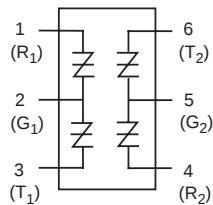


## Multiport MicroCapacitance (MC) SIDACtor Device



The multiport MC line protector is an integrated, multichip solution for protecting multiple twisted pair from overvoltage conditions. It is intended for applications sensitive to load values. Typically, high speed connections require lower capacitance.  $C_O$  values for the MC devices are 40% lower than standard UC devices

Based on a six-pin surface mount SOIC package, it is equivalent to four discrete DO-214AA or two TO-220 packages, which makes it ideal for densely populated, high-speed line cards that cannot afford PCB inefficiencies or the use of series power resistors. Surge current ratings up to 500 A are available.

SIDACtor devices are used to enable equipment to meet 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).

### Electrical Parameters

| Part<br>Number * | V <sub>DRM</sub><br>Volts | V <sub>S</sub><br>Volts | V <sub>DRM</sub><br>Volts | V <sub>S</sub><br>Volts | V <sub>T</sub><br>Volts | I <sub>DRM</sub><br>μAmps | I <sub>S</sub><br>mAmps | I <sub>T</sub><br>Amps | I <sub>H</sub><br>mAmps | C <sub>O</sub><br>pF |
|------------------|---------------------------|-------------------------|---------------------------|-------------------------|-------------------------|---------------------------|-------------------------|------------------------|-------------------------|----------------------|
|                  | Pins 1-2, 3-2, 4-5, 6-5   |                         | Pins 1-3, 4-6             |                         |                         |                           |                         |                        |                         |                      |
| P0084UC MC       | 6                         | 25                      | 12                        | 50                      | 4                       | 5                         | 800                     | 2.2                    | 50                      | 30                   |
| P0304UC MC       | 25                        | 40                      | 50                        | 80                      | 4                       | 5                         | 800                     | 2.2                    | 50                      | 30                   |
| P0644UC MC       | 58                        | 77                      | 116                       | 154                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 30                   |
| P0724UC MC       | 65                        | 88                      | 130                       | 176                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 30                   |
| P0904UC MC       | 75                        | 98                      | 150                       | 196                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 30                   |
| P1104UC MC       | 90                        | 130                     | 180                       | 260                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 25                   |
| P1304UC MC       | 120                       | 160                     | 240                       | 320                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 25                   |
| P1504UC MC       | 140                       | 180                     | 280                       | 360                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 25                   |
| P1804UC MC       | 170                       | 220                     | 340                       | 440                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 20                   |
| P2304UC MC       | 190                       | 260                     | 380                       | 520                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 20                   |
| P2604UC MC       | 220                       | 300                     | 440                       | 600                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 20                   |
| P3104UC MC       | 275                       | 350                     | 550                       | 700                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 20                   |
| P3504UC MC       | 320                       | 400                     | 640                       | 800                     | 4                       | 5                         | 800                     | 2.2                    | 150                     | 20                   |

\* For surge ratings, see table below.

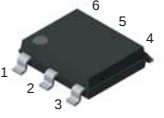
#### General Notes:

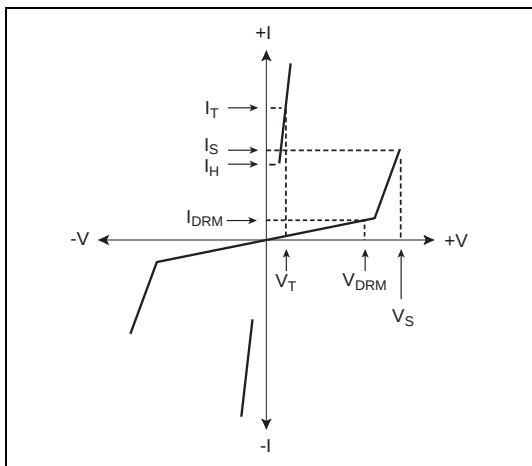
- All measurements are made at an ambient temperature of 25 °C.  $I_{PP}$  applies to -40 °C through +85 °C temperature range.
- $I_{PP}$  is a repetitive surge rating and is guaranteed for the life of the product.
- Listed SIDACtor devices are bi-directional. All electrical parameters and surge ratings apply to forward and reverse polarities.
- V<sub>DRM</sub> is measured at I<sub>DRM</sub>.
- V<sub>S</sub> is measured at 100 V/ $\mu$ s.
- Special voltage (V<sub>S</sub> and V<sub>DRM</sub>) and holding current (I<sub>H</sub>) requirements are available upon request.
- Off-state capacitance (C<sub>O</sub>) is measured at 1 MHz with a 2 V bias.

### Surge Ratings

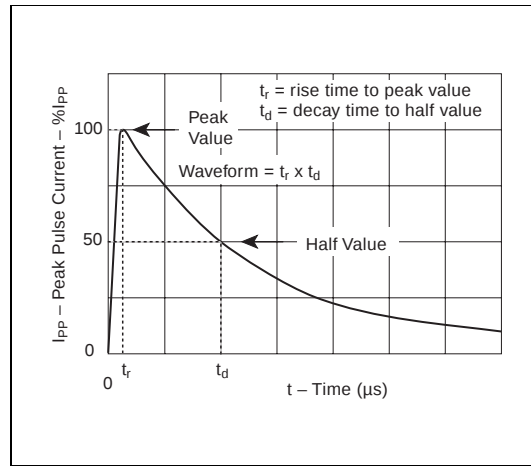
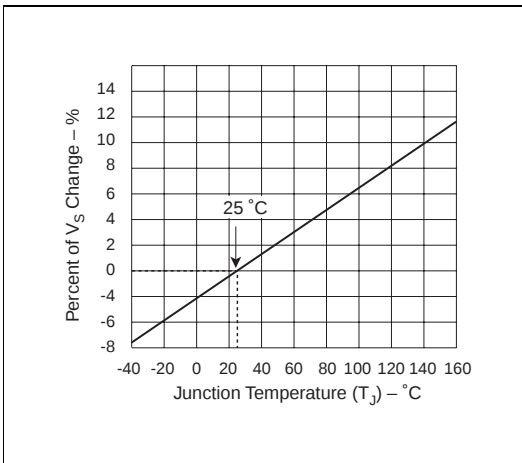
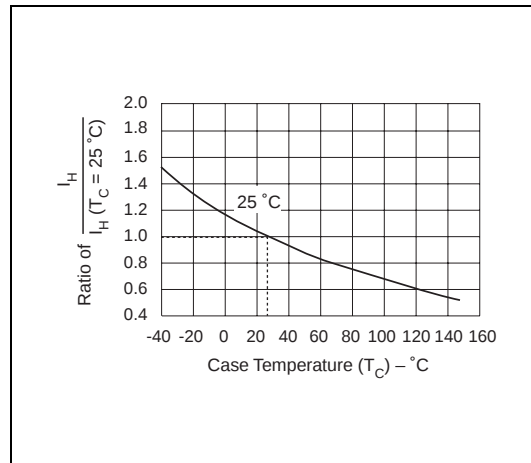
| Series | I <sub>PP</sub> 2x10 $\mu$ s Amps | I <sub>PP</sub> 8x20 $\mu$ s Amps | I <sub>PP</sub> 10x160 $\mu$ s Amps | I <sub>PP</sub> 10x560 $\mu$ s Amps | I <sub>PP</sub> 10x1000 $\mu$ s Amps | I <sub>TSM</sub> 60 Hz Amps | di/dt Amps/ $\mu$ s |
|--------|-----------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|-----------------------------|---------------------|
| C      | 500                               | 400                               | 200                                 | 150                                 | 100                                  | 50                          | 500                 |

# Thermal Considerations

| Package                                                                           | Symbol          | Parameter                               | Value       | Unit |
|-----------------------------------------------------------------------------------|-----------------|-----------------------------------------|-------------|------|
|  | $T_J$           | Operating Junction Temperature Range    | -40 to +150 | °C   |
|                                                                                   | $T_S$           | Storage Temperature Range               | -65 to +150 | °C   |
|                                                                                   | $R_{\theta JA}$ | Thermal Resistance: Junction to Ambient | 60          | °C/W |



V-I Characteristics


 $t_r \times t_d$  Pulse Wave-form

Normalized  $V_S$  Change versus Junction Temperature


Normalized DC Holding Current versus Case Temperature