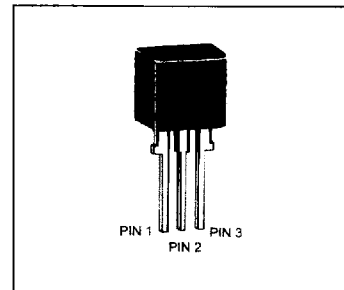


## Two Chip TO-220 "AA" Series

The two chip TO-220 "AA" series SIDACtor is a 50A rated solid state protection device designed for telecommunications applications that reference Tip and Ring to earth ground but do not require balanced protection.

The "AA" series SIDACtor is used to help meet various regulatory requirements including: Bellcore 1089, ITU K.20 & K.21, IEC 950, UL 1459 & 1950 and FCC Part 68.



### Electrical Parameters

| Part Number | V <sub>DRM</sub><br>Volts<br>pins 1-2, 3-2 | V <sub>S</sub><br>Volts<br>pins 1-2, 3-2 | V <sub>DRM</sub><br>Volts<br>pins 1-3 | V <sub>S</sub><br>Volts<br>pins 1-3 | V <sub>T</sub><br>Volts | I <sub>DRM</sub><br>μAmps | I <sub>S</sub><br>mAmps | I <sub>T</sub><br>mAmps | I <sub>H</sub><br>mAmps | C <sub>O</sub><br>pF |
|-------------|--------------------------------------------|------------------------------------------|---------------------------------------|-------------------------------------|-------------------------|---------------------------|-------------------------|-------------------------|-------------------------|----------------------|
| P0602AA     | 25                                         | 40                                       | 50                                    | 80                                  | 5                       | 5                         | 800                     | 1                       | 150                     | 100                  |
| P1402AA     | 58                                         | 77                                       | 116                                   | 154                                 | 5                       | 5                         | 800                     | 1                       | 150                     | 60                   |
| P1602AA     | 65                                         | 95                                       | 130                                   | 190                                 | 5                       | 5                         | 800                     | 1                       | 150                     | 60                   |
| P2202AA     | 90                                         | 130                                      | 180                                   | 260                                 | 5                       | 5                         | 800                     | 1                       | 150                     | 60                   |
| P2702AA     | 120                                        | 160                                      | 240                                   | 320                                 | 5                       | 5                         | 800                     | 1                       | 150                     | 40                   |
| P3002AA     | 140                                        | 180                                      | 280                                   | 360                                 | 5                       | 5                         | 800                     | 1                       | 150                     | 40                   |
| P3602AA     | 160                                        | 220                                      | 320                                   | 440                                 | 5                       | 5                         | 800                     | 1                       | 150                     | 40                   |
| P4202AA     | 190                                        | 250                                      | 380                                   | 500                                 | 5                       | 5                         | 800                     | 1                       | 150                     | 30                   |
| P4802AA     | 220                                        | 300                                      | 440                                   | 600                                 | 5                       | 5                         | 800                     | 1                       | 150                     | 30                   |
| P6002AA     | 275                                        | 350                                      | 550                                   | 700                                 | 5                       | 5                         | 800                     | 1                       | 150                     | 30                   |

#### Notes:

- All measurements are made at an ambient temperature of 25°C.
- Listed SIDACtors are bi-directional. All electrical parameters & surge ratings apply to forward and reverse polarities.
- V<sub>DRM</sub> is measured at I<sub>DRM</sub>.
- V<sub>S</sub> is measured at 100V/μs.
- Special voltage (V<sub>S</sub> & V<sub>DRM</sub>) and holding current (I<sub>H</sub>) requirements are available upon request.
- Off-state capacitance is measured at 1MHz with a 2 volt bias and is a typical value.

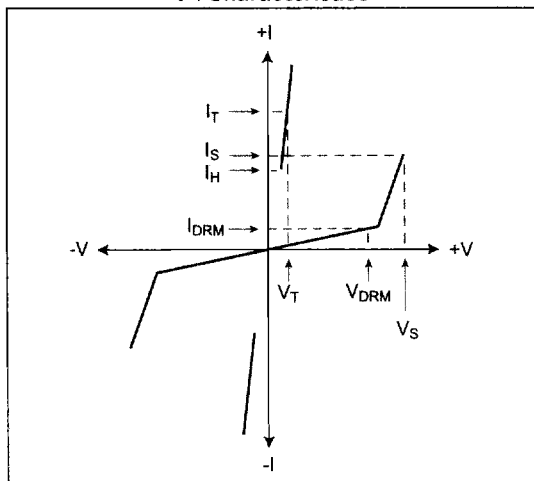
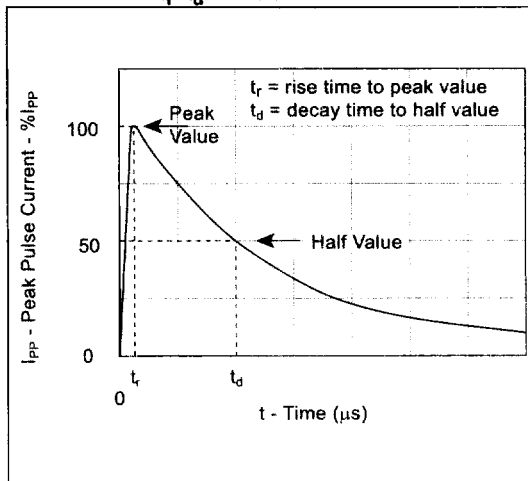
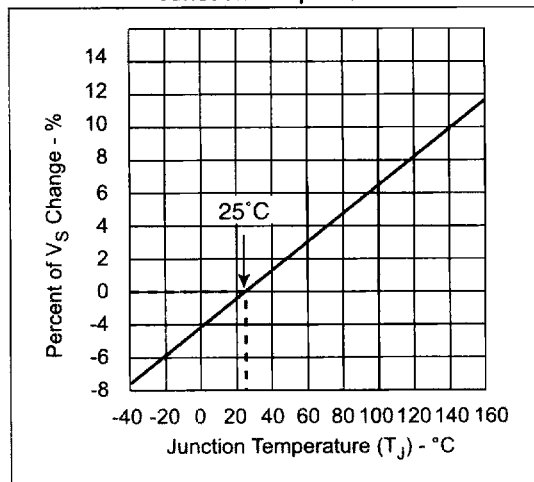
### Surge Ratings

| Series | I <sub>pp</sub><br>10x160μs<br>Amps | I <sub>pp</sub><br>10x560μs<br>Amps | I <sub>TSM</sub><br>60Hz<br>Amps | dI/dt<br>Amps/μs |
|--------|-------------------------------------|-------------------------------------|----------------------------------|------------------|
| AA     | 100                                 | 50                                  | 20                               | 500              |

## Thermal Considerations

| Series | Symbol          | Parameter                               | Value       | Unit |
|--------|-----------------|-----------------------------------------|-------------|------|
| AA     | $T_J$           | Junction Temperature Range              | -40 to +150 | °C   |
|        | $T_S$           | Storage Temperature Range               | -65 to +150 | °C   |
|        | $T_C$           | Maximum Case Temperature                | +115        | °C   |
|        | $R_{\theta jc}$ | Thermal Resistance: junction to case    | +12         | °C/W |
|        | $R_{\theta ja}$ | Thermal Resistance: junction to ambient | +50         | °C/W |

V-I Characteristics

 $t_r, t_d$  Pulse Wave-formNormalized  $V_S$  Change vs. Junction Temperature

Normalized DC Holding Current vs. Case Temperature

