

SM8Z Series-AH

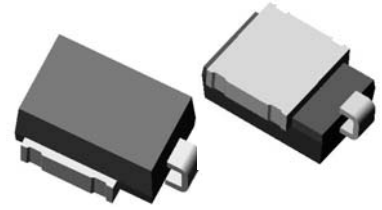
Transient Voltage Suppressors

Working Voltage: 10 to 48 V

Peak Pulse Power: 6600 W

Features

- Optimized glass passivated chip
- 6600 W peak pulse power capability with a 10 /1000 μ s waveform
- Low leakage current
- Low forward voltage drop
- Uni-directional polarity
- Excellent clamping capability
- Very fast response time
- AEC-Q101 Qualified
- Halogen and Antimony Free(HAF), RoHS compliant



DO-218AB

Mechanical Data

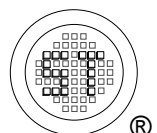
- Case: DO-218AB molded plastic
- Epoxy: Molding compound: UL94V-0 flammability
- Polarity: Heatsink is anode

Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation with a 10/1000 μ s Waveform ¹⁾	P _{PPM}	6600	W
Peak Pulse Power Dissipation with a 10/10,000 μ s Waveform	P _{PPM}	5200	W
Peak Pulse Current with a 10/1000 μ s Waveform ¹⁾	I _{PPM}	See Next Table	A
Total Power Dissipation, at T _L = 25 °C	P _D	8	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

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

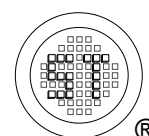


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Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless otherwise specified)

Type	Marking	Breakdown Voltage		Test Current I_T (mA)	Maximum Peak Pulse Current $I_{PPM}^{1)}$ (A)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)	Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Leakage I_R (μA) at V_{WM}	Maximum Reverse Leakage I_R (μA) at V_{WM} at $T_j = 175^\circ\text{C}$
		V_{BR} (V) Min. at I_T	V_{BR} (V) Max. at I_T						
SM8Z10A	.SM8Z10A	11.1	12.3	5	388	17.0	10	15	250
SM8Z11A	.SM8Z11A	12.2	13.5	5	363	18.2	11	10	150
SM8Z12A	.SM8Z12A	13.3	14.7	5	332	19.9	12	10	150
SM8Z13A	.SM8Z13A	14.4	15.9	5	307	21.5	13	10	150
SM8Z14A	.SM8Z14A	15.6	17.2	5	284	23.2	14	10	150
SM8Z15A	.SM8Z15A	16.7	18.5	5	270	24.4	15	10	150
SM8Z16A	.SM8Z16A	17.8	19.7	5	254	26.0	16	10	150
SM8Z17A	.SM8Z17A	18.9	20.9	5	239	27.6	17	10	150
SM8Z18A	.SM8Z18A	20.0	22.1	5	226	29.2	18	10	150
SM8Z20A	.SM8Z20A	22.2	24.5	5	204	32.4	20	10	150
SM8Z22A	.SM8Z22A	24.4	26.9	5	186	35.5	22	10	150
SM8Z24A	.SM8Z24A	26.7	29.5	5	170	38.9	24	10	150
SM8Z26A	.SM8Z26A	28.9	31.9	5	157	42.1	26	10	150
SM8Z28A	.SM8Z28A	31.1	34.4	5	145	45.4	28	10	150
SM8Z30A	.SM8Z30A	33.3	36.8	5	136	48.4	30	10	150
SM8Z33A	.SM8Z33A	36.7	40.6	5	124	53.3	33	10	150
SM8Z36A	.SM8Z36A	40.0	44.2	5	114	58.1	36	10	150
SM8Z40A	.SM8Z40A	44.4	49.1	5	102	64.5	40	10	150
SM8Z43A	.SM8Z43A	47.8	52.8	5	95.1	69.4	43	10	150
SM8Z48A	.SM8Z48A	53.3	58.9	5	85.2	77.4	48	10	150

¹⁾ Surge current waveform is defined at 10/1000 μs waveform.



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Electrical Characteristics Curves

Fig 1. Pulse Derating Curve

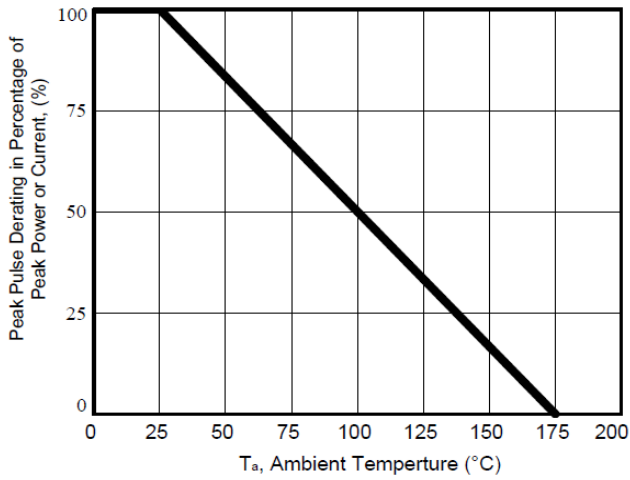


Fig 2. Pulse Waveform

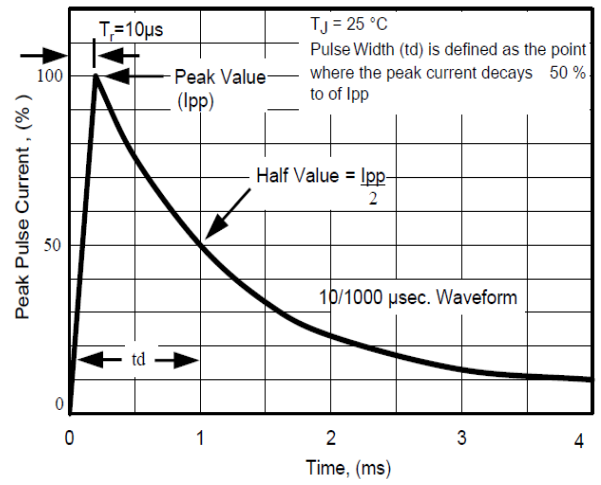


Fig 3. Steady State Power Derating Curve

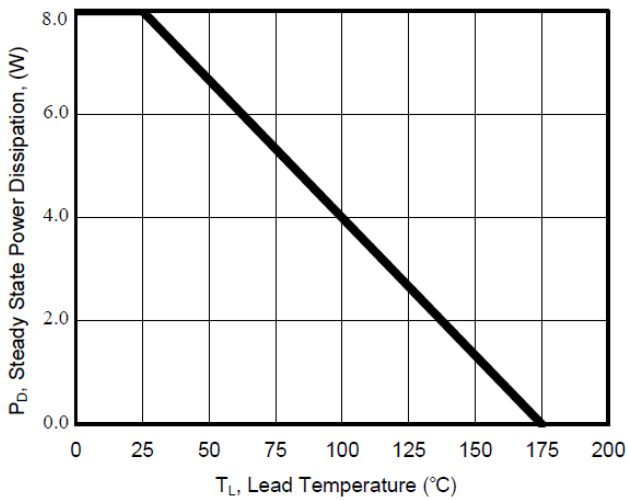
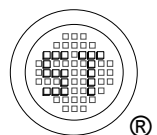
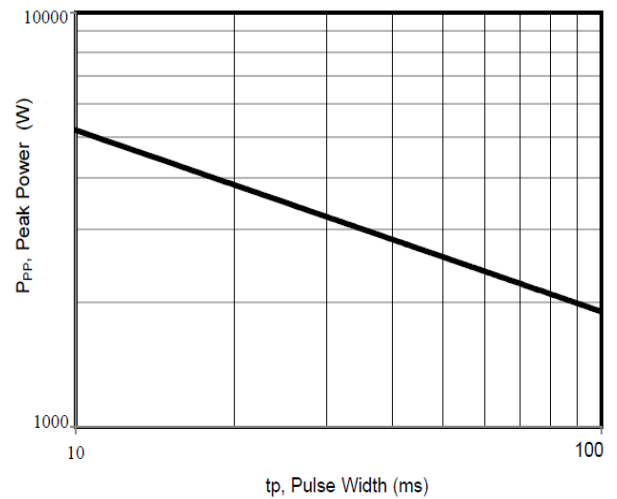


Fig 4. Peak Pulse Power Rating Curve

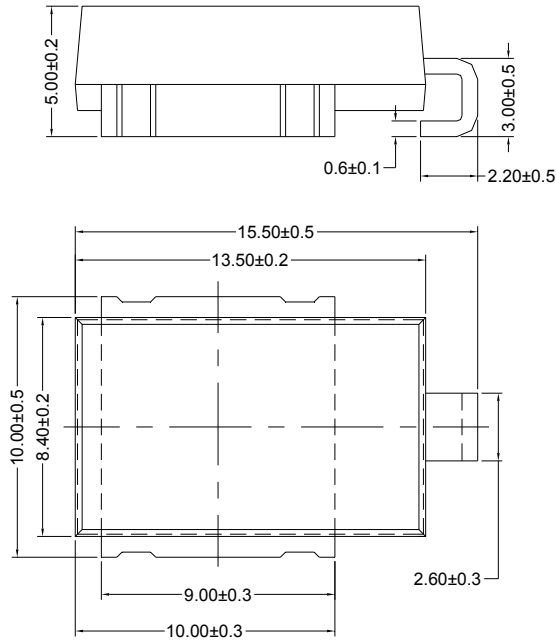


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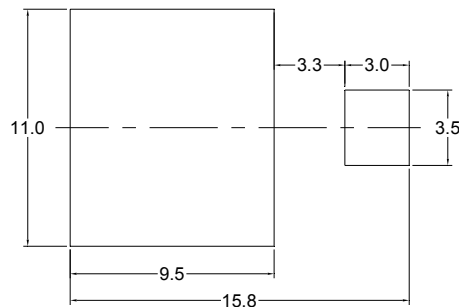
Package Outline Dimensions (Unit: mm)

Plastic surface mounted package

DO-218AB



Recommended Soldering Footprint



Marking information

"SM8Z**A" = Model No. (Uni.)

"III" = Cathode line

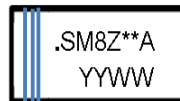
"•" = HAF (Halogen and Antimony Free)

YYWW = Date Code Marking

Y = Year (ex: 19 = 2019)

W = Week (ex: 09 = the 9th week of the year)

Font type: Arial



Uni.

