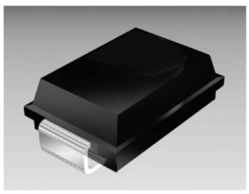
Over-voltage Protection Thyristor

Description

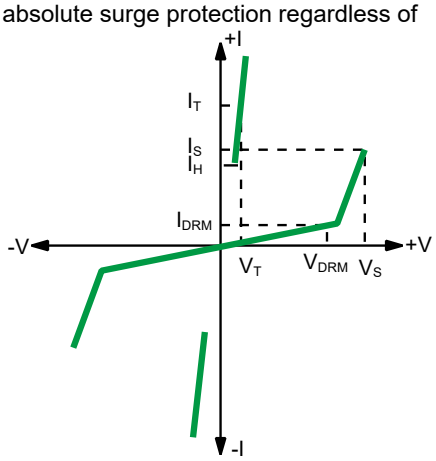
Prisemi POVxxxxSC (SMB) protects central office accesses and customer premise equipments against overvoltage on communication line. Such as CCD and DVR vedio line, modems, line cards, fax machines, and other CPE. The devices are used to enable equipment to meet various regulatory requirements including GR 1089, ITU K.20, K.21 and K.45, IEC 60950, UL 60950, and TIA-968 (formerly known as FCC Part 68).



Feature

Compared to surge suppression using other technologies, POV3100SCdevices offer absolute surge protection regardless of the surge current available and the rate of applied voltage (dv/dt).

- Cannot be damaged by voltage
- Eliminate hysteresis and heat dissipation typically found with clamping devices
- Eliminate voltage overshoot caused by fast-rising transients
- Are non-degenerative
- Will not fatigue
- Have low capacitance, making them ideal for high-speed transmission equipment



Mechanical Characteristics

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness:≤3mil

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Electrical Parameters

Part Number	I_{DRM} @ V_{DRM}		V_S @ I_S		V_T @ I_T		I_H	C
	μA	V	V	mA	V	A	mA	pF
	Max	Min	Max	Max	Max	Max	Min	Max
POV0080SC	5	6	25	800	4	2.2	50	100
POV0150SC	5	14	20	800	4	2.2	50	100
POV0220SC	5	18	30	800	4	2.2	50	100
POV0300SC	5	25	40	800	4	2.2	50	100
POV0640SC	5	58	77	800	4	2.2	100	80
POV0720SC	5	65	88	800	4	2.2	100	75
POV0900SC	5	75	98	800	4	2.2	100	70
POV1100SC	5	90	130	800	4	2.2	100	70
POV1300SC	5	120	160	800	4	2.2	100	70
POV1500SC	5	140	180	800	4	2.2	100	70
POV1800SC	5	170	220	800	4	2.2	100	70
POV2000SC	5	180	220	800	4	2.2	100	70
POV2300SC	5	190	260	800	4	2.2	100	70
POV2600SC	5	220	300	800	4	2.2	100	70
POV3100SC	5	275	350	800	4	2.2	100	60
POV3500SC	5	320	400	800	4	2.2	100	60
POV4000SC	5	360	460	800	4	2.2	100	80
POV4200SC	5	400	540	800	4	2.2	100	80

Notes: ALL measurements are made at an ambient temperature of 25℃.Ipp applies to -40℃ through +85℃ temperature range.

V_{DRM} is measured at I_{DRM}.

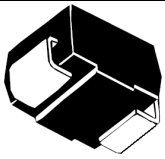
V_S is measured at 100V/μs .

Off-state capacitance is measured at 1MHz with a 2V bias .

Surge Ratings

Series	I_{PP} 2x10 μs Amps	I_{PP} 8x20 μs Amps	I_{PP} 10x160 μs Amps	I_{PP} 10x560 μs Amps	I_{PP} 10x1000 μs Amps	I_{TSM} 60 Hz Amps	di/dt Amps/μs
C	500	400	200	150	100	50	500

Thermal Considerations

Package SMB	Symbol	Parameter	Value	Unit
	T_J	Operating Junction Temperature	-40 to +150	°C
	T_S	StorageTemperatureRange	-65 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W

Typical Characteristics

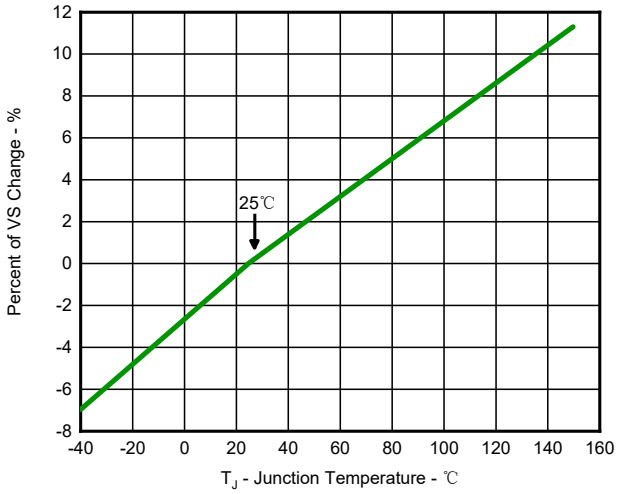


Fig 1. Normalized VS Change vs. Junction Temperature

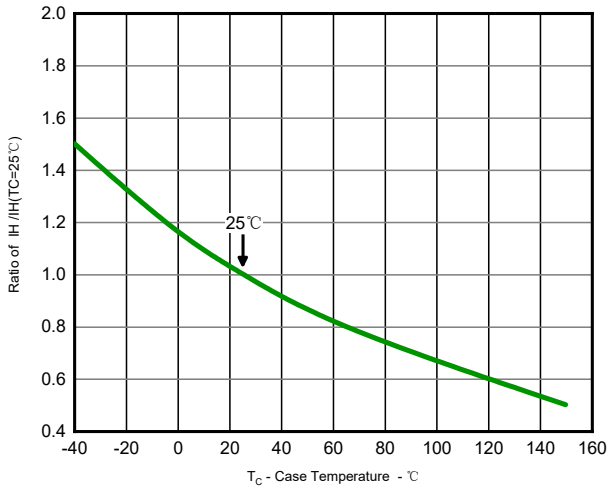


Fig 2. Normalized DC Holding Current versus Case Temperature

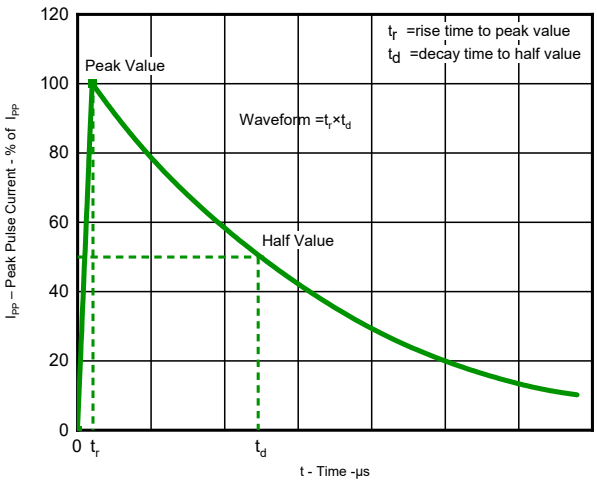


Fig 3.t_r × t_d Pulse Wave-form

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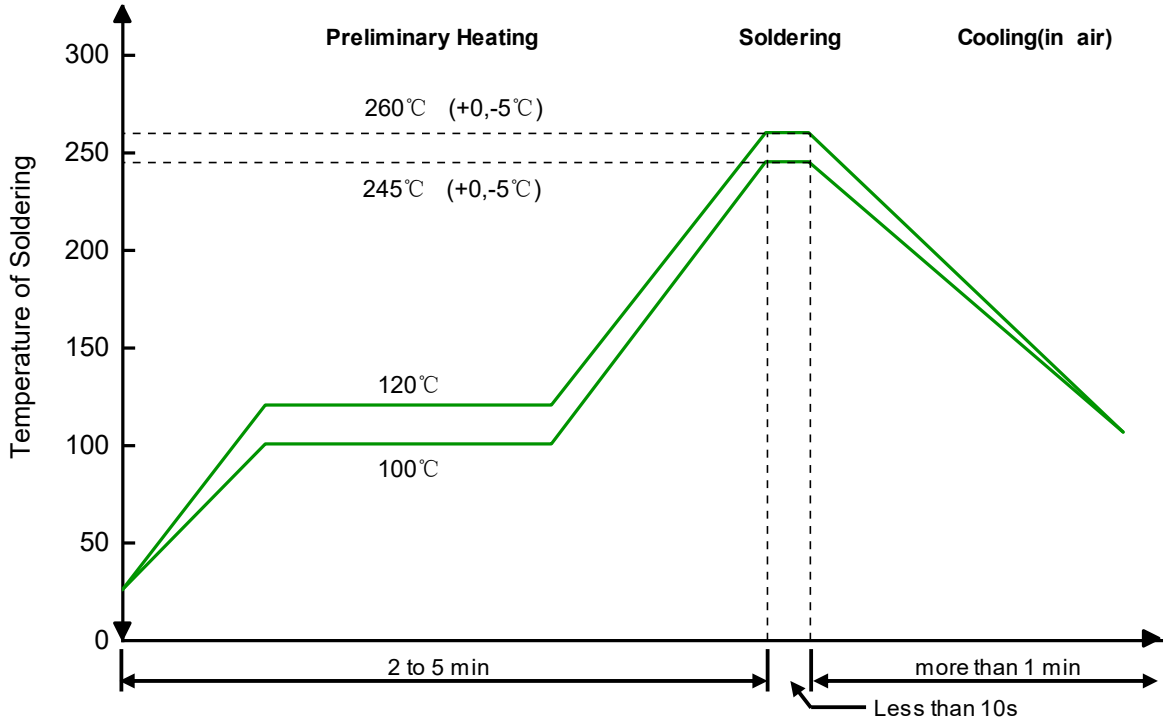
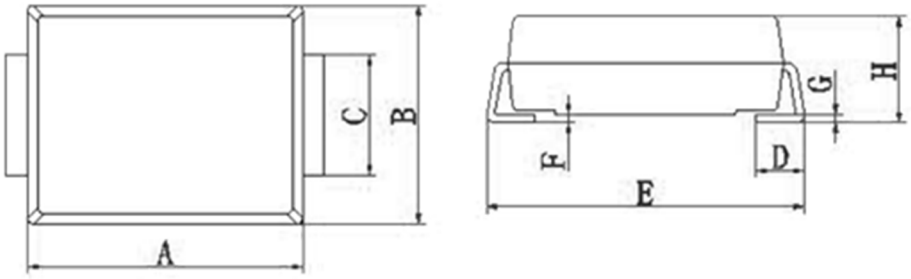
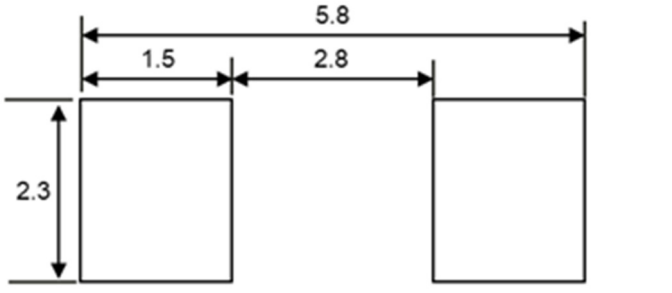
Solder Reflow Recommendation



Remark: Pb free for 260℃; Pb for 245℃.

Product Dimension(SMB)





Unit: mm

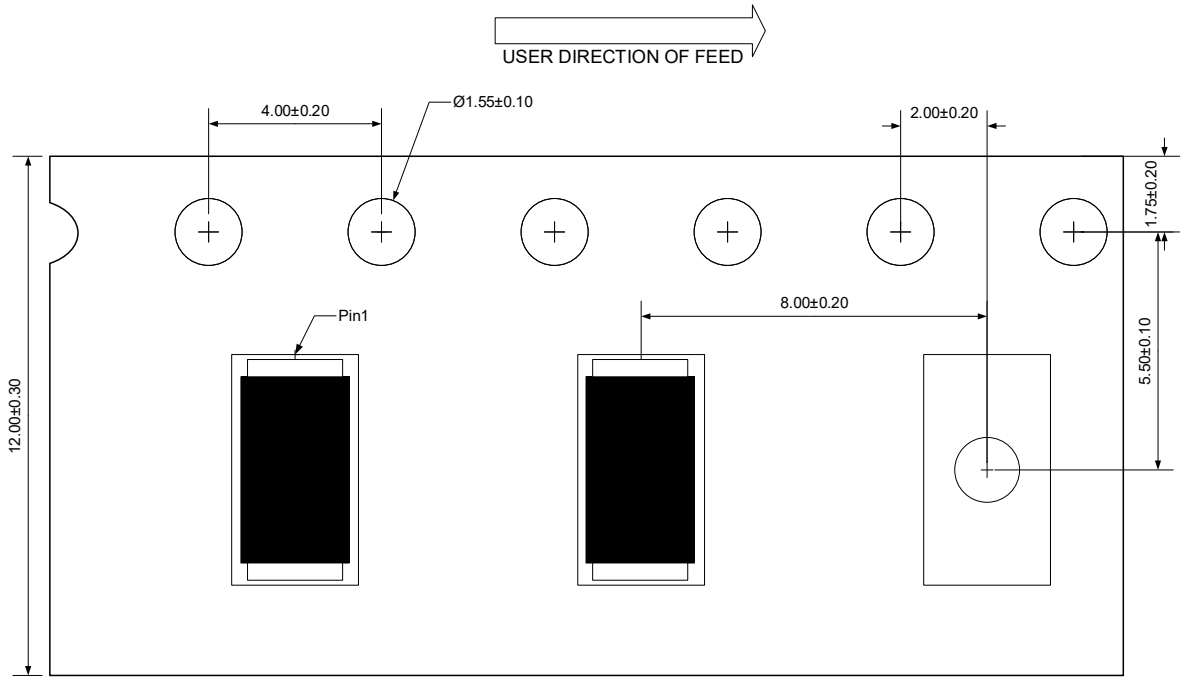
Suggested PCB Layout

Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	4.22	4.70	0.166	0.185
B	3.40	3.94	0.134	0.155
C	1.90	2.10	0.075	0.083
D	0.90	1.42	0.035	0.056
E	5.21	5.59	0.205	0.220
F	0.00	0.23	0.000	0.009
G	0.15	0.25	0.006	0.010
H	1.95	2.60	0.077	0.102

Ordering information

Package	Reel	Shipping
SMB	13"	3000 / Tape & Reel

Load with information



Unit:mm

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