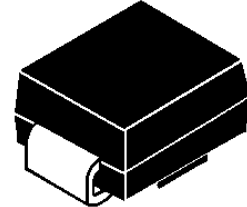




Thyristor Surge Protection Devices

Features

- SMA or SMB Package
- Bi-directional Configurations
- Low Leakage <5 uA
- Quick Response to Surge Voltage
- RoHS Compliant in Lead-Free Versions



Applications

- T1/E1 Trunk & Line Card
- RS-485/RS-232/RS-422
- Video/audio line

Absolute Maximum Ratings

| Parameter | Symbol | Value | Units |
|--------------------------------------|------------------|-------------------|-------|
| Surge Ratings (10/700us) | | See surge ratings | V |
| Storage Temperature Range | T _{STG} | -55 to 150 | °C |
| Operating Junction Temperature Range | T _J | -55 to 150 | °C |

Electrical Characteristics

 Ratings at 25°C ambient temperature unless otherwise specified.

| Device | V _{RWM} (V) | V _s (V) @ I _s | V _T (V) @ I _T | I _{DRM} (uA) @ V _{RWM} | I _s (mA) | I _T (A) | I _H (mA) | Co(pF) @VR=2V F = 1 MHz |
|---------|-------------------------|--|--|---|------------------------|-----------------------|------------------------|----------------------------|
| | Max | Max | Max | Max | | | | Max |
| P0080S_ | 6 | 25 | 4 | 5.0 | 800 | 2.2 | 50 | 100 |
| P0300S_ | 25 | 40 | 4 | 5.0 | 800 | 2.2 | 50 | 110 |
| P0640S_ | 58 | 77 | 4 | 5.0 | 800 | 2.2 | 150 | 50 |
| P0720S_ | 65 | 88 | 4 | 5.0 | 800 | 2.2 | 150 | 50 |
| P1800S_ | 160 | 220 | 4 | 5.0 | 800 | 2.2 | 150 | 40 |
| P2300S_ | 190 | 260 | 4 | 5.0 | 800 | 2.2 | 150 | 30 |
| P2600S_ | 220 | 300 | 4 | 5.0 | 800 | 2.2 | 150 | 30 |
| P3100S_ | 275 | 350 | 4 | 5.0 | 800 | 2.2 | 150 | 30 |
| P3500S_ | 320 | 400 | 4 | 5.0 | 800 | 2.2 | 150 | 30 |
| P4200S_ | 390 | 500 | 4 | 5.0 | 800 | 2.2 | 150 | 30 |

*For individual "SA", "SB", "SC" surge ratings, see table below.

**"Co" is a typical value for "SA" and "SB" product. "SC" capacitance is approximately 2x the listed value.

"Co" of P0080SB is equal to the "SC" device.

Surge Ratings

| Series | $I_{PP}(A)$ 2x10us | $I_{PP}(A)$ 8x20us | $I_{PP}(A)$ 10x160us | $I_{PP}(A)$ 10x560us | $I_{PP}(A)$ 10x1000us | $I_{TSM}(A)$ 60Hz | di/dt (A/us) |
|--------|-----------------------|-----------------------|-------------------------|-------------------------|--------------------------|----------------------|-----------------|
| A | 150 | 150 | 90 | 50 | 45 | 20 | 500 |
| B | 250 | 250 | 150 | 100 | 80 | 30 | 500 |
| C | 500 | 400 | 200 | 150 | 100 | 30 | 500 |

Package

| Series | Package |
|--------|------------|
| A | SMA or SMB |
| B | SMB |
| C | SMB |

Characteristics

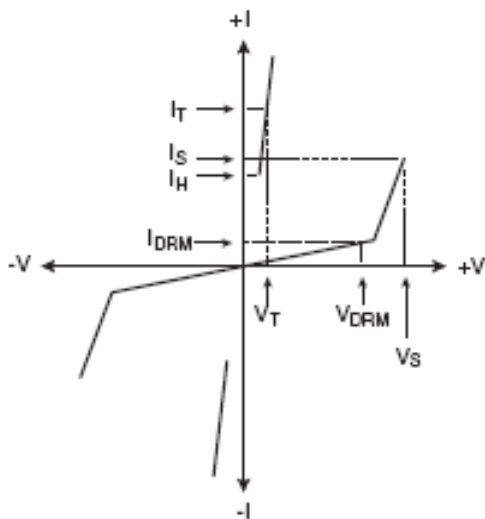


Fig1. V-I Chaeristics

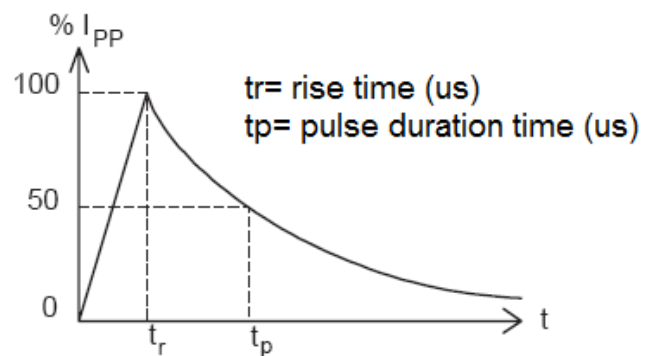
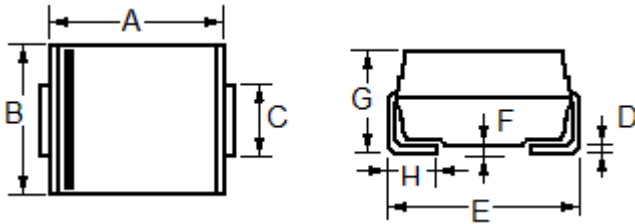


Fig2. Pulse Waveform ($t_r=10us$ $t_p=700us$)

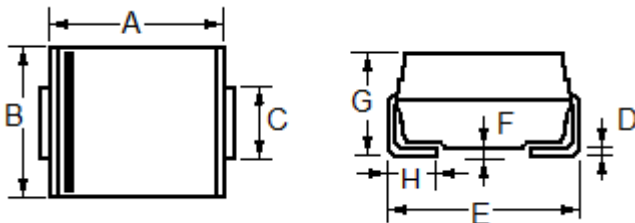
Package Dimensions

DO-214AC(SMA)



| Dim | Millimeters | | Inches | |
|-----|-------------|-------|--------|-------|
| | Min | Max | Min | Max |
| A | 3.99 | 4.57 | 0.157 | 0.180 |
| B | 2.29 | 2.92 | 0.09 | 0.115 |
| C | 1.25 | 1.65 | 0.049 | 0.065 |
| D | 0.152 | 0.405 | 0.006 | 0.016 |
| E | 4.83 | 5.59 | 0.190 | 0.220 |
| F | ---- | 0.203 | ---- | 0.008 |
| G | 1.91 | 2.41 | 0.075 | 0.095 |
| H | 0.76 | 1.52 | 0.030 | 0.060 |

DO-214AA (SMB)



| Dim | Millimeters | | Inches | |
|-----|-------------|------|--------|-------|
| | Min | Max | Min | Max |
| A | 4.06 | 4.57 | 0.160 | 0.180 |
| B | 3.30 | 3.94 | 0.130 | 0.155 |
| C | 1.95 | 2.20 | 0.077 | 0.086 |
| D | 0.13 | 0.31 | 0.006 | 0.012 |
| E | 5.08 | 5.59 | 0.200 | 0.220 |
| F | - | 0.20 | - | 0.008 |
| G | 2.13 | 2.44 | 0.084 | 0.096 |
| H | 0.76 | 1.52 | 0.030 | 0.060 |