

**Bidirectional Surface Mount THYZORB®
Thyristor Overvoltage Protectors**

DO-214AA (SMB)

Symbol

Stand-off Voltage 55 to 230V
Breakover Voltage 80 to 350V
Peak Pulse Current 100A (10/1000µs)
 300A (8/20µs)
Holding Current 150mA minimum

**Mechanical Data****Case:** JEDEC DO-214AA molded plastic body over passivated junction**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026High temperature soldering guaranteed:
250°C/10 seconds at terminals**Mounting Position:** Any**Weight:** 0.003 ounces, 0.093 gram**Features**

- Bidirectional crowbar protection
- Complies with Bellcore TR-NWT-001089, and IEC-1000-4-5 standards
- Series is designed to protect telecommunication equipment against lightning and AC induced transients
- Plastic package has UL Flammability Classification 94V-0
- Low profile package with built-in strain relief for surface mounted applications

Maximum Ratings and Thermal Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted.

| Parameter | | Symbol | Value | Unit |
|--|--------------------------|-----------------|-------------|-------|
| Power Dissipation | $T_L = 50^\circ\text{C}$ | P | 5 | W |
| Peak Pulse Current | 10/1000µs 8/20µs | I_{PP} | 100 300 | A |
| Non-repetitive surge peak on-state current | $t_p = 20\text{ms}$ | I_{TSM} | 55 | A |
| Critical rate of rise of off-state voltage (V_{RM}) | | dV/dt | 5 | KV/µs |
| Storage temperature range | | T_{stg} | -55 to +150 | °C |
| Maximum junction temperature | | T_j | 150 | °C |
| Thermal resistance junction to leads | | $R_{\theta JL}$ | 100 | °C/W |
| Thermal resistance junction to ambient on P.C.B. with recommended pad layout | | $R_{\theta JA}$ | 20 | °C/W |

 I_{PP} Ratings for the Following Surge Standards:

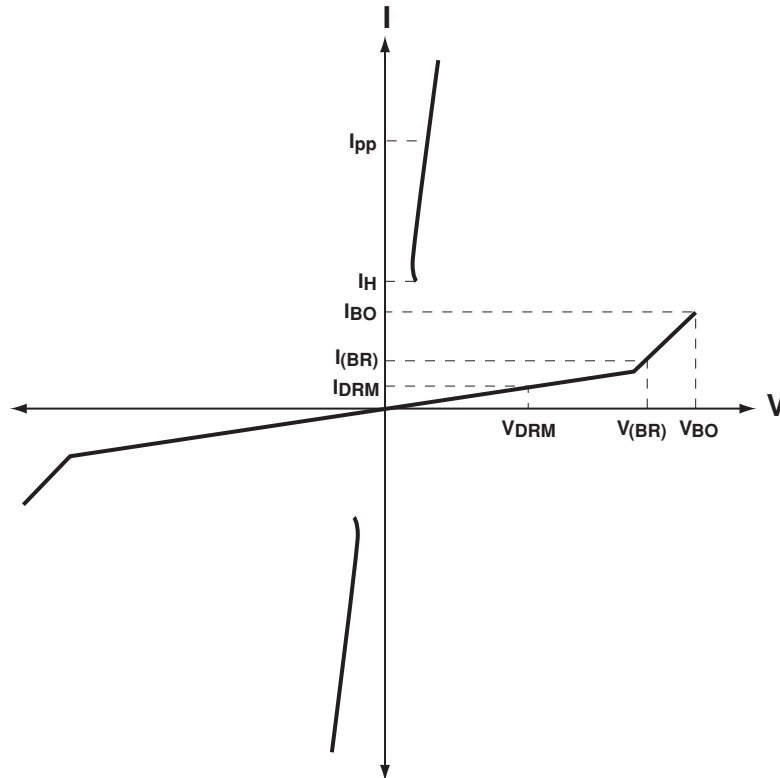
| Standard | Waveform | I_{PP} |
|--------------|-----------|-------------------|
| GR-1089-CORE | 2/10µs | 500A |
| IEC61000-4-5 | 8/20µs | 300A ⁺ |
| FCC Part 68 | 10/160µs | 250A ⁺ |
| ITU-TK20/21 | 10/700µs | 200A ⁺ |
| FCC Part 68 | 10/560µs | 160A ⁺ |
| GR-1089-CORE | 10/1000µs | 100A |

Values with ⁺ have improved I_{PP} specs over equivalent competitor part numbers

Electrical Characteristics (T_A = 25°C unless otherwise noted)

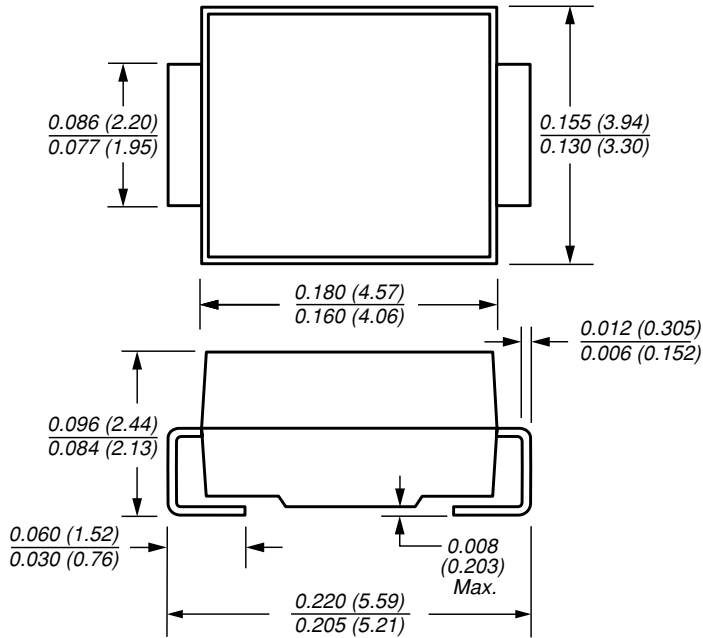
| Type | Device Marking Code | Maximum I _R @ V _R | V _R | Stand-off Voltage V _{DRM} (V) | Max. Reverse Leakage at V _{DRM} I _{DRM} (μA) | Maximum Breakover Voltage V _{BO} (V) ⁽¹⁾⁽³⁾ | Maximum Breakover Current I _{BO} (mA) ⁽¹⁾ | Minimum Holding Current I _H (mA) | Typical Capacitance C (pF) ⁽²⁾ |
|--------------|---------------------|---|----------------|--|--|---|---|---|---|
| SMP100LC-65 | L06 | 50 | 65 | 55 | 2.0 | 80* | 800 | 150 | 120 |
| SMP100LC-90 | L09 | 50 | 90 | 81 | 2.0 | 115* | 800 | 150 | 76 |
| SMP100LC-120 | L12 | 50 | 120 | 108 | 2.0 | 145* | 800 | 150 | 70 |
| SMP100LC-130 | L13 | 50 | 130 | 117 | 2.0 | 165* | 800 | 150 | 70 |
| SMP100LC-140 | L14 | 50 | 140 | 120 | 2.0 | 180* | 800 | 150 | 65 |
| SMP100LC-160 | L16 | 50 | 160 | 144 | 2.0 | 220 | 800 | 150 | 65 |
| SMP100LC-200 | L20 | 50 | 200 | 170 | 2.0 | 265* | 800 | 150 | 65 |
| SMP100LC-230 | L23 | 50 | 230 | 200 | 2.0 | 300* | 800 | 150 | 60 |
| SMP100LC-270 | L27 | 50 | 262 | 230 | 2.0 | 350* | 800 | 150 | 60 |

Notes: (1) $dv/dt \leq 2V/\mu s$
 (2) $V_R = 2V, f = 1MHz$
 (3) Values with * have improved V_{BO} specs over equivalent competitor part numbers

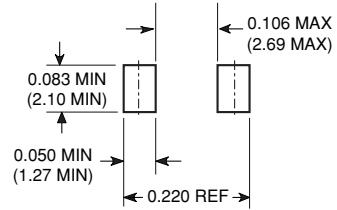




DO-214AA (SMB)



Mounting Pad Layout



Dimensions in inches
and (millimeters)