Surface Mount Auto Surge Suppressor
Working Peak Reverse Voltage - 30 to 42 Volts
10000 Watt Peak Pulse Power

Features

- Glass passivated chip
- 10000 W peak pulse power capability with a 10/1000μs waveform, repetitive rate (dutycycle):0.01 %
- Meet AEC-Q101 requirement
- Low leakage
- Uni-directional polarity
- 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℃ unless otherwise noted)

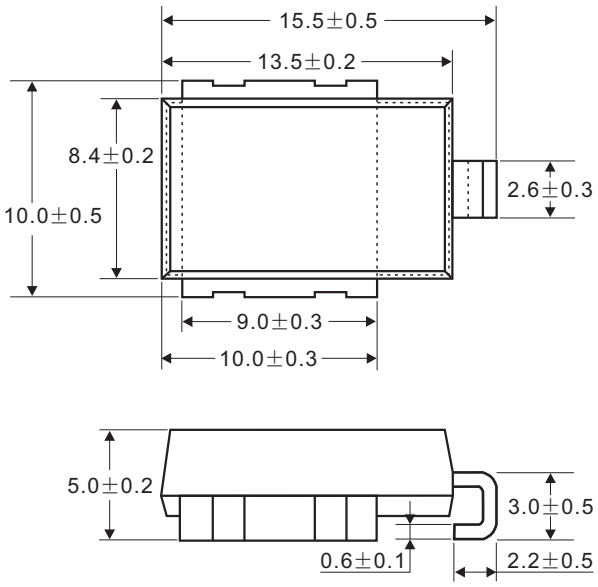
RATING	SYMBOL	VALUE	UNITS
Peak power dissipation with a 10/1000μs waveform(Note 1)	P_{PP}	10000	Watts
Peak pulse current wih a 10/1000μs waveform(Note 1)	I_{PP}	SEE TABLE 1	Amps
Power dissipation on infinite heatsink at TL = 25℃	P_D	8.0	Watts
Peak Forward Surge Current,8.3ms Single Half Sine-Wave	I_{FSM}	700	Amps
Operating junction and storage temperature range	T_J , T_{STG}	−55 to +175	℃

Notes :

1.Non-repetitive current pulse , per Fig. 2 and derated above TA = 25℃ per Fig. 1 .

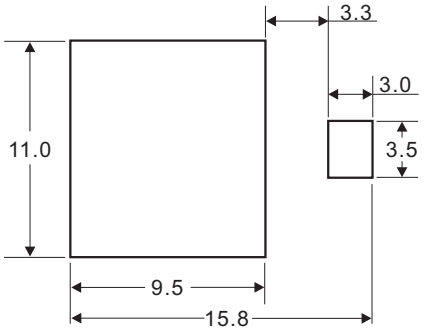
Dimensions (DO-218AB)

DO-218AB



Dimensions in millimeters

Recommended Mounting Pad Layout



Dimensions in millimeters

Electrical Characteristics

TABLE1

"*"Stand for commonly used models

ASC 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	Max. Clamping Voltage Vc @Ipp 10/1000μs	
	V_{RWM}(V)	V_{BR}(V)Min.	V_{BR}(V)Max.	I_T(mA)	I_R(μA)	I_R(μA)	Vc(V)	Ipp(A)
ASC30A	30	33.3	36.8	5	10	150	48.4	206.6
ASC33A	33	36.7	40.6	5	10	150	53.3	187.6
* ASC36A	36	40.0	44.2	5	10	150	58.1	172.1
ASC42A	42	46.8	52.0	5	10	150	68.4	146.2

IEC Compatibility

ISO16750 -2 Test A Test Waveform							
ASC Part Number	12V system	24V system	Resistance				
	100V@400ms	202V@350ms	0. 5Ω	1Ω	2Ω	4Ω	8Ω
ASC30A	–	√	–	X	?	√	√
ASC33A	–	√	–	X	?	√	√
ASC36A	–	√	–	X	?	√	√
ASC42A	–	√	–	X	?	√	√

Notes :

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

X :Failed

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

Fig.1 Power Derating Cure

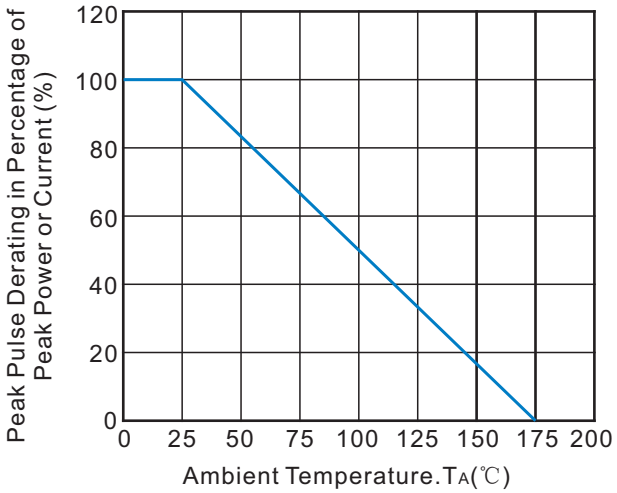


Fig.2 Pulse Waveform

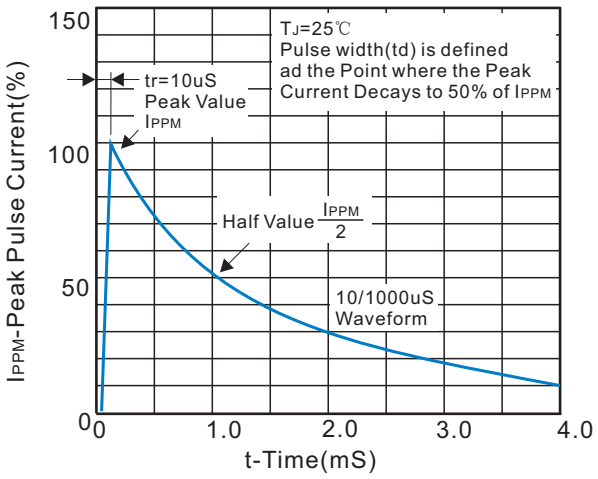


Fig.3 Steady State Power Derating Curve

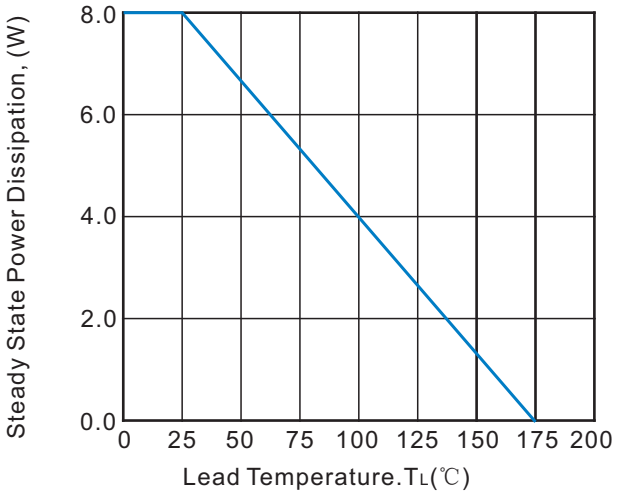


Fig.4 Peak Pulse Power Rating Cure

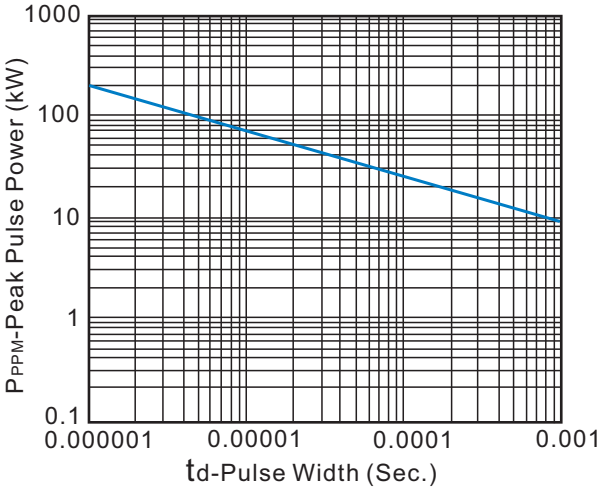
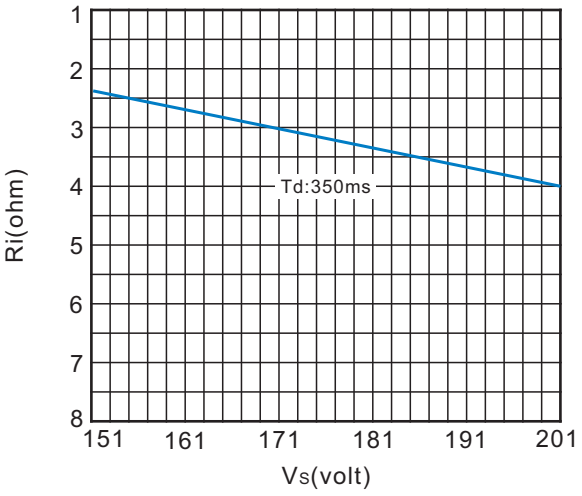


Fig.5 Ri-Vs chart for ISO-16750-2 Test A : 24V System

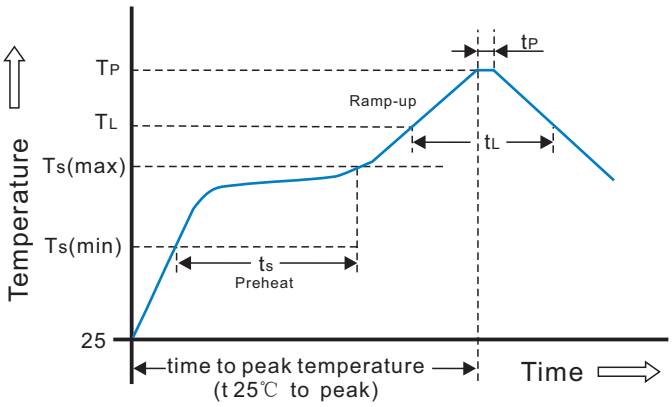


Recommended Soldering Conditions

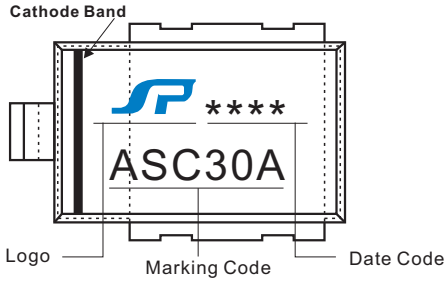
Recommended Conditions

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)	+260(+0/-5)℃
Ramp up rate(220-200℃)		3℃/sec.Max.
Time within actual Peak Temp(t_P)		10-30 secs
Ramp-down Rate		5℃/sec.Max.
Time 25℃ to Peak Temp(T_P)		6 min.Max.
Do not exceed		280℃

Reflow Soldering

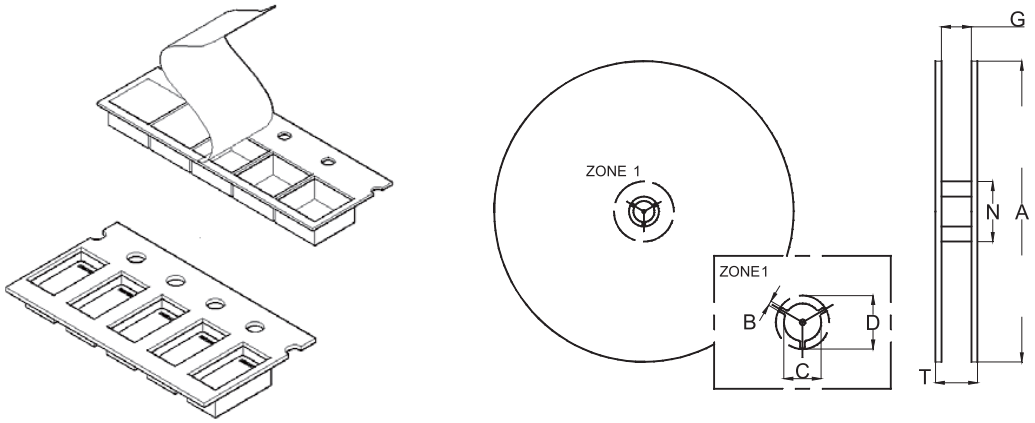


Marking Code



Tape And Reel Specification

Symbol	Ea Per Reel	REEL DIA (mm)	Industry Standard
ASC***	750	330	EIA RS-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±0.20 (0.51±0.0008)	20.2(0.795)	50(1.97)	26.4(1.039)	30.4(1.197)