

Surface Mount Auto Surge Suppressor

Working Peak Reverse Voltage - 22 to 60 Volts

9000 Watt Peak Pulse Power

Features

- Glass passivated chip
- 9000 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

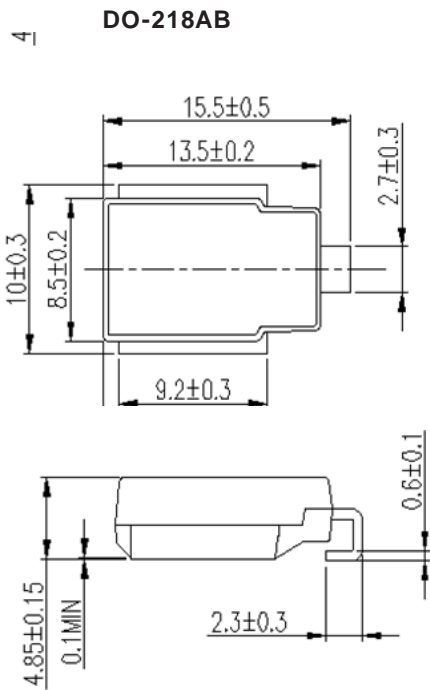
Maximum Ratings($T_A=25^{\circ}\text{C}$ unless otherwise noted)

RATING	SYMBOL	VALUE	UNITS
Peak power dissipation with a 10/1000 μ s waveform(Note 1)	P _{PP}	9000	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 $^{\circ}$ C	P _D	8.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave	I _{FSM}	700	Amps
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +175	$^{\circ}$ C

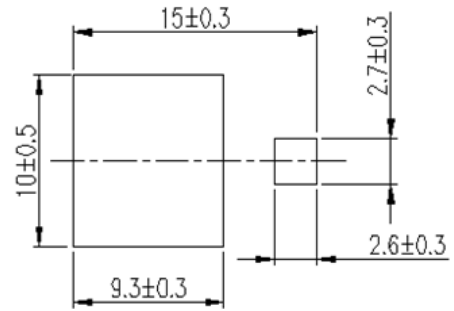
Notes:

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

ASE PartNumber		Working Peak Reverse Voltage	Breakdown Voltage $V_{BR}@I_T$			Max. Reverse Leakage $I_R @V_{RWM}$	Max. $I_R @V_{RWM}$ $T_J=175^{\circ}C$	Max. Clamping Voltage $V_c @I_{pp} 10/1000\mu s$	
UNI-Polar	BI-Polar	$V_{RWM}(V)$	$V_{BR}(V)Min.$	$V_{BR}(V)Max.$	$I_T(mA)$	$I_R(\mu A)$	$I_R(\mu A)$	$V_c(V)$	$I_{pp}(A)$
ASE22A	ASE22CA	22.0	24.4	26.9	5.0	10	150	35.5	253.5
ASE24A	ASE24CA	24.0	26.7	29.5	5.0	10	150	38.9	231.4
ASE26A	ASE26CA	26.0	28.9	31.9	5.0	10	150	42.1	213.8
ASE33A	ASE33CA	33.0	36.7	40.6	5.0	10	150	53.3	168.8
ASE36A	ASE36CA	36.0	40.0	44.2	5.0	10	150	58.1	154.9
ASE43A	ASE43CA	43.0	47.8	52.8	5.0	10	150	69.4	129.9
ASE60A	ASE60CA	60.0	66.7	73.7	5.0	10	150	96.8	93.0

IEC Compatibility

ISO16750 2 Test A Test Waveform

ASE Part Number		12V system	24V system	Resistance				
		100V@400ms	202V@350ms	0.5Ω	1Ω	2Ω	4Ω	8Ω
ASE22A	ASE22CA	✓		?	✓	✓	✓	✓
ASE24A	ASE24CA	✓		?	✓	✓	✓	✓
ASE26A	ASE26CA	✓		?	✓	✓	✓	✓
ASE33A	ASE33CA		✓		×	?	✓	✓
ASE36A	ASE36CA		✓		×	?	✓	✓
ASE43A	ASE43CA		✓		×	?	✓	✓
ASE60A	ASE60CA		✓		×	?	✓	✓

Notes :

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

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

Fig.1 Power Derating Cure

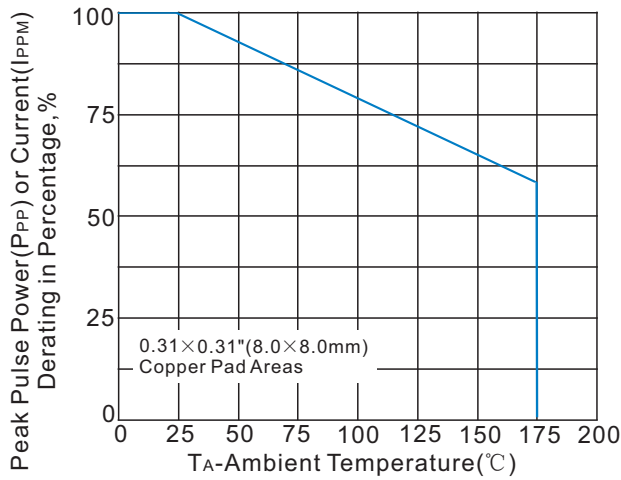


Fig.2 Pulse Waveform

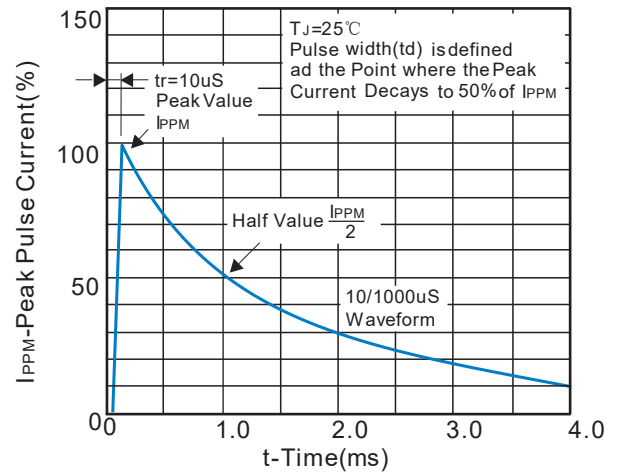


Fig.3 Steady State Power Derating Curve

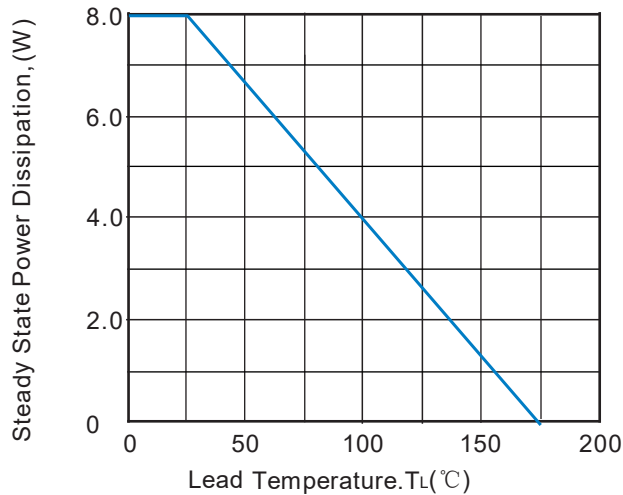
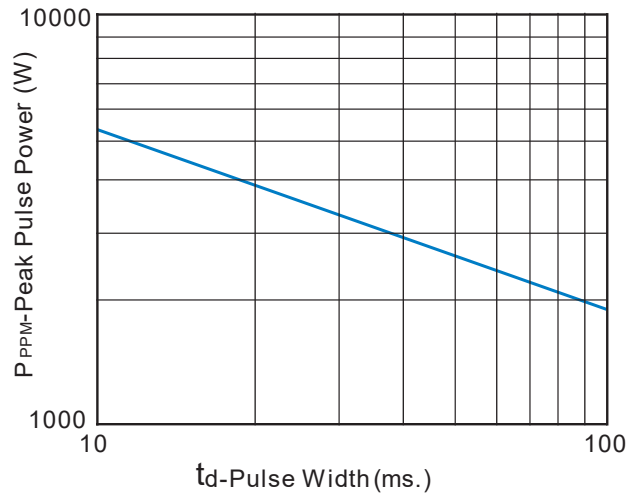


Fig.4 Peak Pulse Power Rating Cure

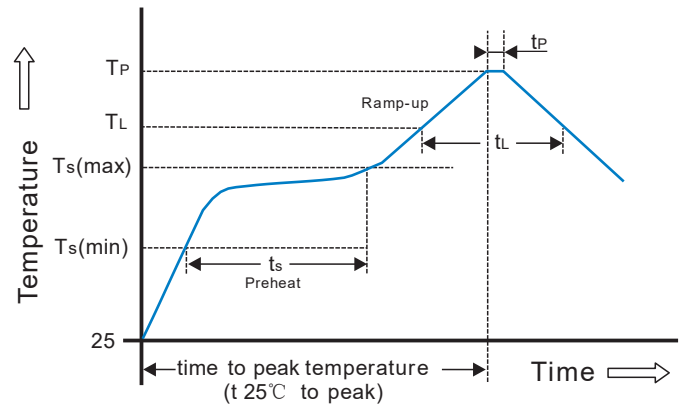


Recommended Soldering Conditions

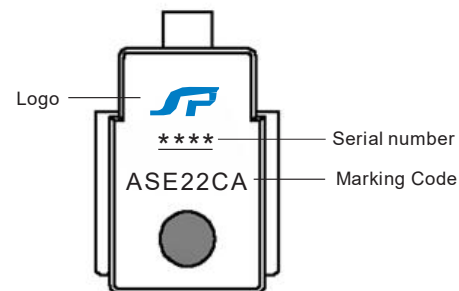
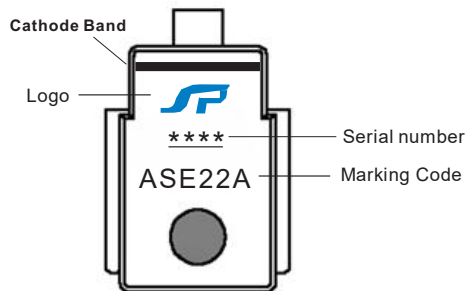
Recommended Conditions

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

Reflow Soldering

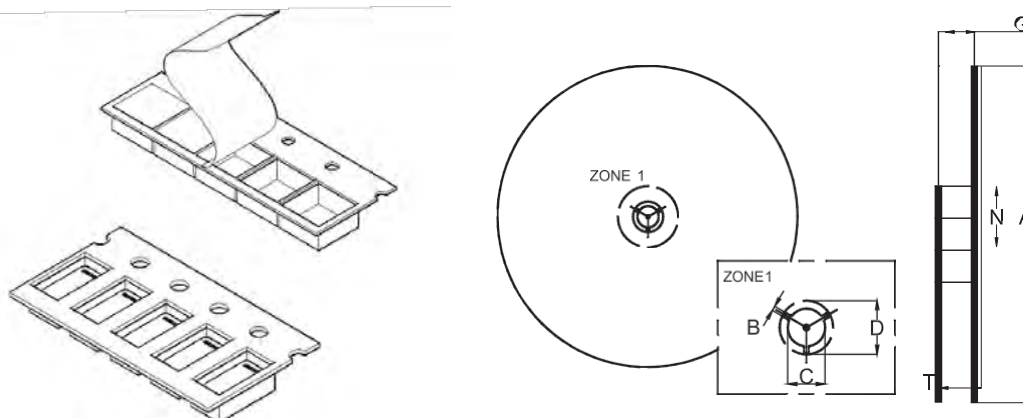


Marking Code



Tape And Reel Specification

Symbol	Ea Per Reel	REEL DIA (mm)	Industry Standard
ASE***	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)