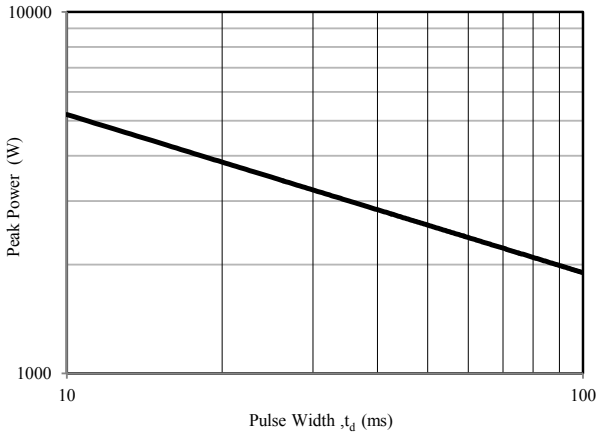
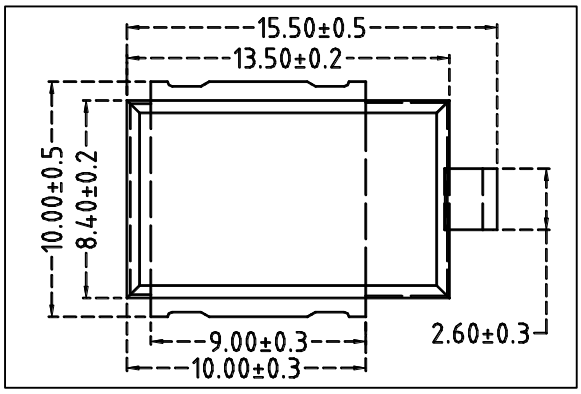
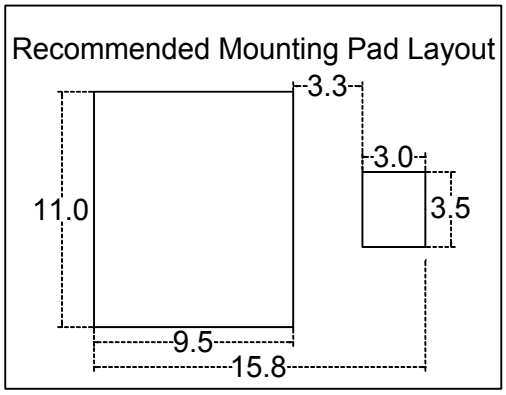
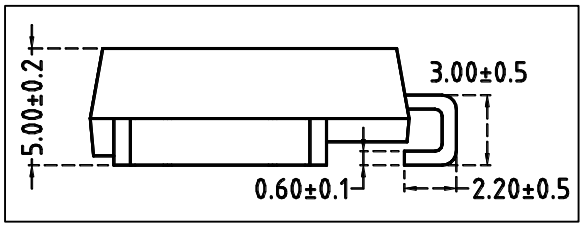


Fig. 4 - Peak Pulse Power Rating Curve

PACKAGE OUTLINE DIMENSIONS(millimeters)







Electrical Characteristics(T_A=25℃ 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) (1)	Maximum Clamping Voltage V_C@I_{PP} (V)
	Min (V)	Max (V)	I_T (mA)					
SM8Z10A	11.1	12.3	5.0	15	250	10	388	17.0
SM8Z11A	12.2	13.5	5.0	10	150	11	363	18.2
SM8Z12A	13.3	14.7	5.0	10	150	12	332	19.9
SM8Z13A	14.4	15.9	5.0	10	150	13	307	21.5
SM8Z14A	15.6	17.2	5.0	10	150	14	284	23.2
SM8Z15A	16.7	18.5	5.0	10	150	15	270	24.4
SM8Z16A	17.8	19.7	5.0	10	150	16	254	26.0
SM8Z17A	18.9	20.9	5.0	10	150	17	239	27.6
SM8Z18A	20.0	22.1	5.0	10	150	18	226	29.2
SM8Z20A	22.2	24.5	5.0	10	150	20	204	32.4
SM8Z22A	24.4	26.9	5.0	10	150	22	186	35.5
SM8Z24A	26.7	29.5	5.0	10	150	24	170	38.9
SM8Z26A	28.9	31.9	5.0	10	150	26	157	42.1
SM8Z28A	31.1	34.4	5.0	10	150	28	145	45.4
SM8Z30A	33.3	36.8	5.0	10	150	30	136	48.4
SM8Z33A	36.7	40.6	5.0	10	150	33	124	53.3
SM8Z36A	40.0	44.2	5.0	10	150	36	114	58.1
SM8Z40A	44.4	49.1	5.0	10	150	40	102	64.5
SM8Z43A	47.8	52.8	5.0	10	150	43	95.1	69.4
SM8Z48A	53.3	58.9	5.0	10	150	48	85.2	77.4

NOTE:

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