佳邦科技股份有限公司
INPAQ TECHNOLOGY CO., LTD.

SM8SA-AM Series

Product Name	ESD TVS (Transient Voltage Suppressor)
Series	SM8SA-AM Series
Package Size	DO-218

SM8SA-AM Series Engineering Specification

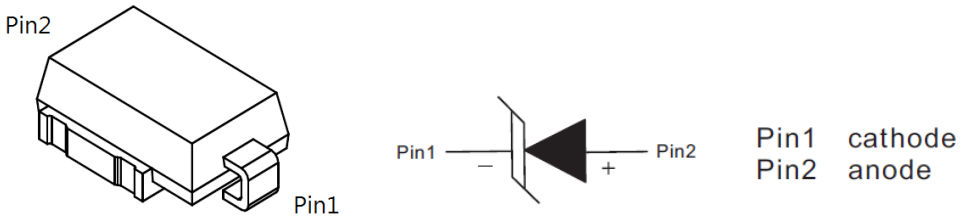
1. Features

- 6600 watts peak pulse power
- Junction passivation optimized design passivated anisotropic rectifier technology
- Low leakage current
- Low forward voltage drop
- High surge capability
- Qualified to AEC-Q101 standards for high reliability
- Meet ISO 7637-2 5a/5b and ISO 16750 load dump test (varied by test condition)

2. Mechanical Date

- Case: JEDEC DO-218 Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Molding compound: UL94V-0
- Polarity: Heatsink is anode

3. Pinning Information



4. Maximum Ratings @Ta=25ºC 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 with 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

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

5. Electrical characteristics

Part Number (Uni)	Breakdown Voltage VBR @IT			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)	Maximum Clamping Voltage V_C@I_{PP} (V)	Marking Code
	Min (V)	Max (V)	IT (mA)						
SM8S10A-AM	11.10	12.30	5	15	250	10	388	17.0	SM8S10A
SM8S11A-AM	12.20	13.50	5	10	150	11	363	18.2	SM8S11A
SM8S12A-AM	13.30	14.70	5	10	150	12	332	19.9	SM8S12A
SM8S13A-AM	14.40	15.90	5	10	150	13	307	21.5	SM8S13A
SM8S14A-AM	15.60	17.20	5	10	150	14	284	23.2	SM8S14A
SM8S15A-AM	16.70	18.50	5	10	150	15	270	24.4	SM8S15A
SM8S16A-AM	17.80	19.70	5	10	150	16	254	26.0	SM8S16A
SM8S17A-AM	18.90	20.90	5	10	150	17	239	27.6	SM8S17A
SM8S18A-AM	20.00	22.10	5	10	150	18	226	29.2	SM8S18A
SM8S20A-AM	22.20	24.50	5	10	150	20	204	32.4	SM8S20A
SM8S22A-AM	24.40	26.90	5	10	150	22	186	35.5	SM8S22A
SM8S24A-AM	26.70	29.50	5	10	150	24	170	38.9	SM8S24A
SM8S26A-AM	28.90	31.90	5	10	150	26	157	42.1	SM8S26A
SM8S28A-AM	31.10	34.40	5	10	150	28	145	45.4	SM8S28A
SM8S30A-AM	33.30	36.80	5	10	150	30	136	48.4	SM8S30A
SM8S33A-AM	36.70	40.60	5	10	150	33	124	53.3	SM8S33A
SM8S36A-AM	40.00	44.20	5	10	150	36	114	58.1	SM8S36A
SM8S40A-AM	44.40	49.10	5	10	150	40	102	64.5	SM8S40A
SM8S43A-AM	47.80	52.80	5	10	150	43	95.10	69.4	SM8S43A

(1) Surge current waveform is defined at 10/1000us waveform

(2) For all types maximum VF=1.8V at IF=100A measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses

6. Typical Characteristics

Fig. 1 - Pulse Derating Curve

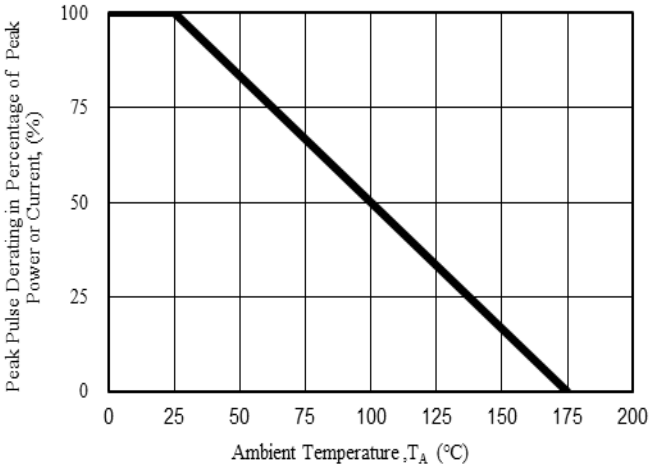


Fig. 2 - Maximum Non-Repetitive Surge Current

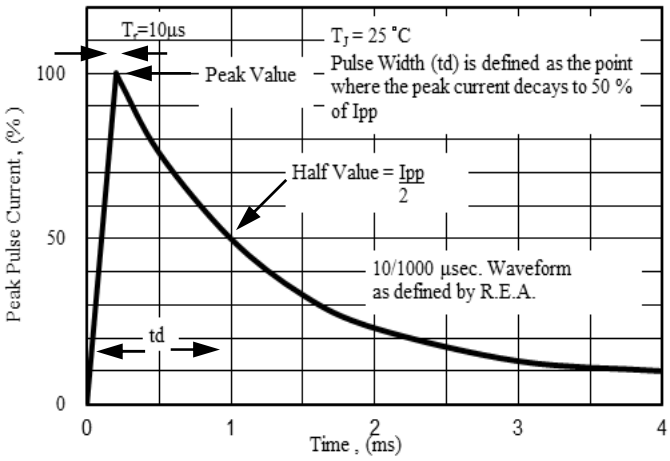


Fig. 3 - Steady State Power Derating Curve

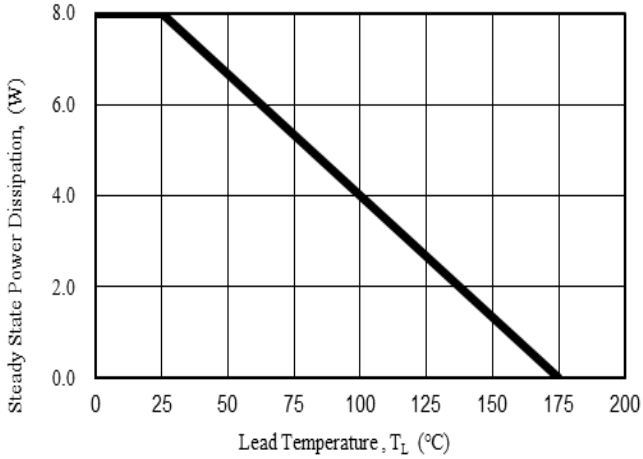
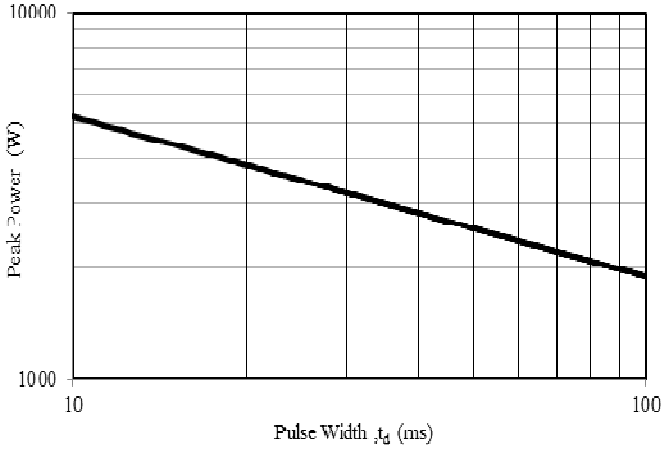
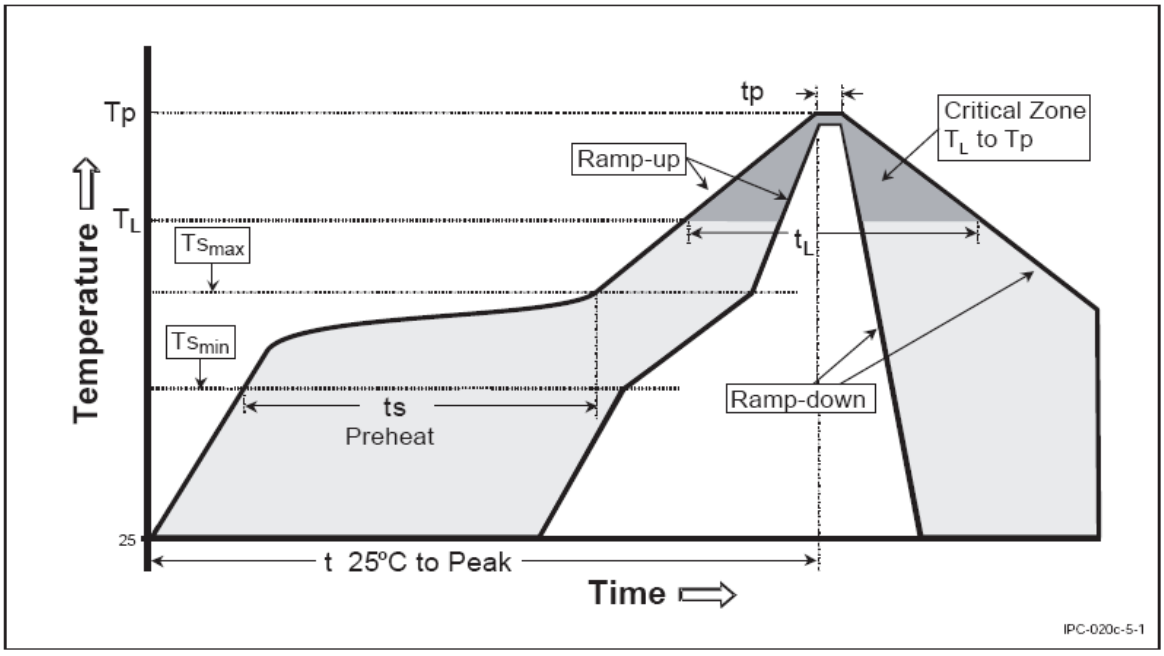


Fig. 4 - Peak Pulse Power Rating Curve



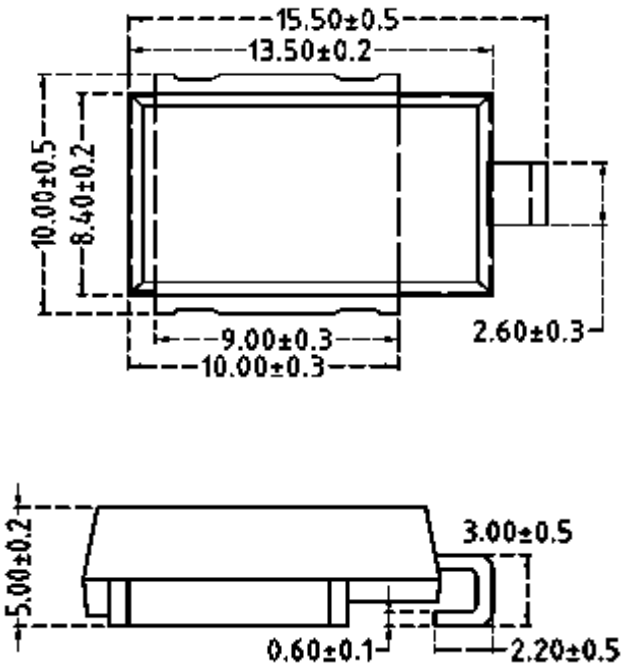
7. Reflow Soldering

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Tsmax to Tp)	3° C/second max.
Preheat – Temperature Min (Tsmin) – Temperature Max (Tsmax) – Time (tsmin to tsmax)	 150 °C 200 °C 60-120 seconds
Time maintained above: – Temperature (TL) – Time (tL)	 217 °C 60-150 seconds
Peak/Classification Temperature (Tp)	260 °C
Time within 5 °C of actual Peak Temperature (tp)	 30 seconds
Ramp-Down Rate	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.



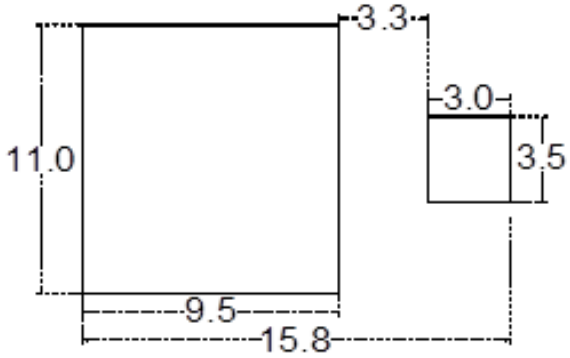
8. Outline Dimensions

DO-218



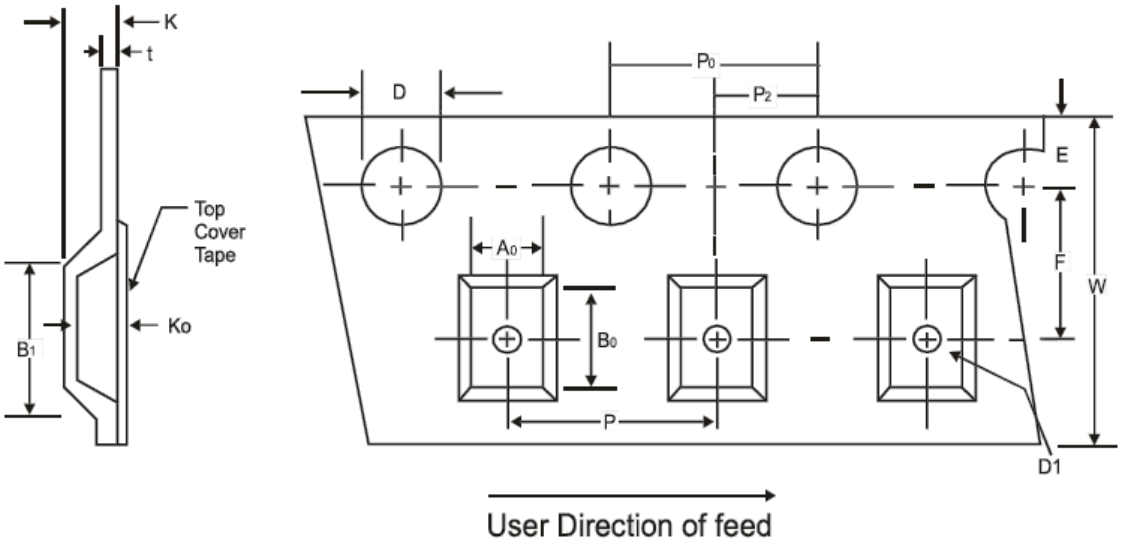
Dimensions in millimeters

9. Pad Layout

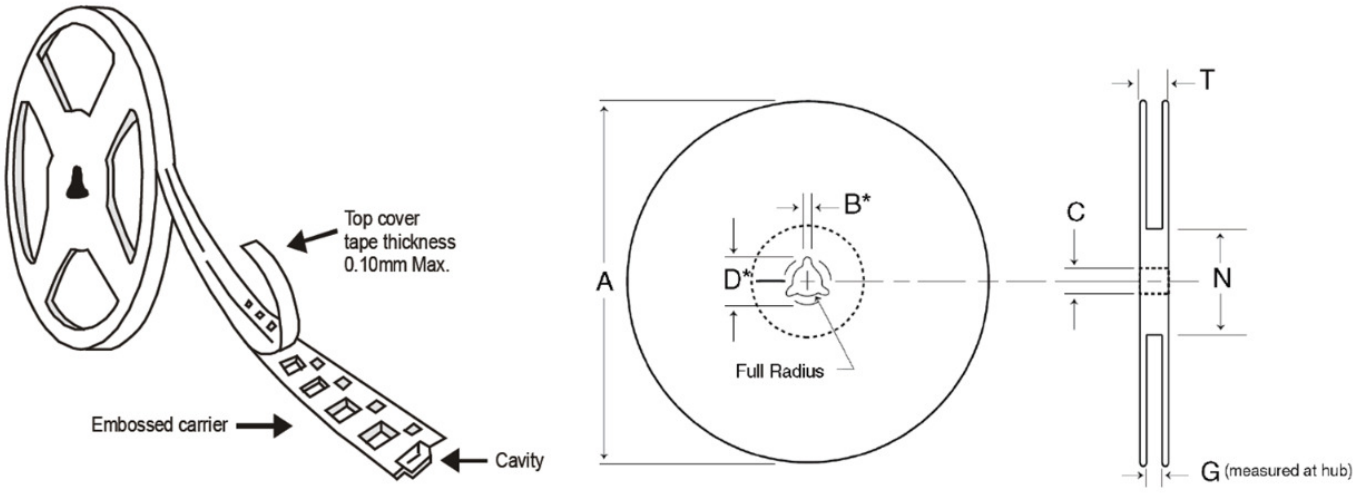


Dimensions in millimeters

10. Tape & Reel Information

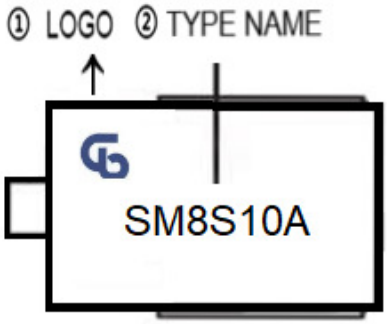


Symbol	W	D	E	P0	t	B1	D1	F	K	P2	P
DO-218 Unit : mm	24.3±0.1	1.55±0.05	1.75±0.05	4.0±0.1	0.4 max	16.33 max	1.5 min	11.5±0.1	6.0 max	2.0±0.05	16.0±0.1



Symbol	A	B	C	D	N	G	T
DO-218 Unit : mm	330±2.0 (13inch)	2.4 max	13.5±0.50	22 max	61 min	25 max	27.9 max

11. Marking Code



12. Order Information

Part Number	Quantity	Packaging Option
SM8SA-AM Series	750 /reel	tape/13”reel

13. MSL Level

LEVEL 1