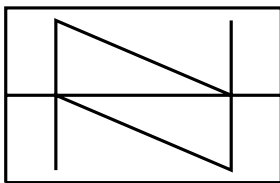


Description

The PXXXXSC series are thyristor surge suppressor (TSS) designed to protect telecommunication equipment against lightning and transients induced by AC power lines. These devices can be used on central office equipment, PBX, DSU, OCU and other telecommunication equipment. The bidirectional configuration provides protection for both positive and negative transients and the discrete surface mount package allows for individual placement of the device on line cards or other locations where multiple component devices do not offer the versatile in board trace layout.

This series can be used to provide protection in accordance with industry standards such as FCC Part 68, AN-SI C62.41, UL 1459, GR-1089-CORE, IEC 61000-2, IEC 61000-4 and IEC 61000-4-5 requirements.

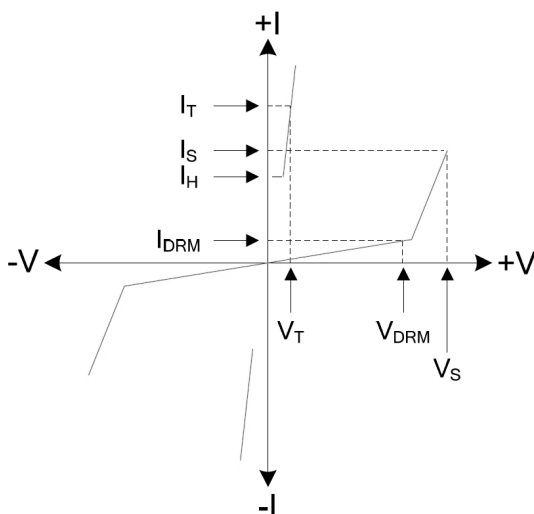
Device Schematic



Device Schematic



Device Schematic



Features

- * Peak Off-State Voltage: 6V~500V
- * RoHS Compliant
- * Package: DO-214AA

Compared to surge suppression using other technologies, P Series devices offer absolute surge protection

regardless of the surge current available and the rate of applied voltage (dv/dt). P Series devices:

- * 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

Application

- * SLIC Line Card
- * T1/E1 Trunk & Line Card
- * DBX Branch Exchange Switches
- * FCC Part 68 Customer Premise Equipment
- * Line Interface Modem
- * xDSL Architecture Interface

Ordering Information

| Part Number | Packaging | Reel Size |
|-------------|------------------|-----------|
| PXXXXSC | 5000/Tape & Reel | 13 inch |

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

| Part Number | VDRM (V) | VS (V) | IH (mA) | IS (mA) | IDRM (μA) | VT (V) | IT (A) | Cj @2V, 1MHz (pF) |
|-------------|----------|--------|---------|---------|------------------------|--------|--------|-------------------|
| P0080SC | 6 | 25 | 150 | 800 | 5 | 4 | 2.2 | 120 |
| P0300SC | 25 | 40 | 150 | 800 | 5 | 4 | 2.2 | 120 |
| P0640SC | 58 | 77 | 150 | 800 | 5 | 4 | 2.2 | 120 |
| P0720SC | 65 | 88 | 150 | 800 | 5 | 4 | 2.2 | 120 |
| P0900SC | 75 | 98 | 150 | 800 | 5 | 4 | 2.2 | 120 |
| P1100SC | 90 | 130 | 150 | 800 | 5 | 4 | 2.2 | 120 |
| P1300SC | 120 | 160 | 150 | 800 | 5 | 4 | 2.2 | 80 |
| P1500SC | 140 | 180 | 150 | 800 | 5 | 4 | 2.2 | 80 |
| P1800SC | 170 | 220 | 150 | 800 | 5 | 4 | 2.2 | 80 |
| P2300SC | 190 | 260 | 150 | 800 | 5 | 4 | 2.2 | 60 |
| P2600SC | 220 | 300 | 150 | 800 | 5 | 4 | 2.2 | 60 |
| P3100SC | 275 | 350 | 150 | 800 | 5 | 4 | 2.2 | 60 |
| P3500SC | 320 | 400 | 150 | 800 | 5 | 4 | 2.2 | 60 |

Notes:

IS:Switching Current – maximum current required to switch to on state

IDRM:Leakage Current – maximum peak off-state current measured at VDRM

IH:Holding Current – minimum current required to maintain on state

IPP:Peak Pulse Current – maximum rated peak impulse current

IT:On-state Current – maximum rated continuous on-state current

VDRM:Peak Off-state Voltage – maximum voltage that can be applied while maintaining off state

VT:On-state Voltage – maximum voltage measured at rated on-state current

VS:Switching Voltage – maximum voltage prior to switching to on state

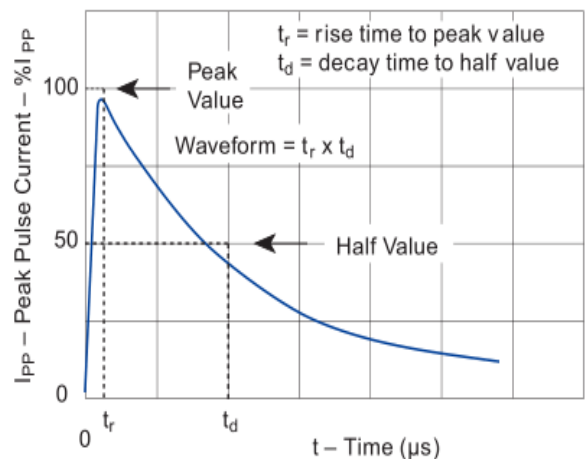
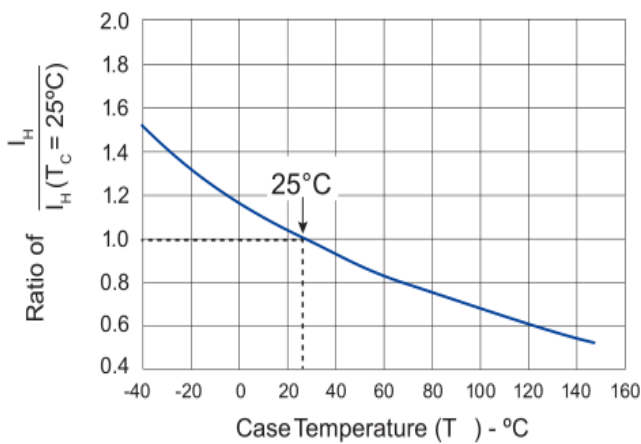
Surge Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

| Series | Ipp @2/10 μs (A) | Ipp @8/20 μs (A) | Ipp @10/160 μs (A) | Ipp @10/560 μs (A) | Ipp @10/1000 μs (A) |
|---------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------------|
| PxxxxSC | 500 | 400 | 150 | 150 | 100 |

Thermal Considerations

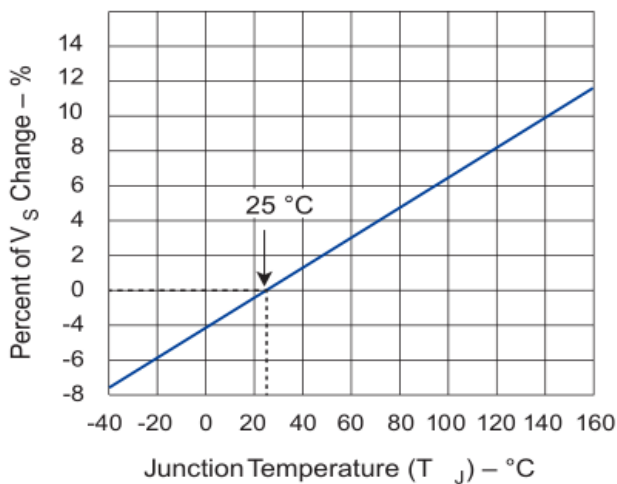
| Package(DO-214AC) | Symbol | Parameter | Value | Unit |
|-------------------|------------------|--|-------------|------|
| | TJ | Operating Junction Temperature | -55 to +125 | °C |
| | Tstg | Storage Temperature Range | -55 to +150 | °C |
| | R _{θJA} | Junction to Ambient on printed circuit | 90 | °C/W |

Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

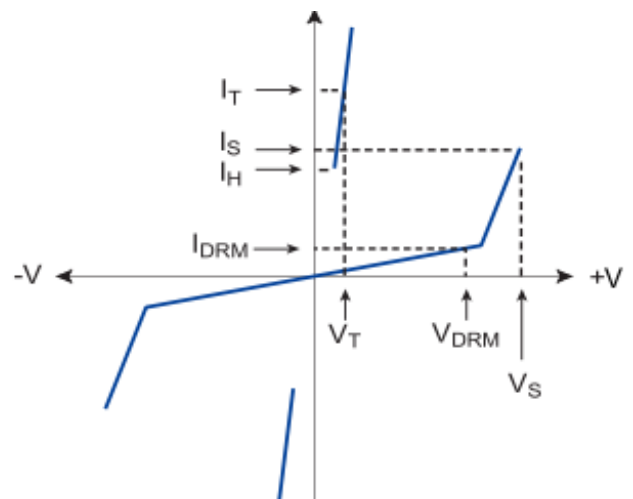


Normalized DC Holding Current vs. Case Temperature

T r x T d Pulse Waveform

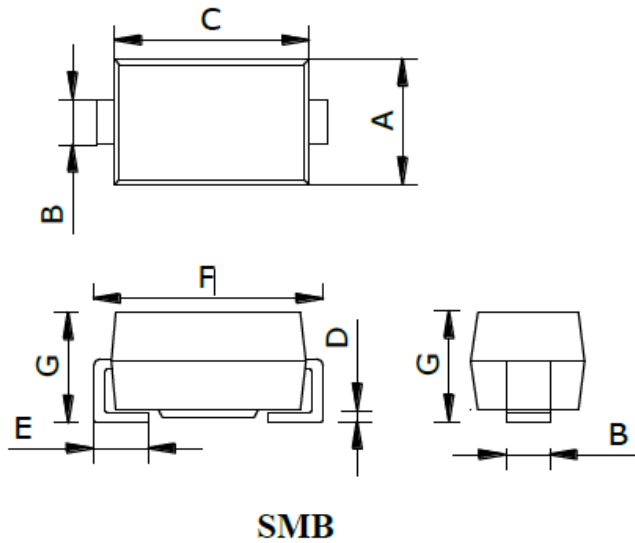


Normalized V_S Change vs. Junction Temperature



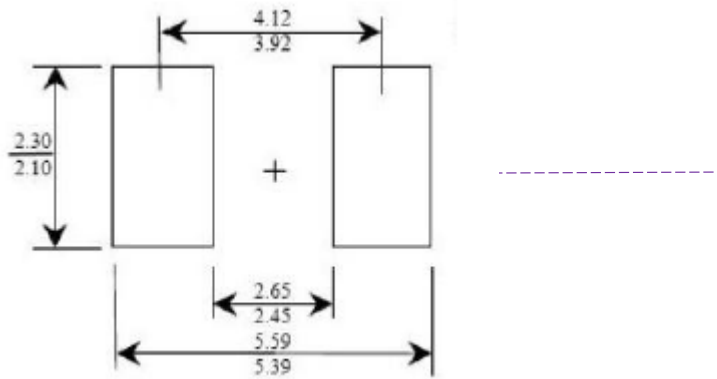
V-I Characteristics

DO-214AA (SMB) Package Outline Drawing (Dimensions in millimeters)



| DIM | Millimeters | | | Inches | | |
|-----|-------------|------|-------|--------|-------|-------|
| | Min | Nom | Max | Min | Nom | Max |
| A | 3.30 | 3.60 | 3.94 | 0.130 | 0.142 | 0.155 |
| B | 1.80 | 2.00 | 2.21 | 0.071 | 0.079 | 0.087 |
| C | 4.05 | 4.45 | 5.30 | 0.159 | 0.175 | 0.209 |
| D | 0.051 | 0.20 | 0.203 | 0.002 | 0.007 | 0.008 |
| E | 0.76 | 1.14 | 1.52 | 0.030 | 0.045 | 0.060 |
| F | 5.08 | 5.25 | 5.59 | 0.200 | 0.207 | 0.220 |
| G | 2.05 | 2.30 | 2.45 | 0.081 | 0.091 | 0.096 |

Suggested Land Pattern



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