

Low Capacitance Transient Voltage Suppressor

Stand-Off Voltage - 5.0 to 50 Volts

500 Watt Peak Pulse Power

Features

- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-O
- Glass passivated junction
- 500W Peak Pulse Power capability on 10/1000µs waveform
- Excellent clamping capability
- Repetition rate (duty cycle):0.01%
- Low incremental surge resistance
- Fast response time: typically less than 1.0ps from 0 Volts to B_V min.
- Ideal for data line applications
- High temperature soldering guaranteed: 265°C/10 seconds/.375", (9.5mm) lead length, 5lbs., (2.3kg) tension
- Pb-free plated



Mechanical Data

- **Case:** JEDEC DO-15. Molded plastic over a passivated junction
- **Terminals:** Solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes positive end (cathode)
- **Mounting Position:**Any
- **Weight:**0.015ounce,0.4gram

Maximum Ratings And Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

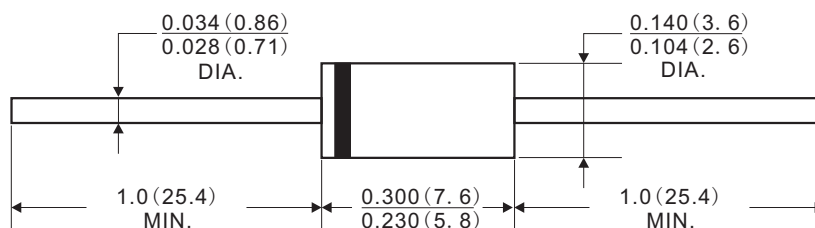
RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000µs waveform (Note 1)	P_{PPM}	Minimum 500	Watts
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ with lead lengths or 0.375" (9.5mm)	$P_{M(AV)}$	3	Amps
Peak Pulse Power Surge Current with a 10/1000 µS waveform (Note1.FIG.3)	I_{PPM}	SEE TABLE1	Amps
Operating junction and Storage Temperature Range	T_J, T_{STG}	-55 to +175	°C

Notes :

- 1.Non-repetitive current pulse , per Fig. 3 and derated above $T_A = 25^\circ\text{C}$ per Fig. 2 .

Dimensions (DO-15)

DO-204AC(DO-15)



Dimensions in inches and (millimeters)

Electrical Characteristics

TABLE1

***Stand for commonly used models

SAC Part Number	Stand-Off Voltage	Minimum Breakdown Voltage at $I_T=1.0\text{mA}$	Maximum Reverse Leakage at V_{WM}	Maximum Clamping Voltage at $I_{PP}=5.0\text{A}$	Maximum Peak Pulse Current Per FIG.3	Maximum Junction Capacitance at 0 Volts	Working Inverse Blocking Voltage	Inverse Blocking Leakage Current	Peak Inverse Blocking Voltage
	$V_{RWM}(V)$	$V_{BR}(V)$	$I_R(\mu A)$	$V_C(V)$	$I_{PP}(A)$	$C_J(pF)$	$V_{WIB}(V)$	$I_{IB}(mA)$	$V_{PIB}(V)$
* SAC5.0	5.0	7.60	300	10.0	44.0	50	75	1.0	100
SAC6.0	6.0	7.90	300	11.2	41.0	50	75	1.0	100
SAC7.0	7.0	8.33	300	12.6	38.0	50	75	1.0	100
SAC8.0	8.0	8.89	100	13.4	36.0	50	75	1.0	100
SAC8.5	8.5	9.44	50	14.0	34.0	50	75	1.0	100
SAC10	10.0	11.10	5	16.3	29.0	50	75	1.0	100
SAC12	12.0	13.30	1	19.0	25.0	50	75	1.0	100
SAC15	15.0	16.70	1	23.6	20.0	50	75	1.0	100
SAC18	18.0	20.00	1	28.8	15.0	50	75	1.0	100
SAC22	22.0	24.40	1	35.4	14.0	50	75	1.0	100
SAC26	26.0	28.90	1	42.3	11.1	50	75	1.0	100
SAC30	30.0	33.30	1	48.6	10.0	50	75	1.0	100
SAC36	36.0	40.00	1	60.0	8.6	50	75	1.0	100
SAC45	45.0	50.00	1	77.0	6.8	50	150	1.0	200
SAC50	50.0	55.50	1	88.0	5.8	50	150	1.0	200

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

Fig.1 Peak Pulse Power Rating

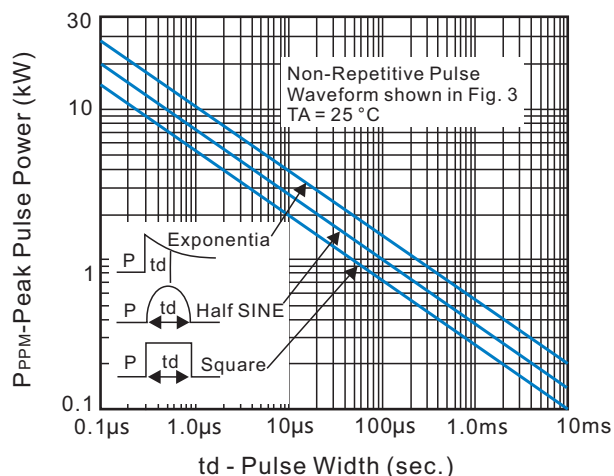


Fig.2 Power Derating Curve

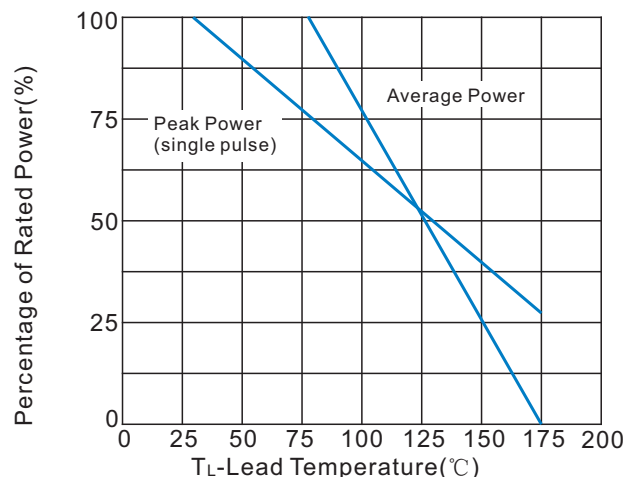


Fig.3 Pulse Waveform

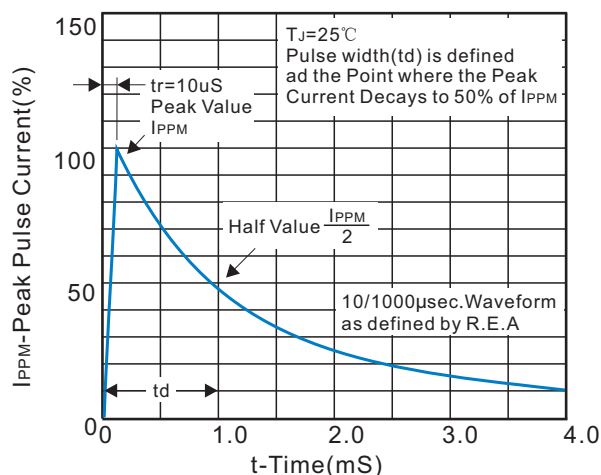
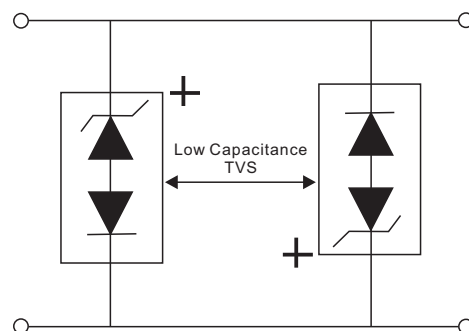


Fig.4 AC Line Protection Application



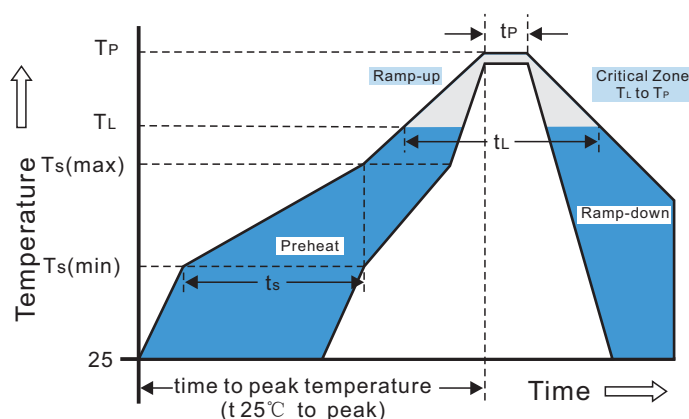
Application Note: Device must be used with two units in parallel, opposite in polarity as shown in circuit for AC signal line protection.

Recommended Soldering Conditions

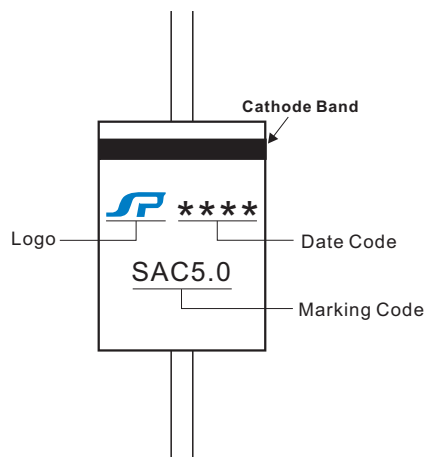
Recommended Conditions

Reflow Condition		Pb-Free assembly (see Fig.1)
Pre Heat	-Temperature Min(Ts(min))	+150°C
	-Temperature Max(Ts(max))	+200°C
	-Time(Min to Max)(ts)	60-180secs
Average ramp up rate (Liquidus Temp(TL) to peak)		3°C/sec.Max.
Ts(max) to TL -Ramp-up Rate		3°C/sec.Max.
Reflow	-Temperature(TL)(Liquidus)	+217°C
	-Temperature(tL)	60-150secs
Peak Temp(Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp(tp)		30 secs.Max.
Ramp-down Rate		6°C/sec.Max.
Time 25°C to Peak Temp(Tp)		8 min.Max.
Do not exceed		+260°C

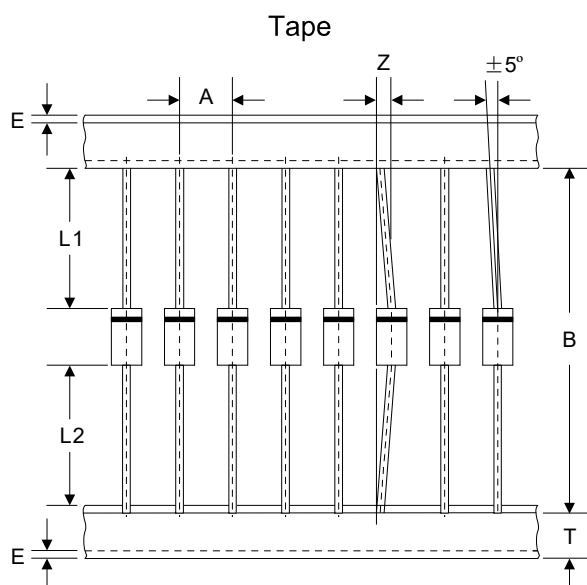
Reflow Soldering



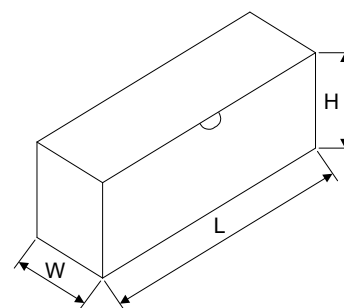
Marking Code



Packaging



Box



Dimensions in millimeters

A	B	Z	T	E	L1-L2
5.0±0.5	52.0±1.0	1.2Max	6.0±0.4	3.0Max	1.0Max

L	W	H	Quantity
250.0±5.0	78.0±5.0	114.0±5.0	2000PCS