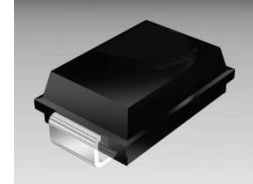


Over-voltage Protection Thyristor

Description

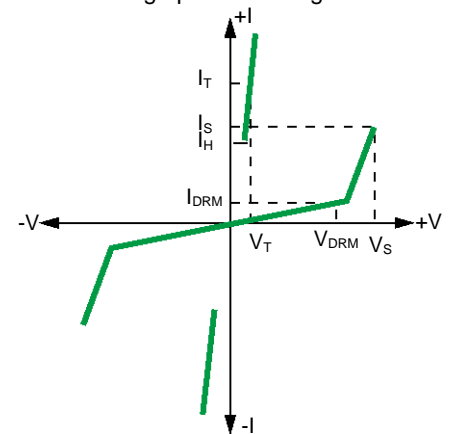
Prisemi POVxxxxSC (SMB) protects central office accesses and customer premise equipments against overvoltage on communication line. Such as CCD and DVR video line, modems, line cards, fax machines, and other CPE. The devices are used to enable equipment to meet various regulatory requirements including 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, POV3100SC 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



Mechanical Characteristics

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

Over-voltage Protection Thyristor
Electrical Parameters

Part Number	V _{DRM} (V)	V _S (V)	V _T (V)	I _{DRM} (μA)	I _S (mA)	I _T (A)	I _H (mA)	C (pF)
POV0080SC	6	25	4	5	800	2.2	50	100
POV0300SC	25	40	4	5	800	2.2	50	100
POV0640SC	58	77	4	5	800	2.2	150	100
POV0720SC	65	88	4	5	800	2.2	150	100
POV0900SC	75	98	4	5	800	2.2	150	90
POV1100SC	90	130	4	5	800	2.2	150	90
POV1300SC	120	160	4	5	800	2.2	150	90
POV1500SC	140	180	4	5	800	2.2	150	85
POV1800SC	170	220	4	5	800	2.2	150	85
POV1826SC	180	260	4	5	800	2.2	150	55
POV2300SC	190	260	4	5	800	2.2	150	80
POV2600SC	220	300	4	5	800	2.2	150	80
POV3100SC	275	350	4	5	800	2.2	150	80
POV3500SC	320	400	4	5	800	2.2	150	65
POV4500SC	400	530	4	5	800	2.2	150	65

Notes: ALL measurements are made at an ambient temperature of 25°C. I_{pp} applies to -40°C through +85°C temperature range.

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

V_S is measured at 100V/μs.

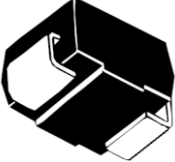
Off-state capacitance is measured at 1MHz with a 2V bias.

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

Over-voltage Protection Thyristor

Thermal Considerations

Package SMB	Symbol	Parameter	Value	Unit
	T_J	Operating Junction Temperature	-40 to +150	$^{\circ}\text{C}$
	T_S	Storage Temperature Range	-65 to +150	$^{\circ}\text{C}$
	R_{BJA}	Thermal Resistance: Junction to Ambient	90	$^{\circ}\text{C}/\text{W}$

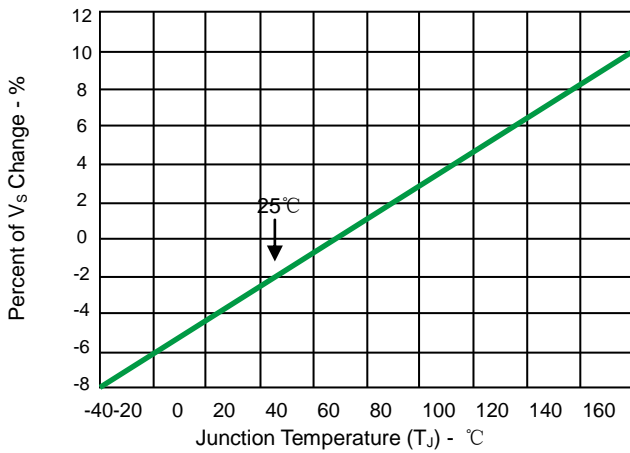


Fig 1. Normalized V_S Change vs. Junction Temperature

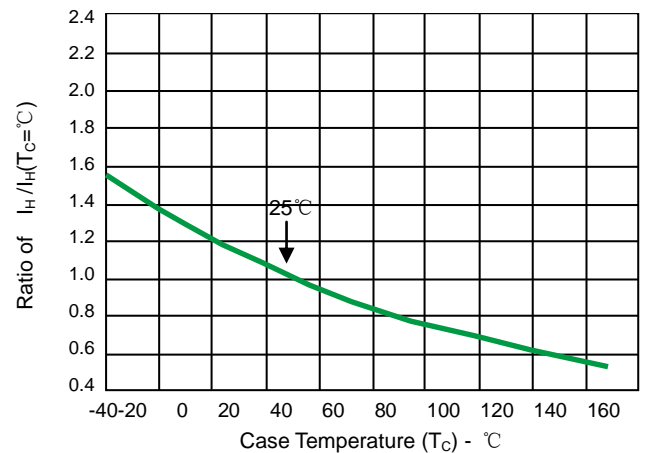


Fig 2. Normalized DC Holding Current versus Case Temperature

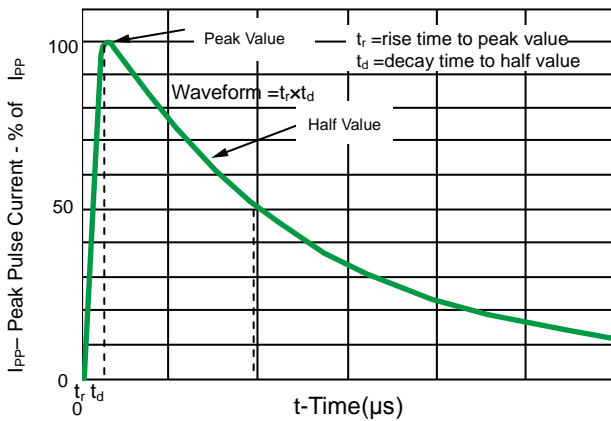
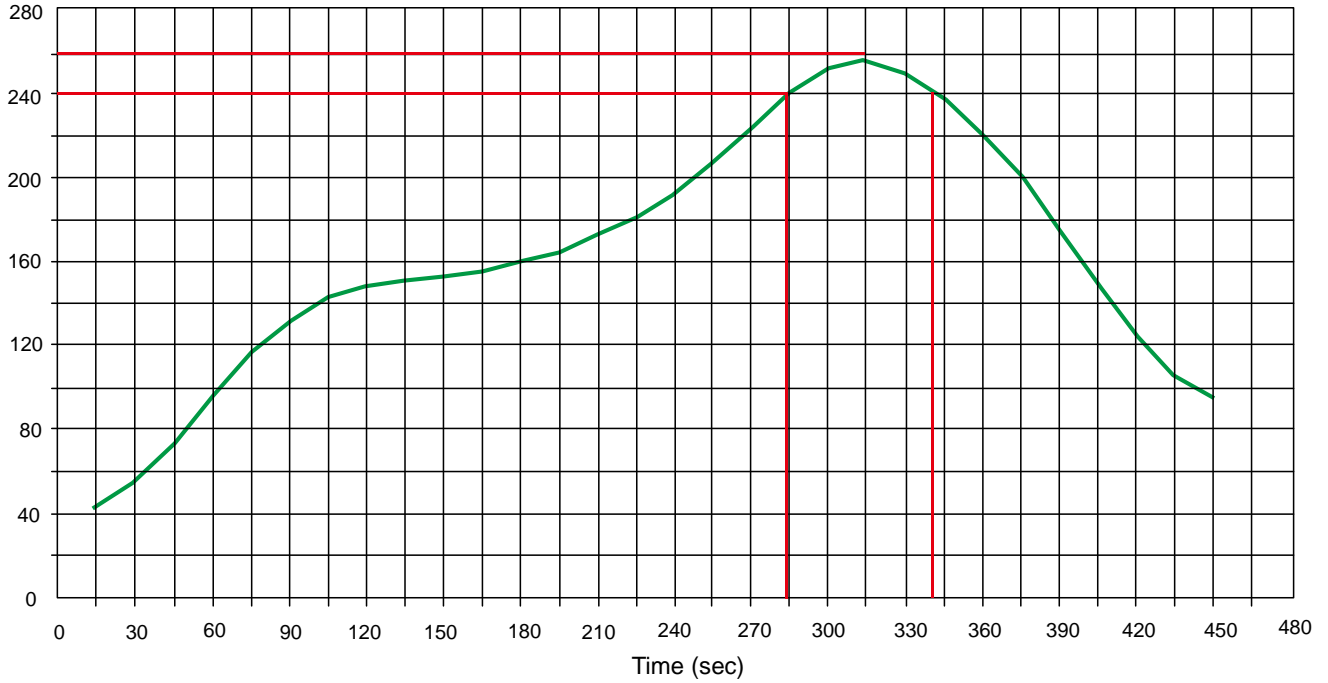


Fig 3. $t_r \times t_d$ Pulse Wave-form

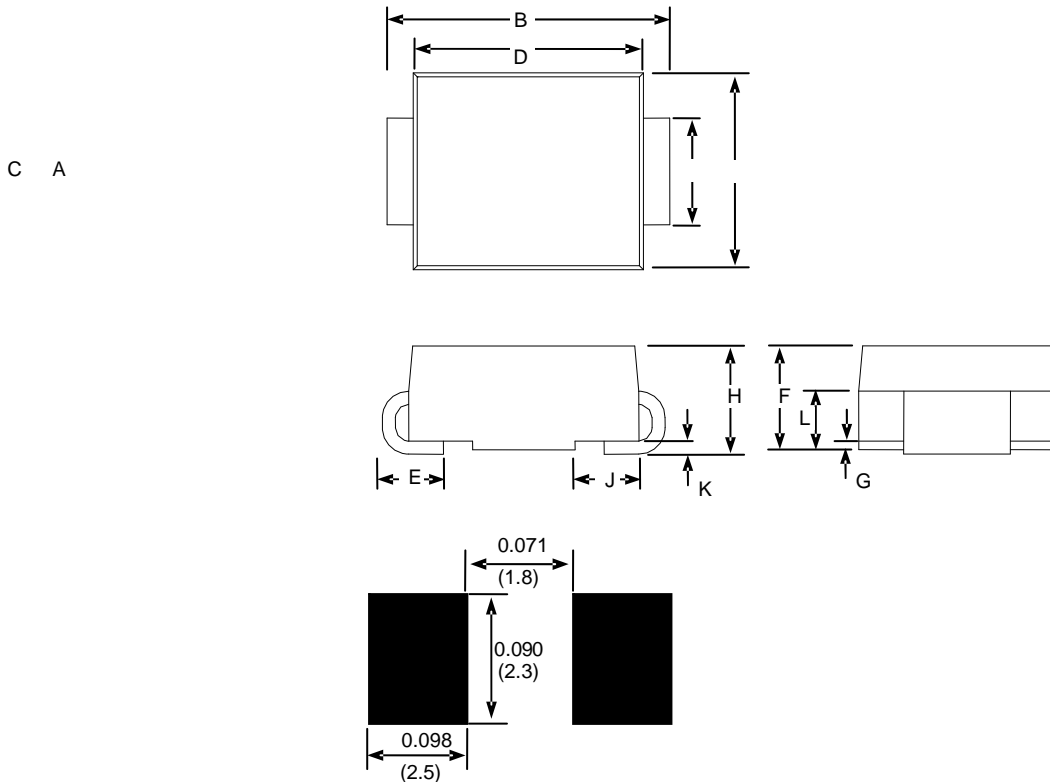
Over-voltage Protection Thyristor

Solder Reflow Recommendation

Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec



Product dimension(SMB)



DIMENSIONS ARE :

INCHES
(Millimeters)


Over-voltage Protection Thyristor

Dimension	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.134	0.155	3.40	3.94
B	0.205	0.220	5.21	5.59
C	0.075	0.083	1.90	2.11
D	0.166	0.185	4.22	4.70
E	0.036	0.056	0.91	1.42
F	0.073	0.087	1.85	2.10
G	0.002	0.008	0.05	0.20
H	0.077	0.094	1.95	2.40
J	0.043	0.053	1.09	1.35
K	0.008	0.014	0.20	0.35
L	0.039	0.049	0.99	1.24

Ordering information

Device	Package	Shipping
POV3100SC	SMB (Pb-Free)	3000 / Tape & Reel


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