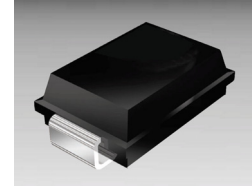


## Description

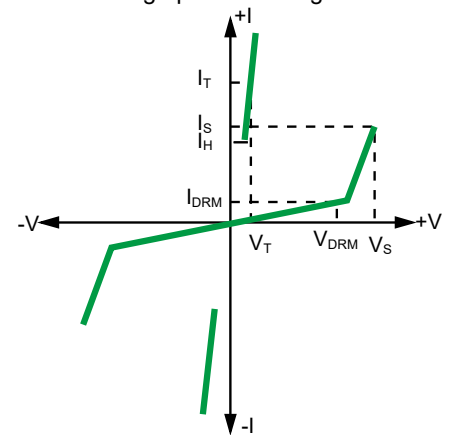
Prisemi POVxxxxSB (SMB) protects central office accesses and customer premise equipments against overvoltage on communication line. Such as CCD and DVR video line, modems, line cards, fax machines, and other CPE. The devices are used to enable equipment to meet various regulatory requirements including 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, POVxxxxSB devices 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



## Electrical Parameters

Part Number	I <sub>DRM</sub> @ V <sub>DRM</sub>		V <sub>S</sub> @ I <sub>S</sub>		V <sub>T</sub> @ I <sub>T</sub>		I <sub>H</sub>	C
	μA	V	V	mA	V	A	mA	pF
	Max	Min	Max	Max	Max	Max	Min	Max
POV0080SB	5	6	25	800	4	2.2	20	80
POV0150SB	5	14	20	800	4	2.2	40	80
POV0220SB	5	18	30	800	4	2.2	40	80
POV0300SB	5	25	40	800	4	2.2	40	80
POV0640SB	5	58	77	800	4	2.2	100	80
POV0720SB	5	65	88	800	4	2.2	100	75
POV0900SB	5	75	98	800	4	2.2	100	70
POV1100SB	5	90	130	800	4	2.2	100	70
POV1300SB	5	120	160	800	4	2.2	100	70
POV1500SB	5	140	180	800	4	2.2	100	70
POV1800SB	5	170	220	800	4	2.2	100	70
POV2000SB	5	180	220	800	4	2.2	100	70
POV2300SB	5	190	260	800	4	2.2	100	70
POV2600SB	5	220	300	800	4	2.2	100	70
POV3100SB	5	275	350	800	4	2.2	100	60
POV3500SB	5	320	400	800	4	2.2	100	60

**Notes:** ALL measurements are made at an ambient temperature of 25°C. I<sub>pp</sub> applies to -40°C through +85°C temperature range.

V<sub>DRM</sub> is measured at I<sub>DRM</sub>.

V<sub>S</sub> is measured at 100V/μs.

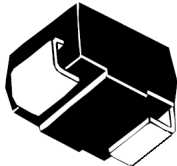
Off-state capacitance is measured at 1MHz with a 2V bias.

## Over-voltage Protection Thyristor

### Surge Ratings

Series	I <sub>PP</sub> 2x10 μs Amps	I <sub>PP</sub> 8x20 μs Amps	I <sub>PP</sub> 10x160 μs Amps	I <sub>PP</sub> 10x560 μs Amps	I <sub>PP</sub> 10x1000 μs Amps	I <sub>TSM</sub> 60 Hz Amps	di/dt Amps/μs
B	250	250	150	100	80	30	500

### Thermal Considerations

Package SMB	Symbol	Parameter	Value	Unit
	T <sub>J</sub>	Operating Junction Temperature	- 40 to +150	°C
	T <sub>S</sub>	Storage Temperature Range	- 65 to +150	°C
	R <sub>θJA</sub>	Thermal Resistance: Junction to Ambient	90	°C/W

### Typical Characteristics

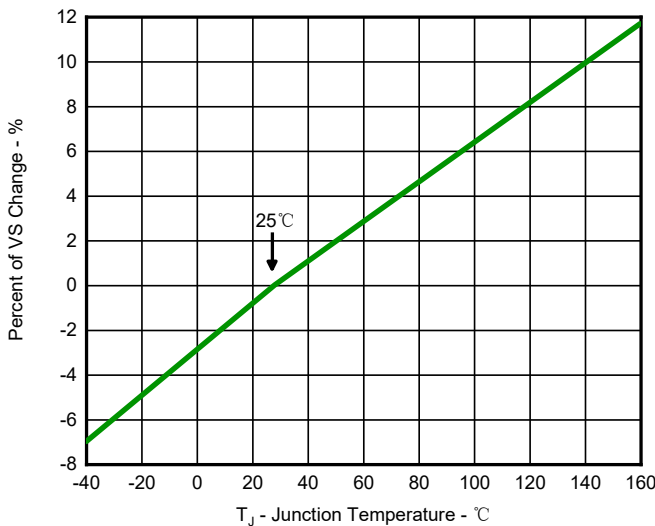


Fig 1. Normalized VS Change vs. Junction Temperature

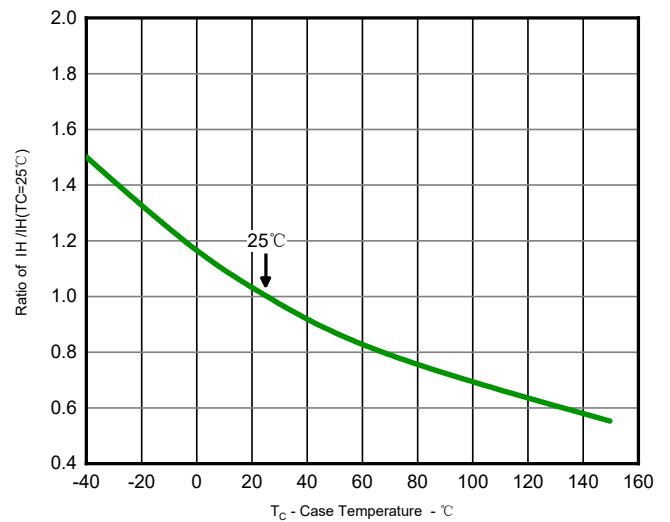


Fig 2. Normalized DC Holding Current versus Case Temperature

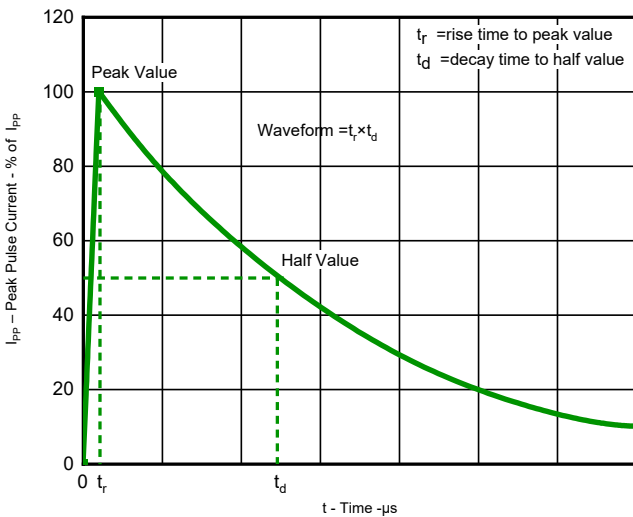
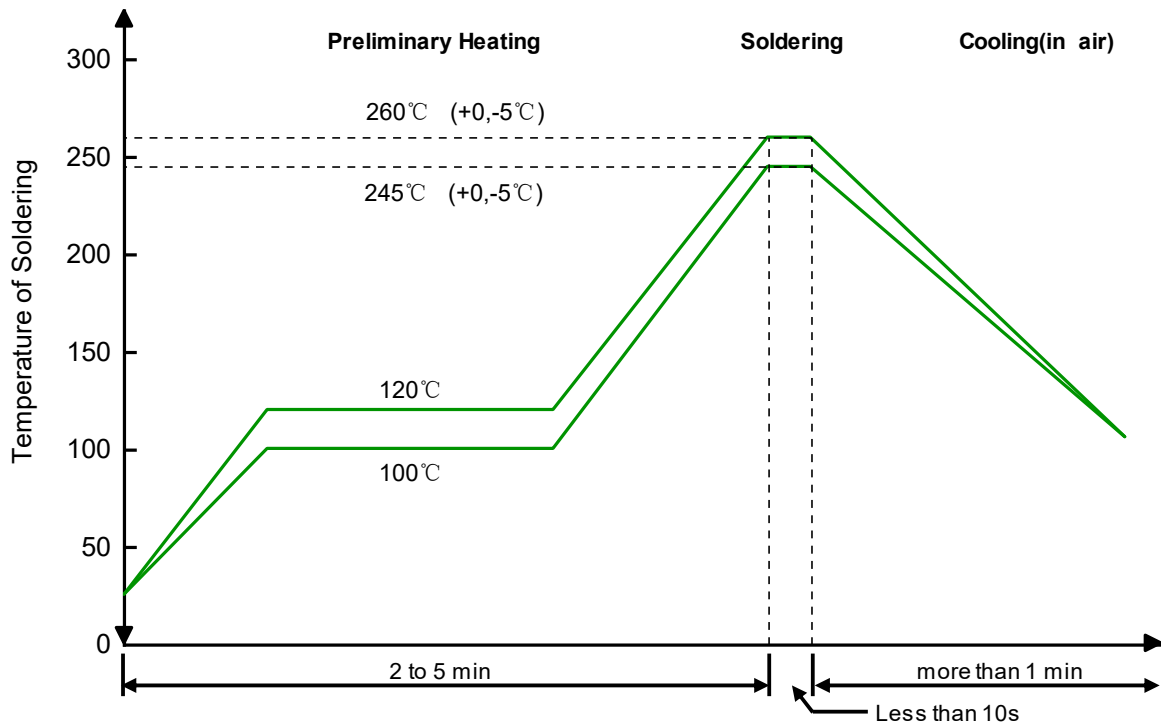


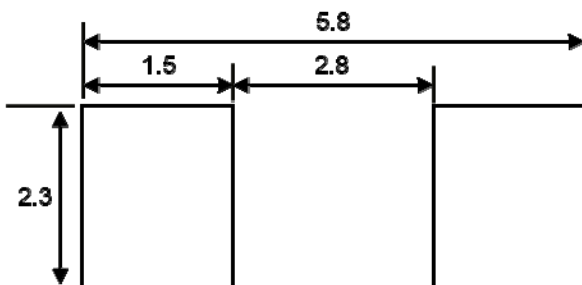
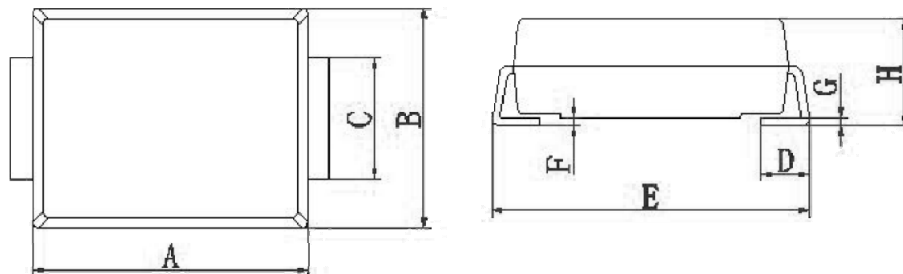
Fig 3.  $t_r \times t_d$  Pulse Wave-form

**Solder Reflow Recommendation**



Remark: Pb free for 260°C; Pb for 245°C.

**Product Dimension(SMB)**



Unit: mm

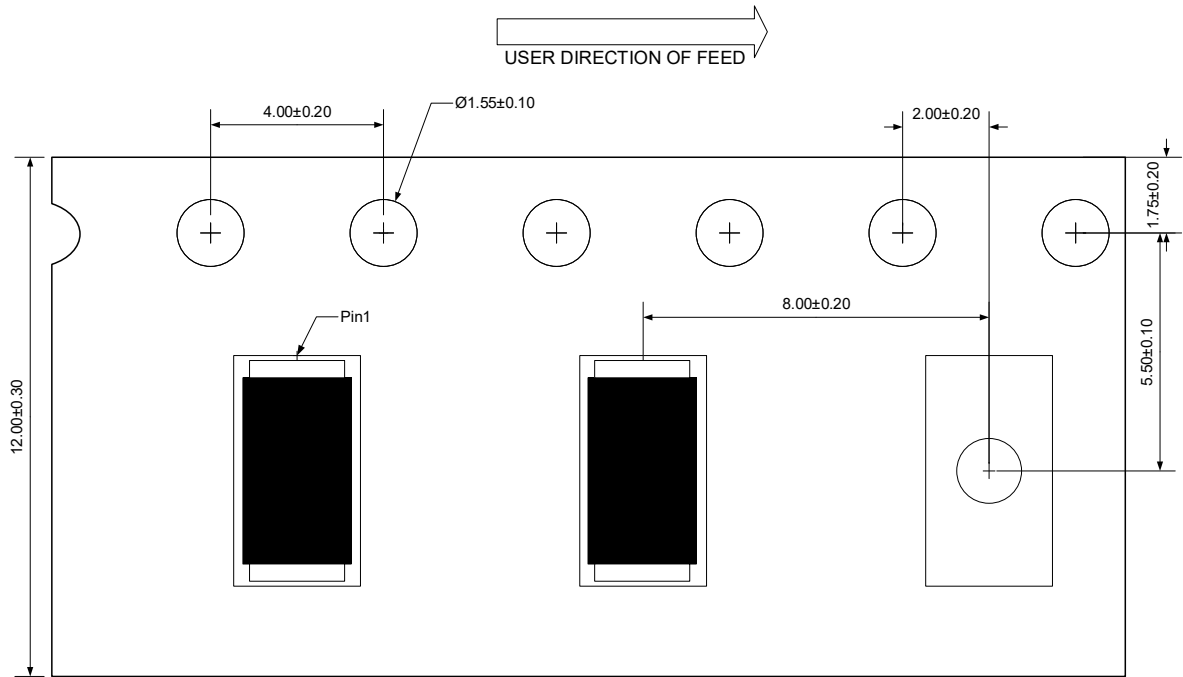
Suggested PCB Layout

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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