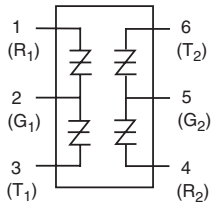


Multiport *SIDACTor*® Device

RoHS



The multiport line protector is an integrated multichip solution used for protecting multiple twisted pair from overvoltage conditions. Based on a six-pin surface mount SOIC package, it is equivalent to four discrete DO-214AA. This multiport line protector is ideal for densely populated, high-speed line cards that cannot tolerate PCB inefficiencies nor the use of series power resistors.

SIDACTor devices enable equipment to comply with 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 Number * | V _{DRM} Volts | V _S Volts | V _{DRM} Volts | V _S Volts | V _T Volts | I _{DRM} μAmps | I _S mAmps | I _T Amps | I _H mAmps |
|---------------|-------------------------|----------------------|------------------------|----------------------|----------------------|------------------------|----------------------|---------------------|----------------------|
| | Pins 1-2, 3-2, 4-5, 6-5 | | Pins 1-3, 4-6 | | | | | | |
| P0084U_L | 6 | 25 | 12 | 50 | 4 | 5 | 800 | 2.2 | 50 |
| P0304U_L | 25 | 40 | 50 | 80 | 4 | 5 | 800 | 2.2 | 50 |
| P0644U_L | 58 | 77 | 116 | 154 | 4 | 5 | 800 | 2.2 | 150 |
| P0724U_L | 65 | 88 | 130 | 176 | 4 | 5 | 800 | 2.2 | 150 |
| P0904U_L | 75 | 98 | 150 | 196 | 4 | 5 | 800 | 2.2 | 150 |
| P1104U_L | 90 | 130 | 180 | 260 | 4 | 5 | 800 | 2.2 | 150 |
| P1304U_L | 120 | 160 | 240 | 320 | 4 | 5 | 800 | 2.2 | 150 |
| P1504U_L | 140 | 180 | 280 | 360 | 4 | 5 | 800 | 2.2 | 150 |
| P1804U_L | 170 | 220 | 340 | 440 | 4 | 5 | 800 | 2.2 | 150 |
| P2304U_L | 190 | 260 | 380 | 520 | 4 | 5 | 800 | 2.2 | 150 |
| P2604U_L | 220 | 300 | 440 | 600 | 4 | 5 | 800 | 2.2 | 150 |
| P3104U_L | 275 | 350 | 550 | 700 | 4 | 5 | 800 | 2.2 | 150 |
| P3504U_L | 320 | 400 | 640 | 800 | 4 | 5 | 800 | 2.2 | 150 |

* "L" in part number indicates RoHS compliance. For non-RoHS compliant device, delete "L" from part number. For individual "UA", "UB", and "UC" surge ratings, see table below.

General Notes:

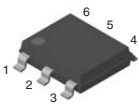
- All measurements are made at an ambient temperature of 25 °C. I_{PP} applies to -40 °C through +85 °C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- Listed *SIDACTor* devices are bi-directional. All electrical parameters and surge ratings apply to forward and reverse polarities.
- V_{DRM} is measured at I_{DRM}, and V_S is measured at 100 V/μs.

Surge Ratings in Amps

| Series | I _{PP} | | | | | | | | | I _{TSM} 50 / 60 Hz | di/dt |
|--------|-----------------|--------|--------|----------|----------|---------|----------|-----------|---------|-----------------------------|-------|
| | 0.2x310 * | 2x10 * | 8x20 * | 10x160 * | 10x560 * | 5x320 * | 10x360 * | 10x1000 * | 5x310 * | | |
| | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | | |
| A | 20 | 150 | 150 | 90 | 50 | 75 | 75 | 45 | 75 | 20 | 500 |
| B | 25 | 250 | 250 | 150 | 100 | 100 | 125 | 80 | 100 | 30 | 500 |
| C | 50 | 500 | 400 | 200 | 150 | 200 | 175 | 100 | 200 | 50 | 500 |

* Current waveform in μs
 ** Voltage waveform in μs

Thermal Considerations

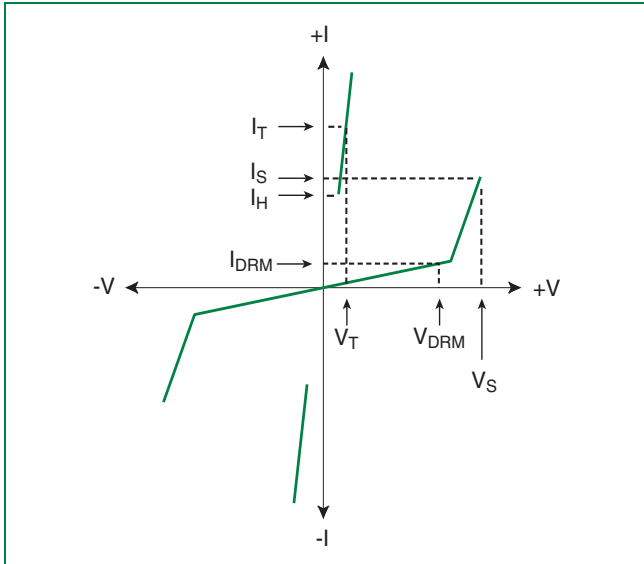
| Package | Symbol | Parameter | Value | Unit |
|---|------------------|---|-------------|------|
|  Modified MS-013 | T _J | Operating Junction Temperature Range | -40 to +150 | °C |
| | T _S | Storage Temperature Range | -65 to +150 | °C |
| | R _{θJA} | Thermal Resistance: Junction to Ambient | 60 | °C/W |

Capacitance Values

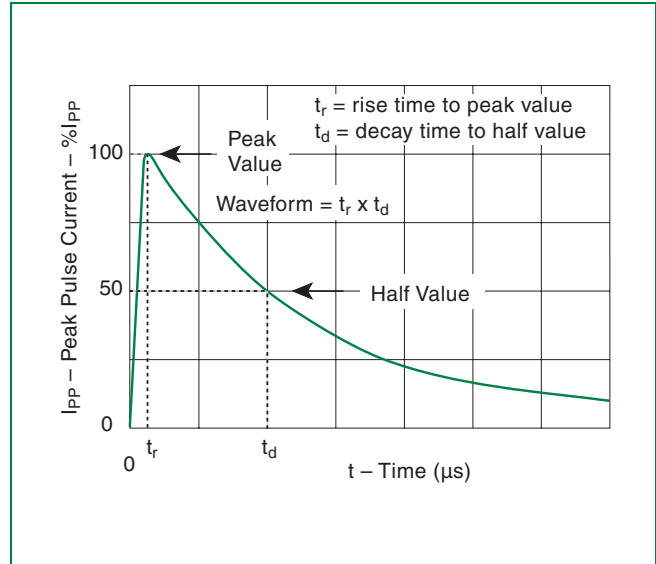
| Part Number | pF Pin 1-2 / 3-2 (4-5 / 6-5) Tip-Ground, Ring-Ground | | pF Pin 1-3 (4-6) Tip-Ring | |
|-------------|--|-----|---------------------------------|-----|
| | MIN | MAX | MIN | MAX |
| P0084UAL | 25 | 155 | 15 | 90 |
| P0084UBL | 25 | 155 | 15 | 90 |
| P0084UCL | 35 | 285 | 20 | 165 |
| P0304UAL | 15 | 140 | 10 | 90 |
| P0304UBL | 15 | 140 | 10 | 90 |
| P0304UCL | 25 | 250 | 10 | 145 |
| P0644UAL | 40 | 60 | 20 | 35 |
| P0644UBL | 40 | 155 | 20 | 90 |
| P0644UCL | 55 | 155 | 30 | 90 |
| P0724UAL | 35 | 60 | 20 | 35 |
| P0724UBL | 50 | 145 | 20 | 85 |
| P0724UCL | 50 | 145 | 25 | 85 |
| P0904UAL | 35 | 55 | 20 | 30 |
| P0904UBL | 35 | 55 | 20 | 30 |
| P0904UCL | 45 | 135 | 25 | 80 |
| P1104UAL | 30 | 50 | 15 | 30 |
| P1104UBL | 30 | 115 | 15 | 65 |
| P1104UCL | 45 | 115 | 25 | 65 |
| P1304UAL | 25 | 45 | 15 | 25 |
| P1304UBL | 25 | 105 | 15 | 60 |
| P1304UCL | 40 | 105 | 20 | 60 |
| P1504UAL | 25 | 40 | 15 | 25 |
| P1504UBL | 25 | 95 | 15 | 55 |
| P1504UCL | 35 | 95 | 20 | 55 |
| P1804UAL | 25 | 35 | 10 | 20 |
| P1804UBL | 25 | 90 | 10 | 50 |
| P1804UCL | 35 | 90 | 15 | 50 |
| P2304UAL | 25 | 35 | 10 | 20 |
| P2304UBL | 25 | 85 | 10 | 50 |
| P2304UCL | 30 | 85 | 15 | 50 |
| P2604UAL | 20 | 35 | 10 | 20 |
| P2604UBL | 20 | 85 | 10 | 50 |
| P2604UCL | 30 | 85 | 15 | 50 |
| P3104UAL | 20 | 35 | 10 | 20 |
| P3104UBL | 20 | 80 | 10 | 45 |
| P3104UCL | 30 | 80 | 15 | 45 |
| P3504UAL | 20 | 35 | 10 | 20 |
| P3504UBL | 20 | 75 | 10 | 45 |
| P3504UCL | 25 | 75 | 15 | 45 |

SIDACTor Devices

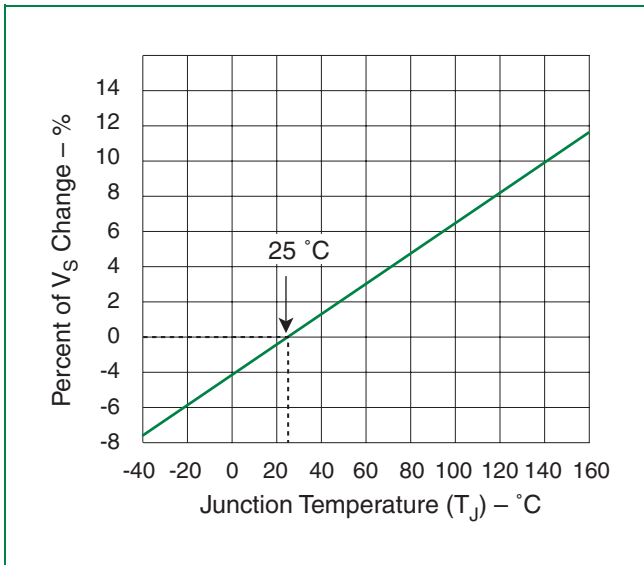
 Note: Off-state capacitance (C_O) is measured at 1 MHz with a 2 V bias.



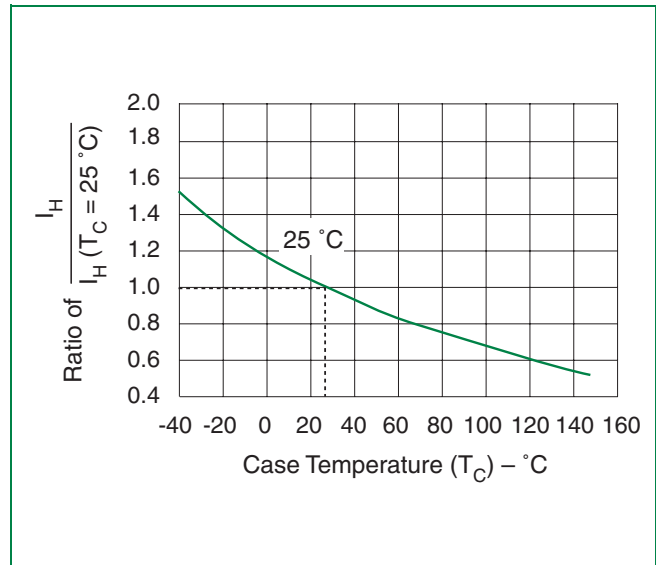
V-I Characteristics



$t_r \times t_d$ Pulse Waveform



Normalized V_S Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature