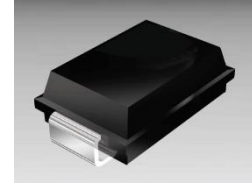


Over-voltage Protection Thyristor

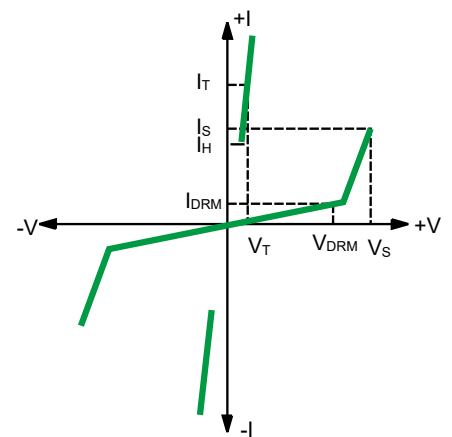
Description

Thyristor surge protector devices are designed to help protect sensitive telecommunication equipment from the hazards caused by lightning, power contact, and power induction. These devices enable equipment to comply with various regulatory requirements including GR 1089, ITU K.20, K.21 and K.45, IEC 60950, UL 60950, and TIA-968-A (formerly known as FCC Part 68).



Feature

- Bi-directional crowbar transient voltage protection
- High surge capability
- High off-state impedance, Low leakage current
- Short-circuit failure mode
- Central office switching equipment, Analog and digital linecards (xDSL, T1/E1, ISDN...)
- Customer Premises Equipment (CPE) such as phones, fax machines, modems, POS terminals, PBX systems and caller ID adjunct boxes.
- Primary protection modules including Main Distribution Frames (MDF), building entrance equipment and station protection modules.
- Access network equipment such as remote terminals, line repeaters, multiplexers, cross-connects, Salltech equipment, Network Interface Devices (NID).
- Data lines and security systems
- CATV line amplifiers and power inserters
- Sprinkler systems



Mechanical Characteristics

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

Over-voltage Protection Thyristor
Electrical Parameters (T_A=25°C, unless otherwise specified)

| Part Number | V _{DRM} (V) | I _{DRM} (μA) | V _S ¹⁾ (V) | I _S (mA) | V _T (V) | I _T (A) | I _H (mA) | C _o ²⁾ (pF) |
|-------------|----------------------|-----------------------|----------------------------------|---------------------|--------------------|--------------------|---------------------|-----------------------------------|
| | | Max. | Max. | Max. | Max. | Max. | Max. | Max. |
| POV4200SC | 380 | 5 | 500 | 800 | 4 | 2.2 | 150 | 60 |

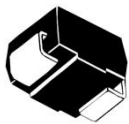
Notes:

- 1) V_S is measured at 100V/μs .
- 2) Off-state capacitance is measured at 1MHz with a 2V bias .

Surge Ratings

| Part Number | I _{PP} 8x20 μs Amps | I _{PP} 5x310 μs Amps | I _{PP} 10x1000 μs Amps |
|-------------|------------------------------|-------------------------------|---------------------------------|
| POV4200SC | 500 | 200 | 100 |

Thermal Considerations

| Package SMB | Symbol | Parameter | Value | Unit |
|---|------------------|---|------------|------|
|  | T _J | Operating Junction Temperature | -40 to 150 | °C |
| | T _S | Storage Temperature Range | -55 to 150 | °C |
| | R _{BJA} | Thermal Resistance: Junction to Ambient | 90 | °C/W |

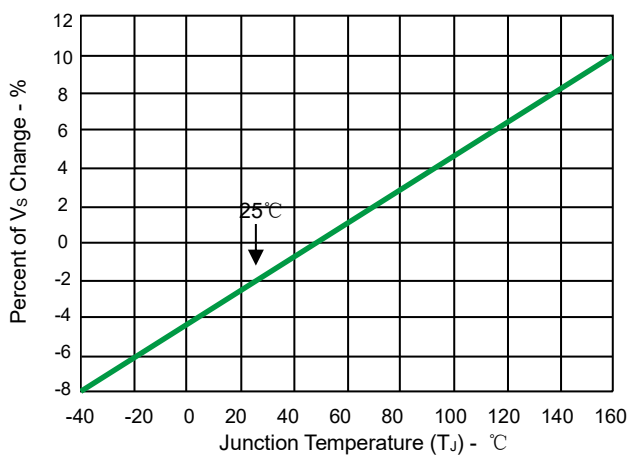
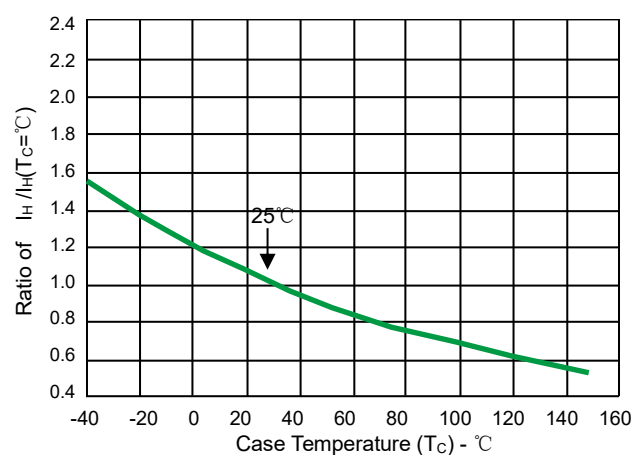

 Fig 1. Normalized V_S Change vs. Junction Temperature


Fig 2. Normalized DC Holding Current versus Case Temperature

Over-voltage Protection Thyristor

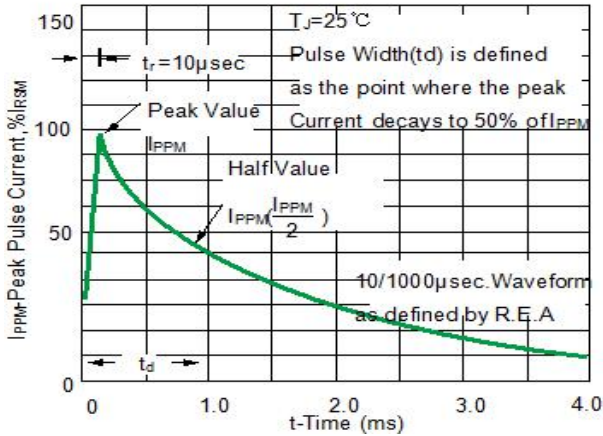


Fig 3. $t_r \times t_d$ Pulse Wave-form

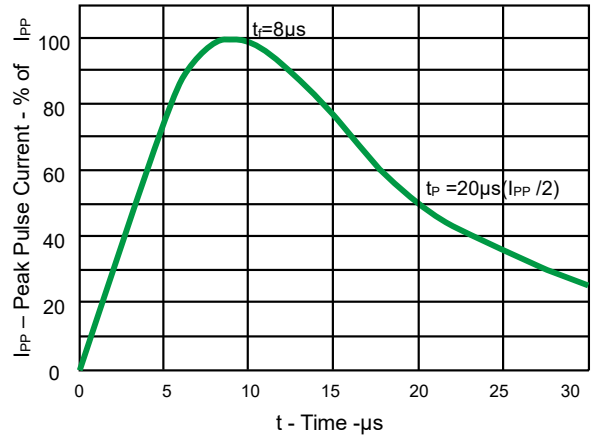
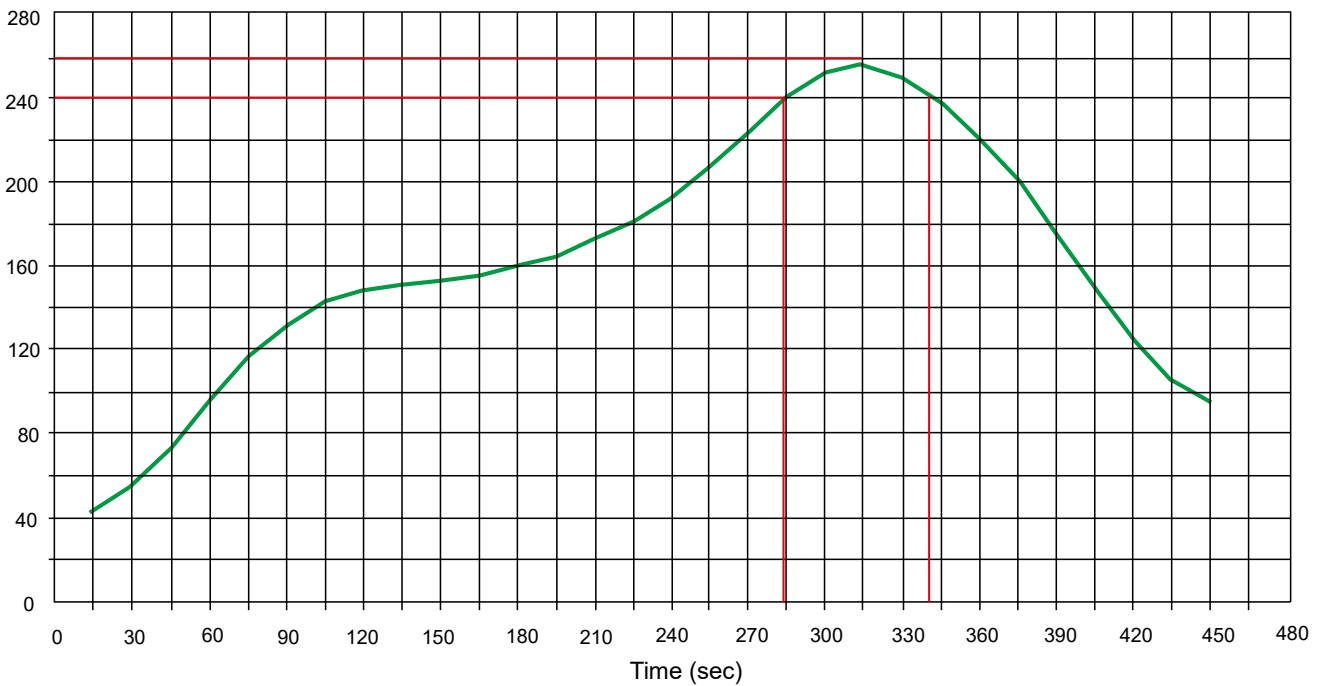
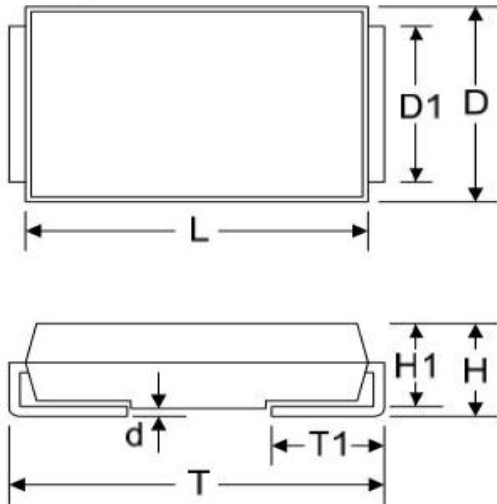


Fig 4. Pulse Waveform

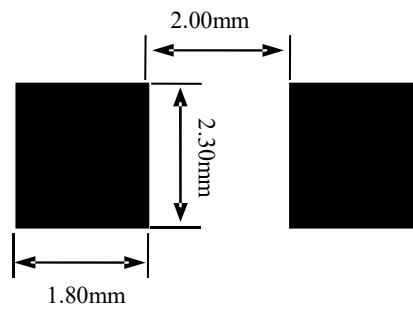
Solder Reflow Recommendation

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




Over-voltage Protection Thyristor
Product dimension(SMB)


| Dimension | Millimeters | |
|-----------|-------------|------|
| | MIN | MAX |
| D | 3.40 | 3.94 |
| D1 | 1.90 | 2.10 |
| L | 4.22 | 4.70 |
| T | 5.21 | 5.59 |
| T1 | 0.90 | 1.42 |
| d | 0.00 | 0.23 |
| H | 1.95 | 2.60 |
| H1 | 2.00 | 2.34 |


Ordering information

| Device | Package | Shipping |
|-----------|---------------|--------------------|
| POV4200SC | SMB (Pb-Free) | 3000 / Tape & Reel |

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