

Surface Mount Auto Surge Suppressor

Working Peak Reverse Voltage - 22 to 43 Volts

7000 Watt Peak Pulse Power

Features

- Glass passivated chip
- 7000 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle): 0.01 %
- Meet AEC-Q101 requirement
- Low leakage
- Excellent clamping capability
- Very fast response time
- RoHS compliant

Mechanical Data

- Plastic package DO-218AB/SOD-BLOCK
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Heatsink is anode

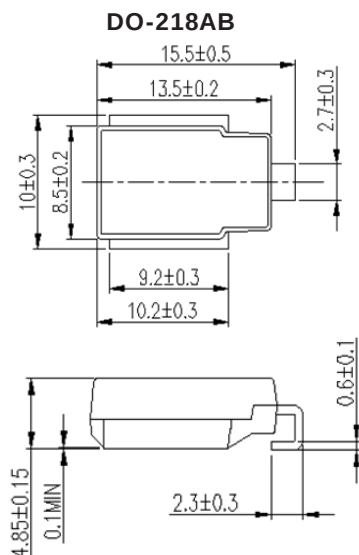
Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

RATING	SYMBOL	VALUE	UNITS
Peak power dissipation with a 10/1000 μ s waveform (Note 1)	P_{PP}	7000	Watts
Peak pulse current with a 10/1000 μ s waveform (Note 1)	I_{PP}	SEE TABLE 1	Amps
Power dissipation on infinite heatsink at $T_L = 25^\circ\text{C}$	P_D	5	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave	I_{FSM}	500	Amps
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +175	$^\circ\text{C}$

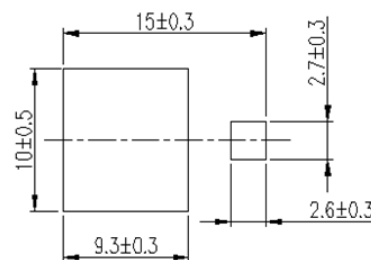
Notes:

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

Dimensions (DO-218AB)



Recommended Mounting Pad Layout



Dimensions in millimeters

Electrical Characteristics

TABLE 1

ASD Part Number		Working Peak Reverse Voltage	Breakdown Voltage $V_{BR}@I_T$			Max. Reverse Leakage I_R @ V_{RWM}	Max. I_R @ V_{RWM} $T_J=175^\circ\text{C}$	Max. Clamping Voltage V_c @ I_{pp} 10/1000 μs	
UNI-Polar	BI-Polar	$V_{RWM}(V)$	$V_{BR}(V)\text{Min.}$	$V_{BR}(V)\text{Max.}$	$I_T(\text{mA})$	$I_R(\mu\text{A})$	$I_R(\mu\text{A})$	$V_c(V)$	$I_{pp}(A)$
ASD22A	ASD22CA	22.0	24.4	26.9	5.0	10	150	35.5	197.2
ASD24A	ASD24CA	24.0	26.7	29.5	5.0	10	150	38.9	180.0
ASD26A	ASD26CA	26.0	28.9	31.9	5.0	10	150	42.1	166.3
ASD28A	ASD28CA	28.0	31.1	34.4	5.0	10	150	45.4	154.2
ASD33A	ASD33CA	33.0	36.7	40.6	5.0	10	150	53.3	131.4
ASD36A	ASD36CA	36.0	40.0	44.2	5.0	10	150	58.1	120.5
ASD43A	ASD43CA	43.0	47.8	52.8	5.0	10	150	69.4	101.5

IEC Compatibility

TABLE 2

ISO16750 2 Test A Test Waveform								
ASD Part Number		12V system	24V system	Resistance				
		100V@400ms	174V@350ms	0.5 Ω	1 Ω	2 Ω	4 Ω	8 Ω
ASD22A	ASD22CA	✓		?	✓	✓	✓	✓
ASD24A	ASD24CA	✓		?	✓	✓	✓	✓
ASD26A	ASD26CA	✓		?	✓	✓	✓	✓
ASD28A	ASD28CA	✓		?	✓	✓	✓	✓
ASD33A	ASD33CA		✓		×	?	✓	✓
ASD36A	ASD36CA		✓		×	?	✓	✓
ASD43A	ASD43CA		✓		×	?	✓	✓

Notes :

- ? :The test results would be different depending on the specific circuit parameters or test environment
- ×
- ✗ :Failed

Ratings and Characteristic Curves (TA=25 °C unless otherwise noted)

Fig.1 Power Derating Cure

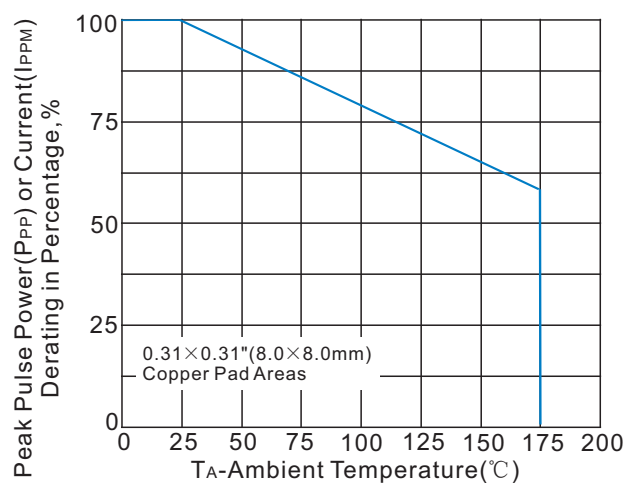


Fig.2 Pulse Waveform

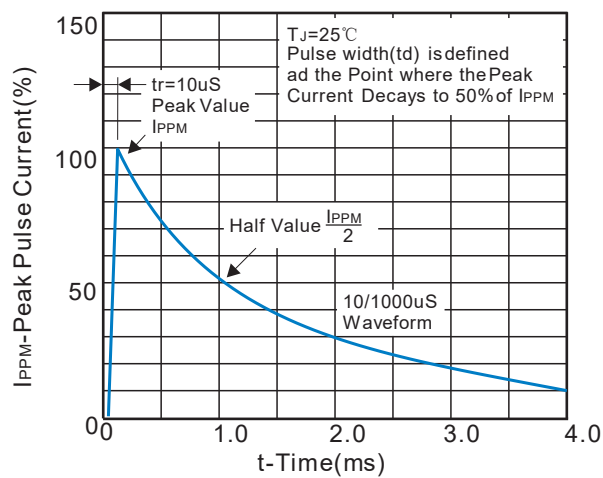


Fig.3 Steady State Power Derating Curve

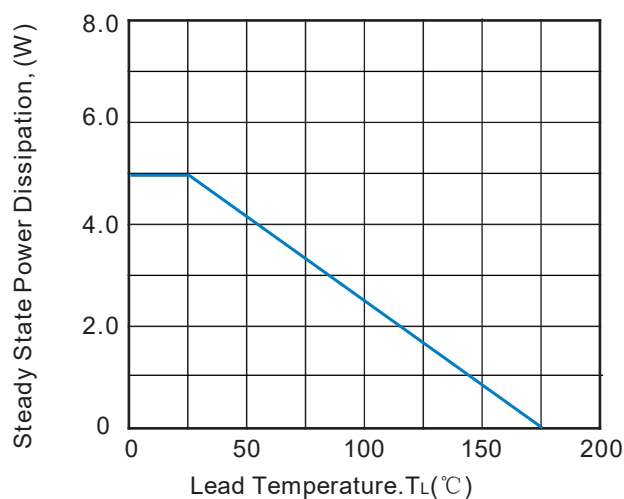
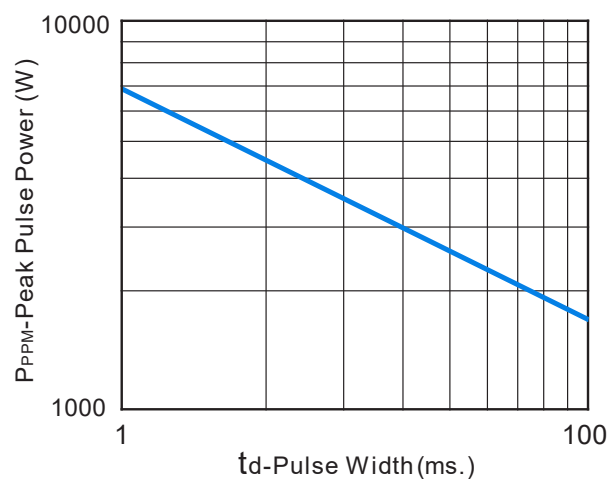


Fig.4 Peak Pulse Power Rating Cure

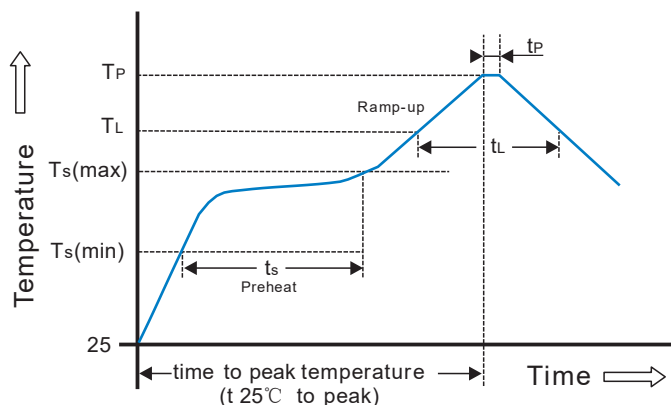


Recommended Soldering Conditions

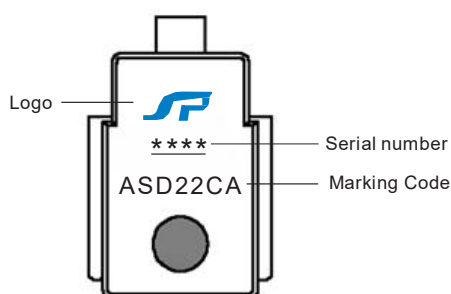
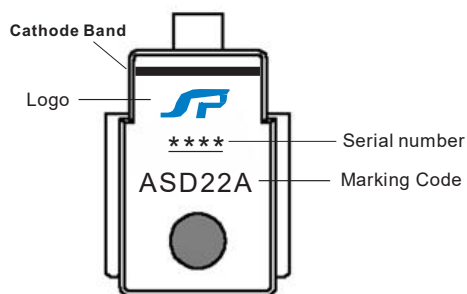
Recommended Conditions

IR Reflow Condition		
Pre Heat	Temperature Min($T_{s(min)}$)	150℃
	Temperature Max($T_{s(max)}$)	200℃
	Time(Min to Max)(t_s)	60-180secs
Ramp up rate(150-200℃)		3℃/sec.Max.
Reflow	Temperature(T_L)(Liquidus)	220℃. Min.
	Temperature(t_L)	60-150secs
	Peak Temp(T_P)	245℃
Ramp up rate(220-200℃)		3℃/sec.Max.
Time within actual Peak Temp(t_P)		10-30 secs
Ramp-down Rate		3℃/sec.Max.
Time 25℃ to Peak Temp(T_P)		6 min.Max.
Do not exceed		245℃

Reflow Soldering

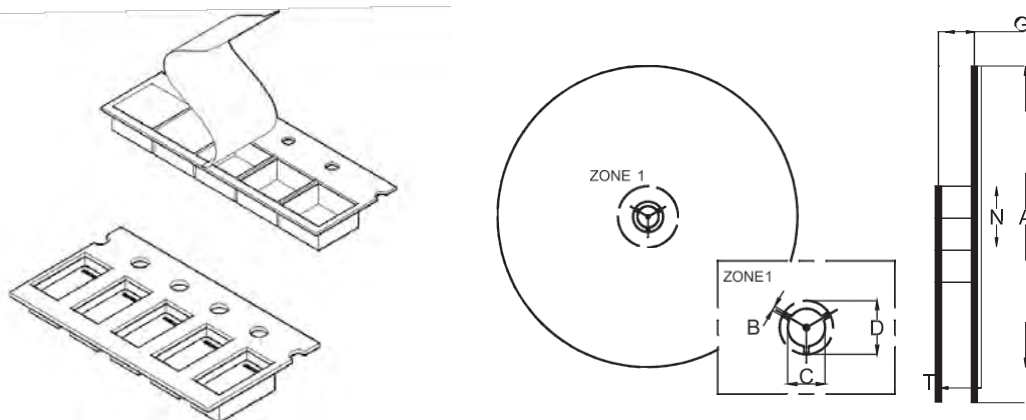


Marking Code



Tape And Reel Specification

Symbol	Ea Per Reel	REEL DIA (mm)	Industry Standard
ASD***	750	330	EIARS-481



Tape Size	A Max.	B Min.	C	D Min.	N Min.	G Max.	T Max.
24(0.945)	330±2.0 (13.0±0.079)	1.5(0.059)	13.0±0.50 (0.51±0.002)	20.2(0.795)	50(1.97)	26.4(1.039)	30.4(1.197)