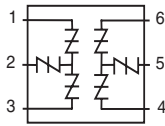


Multiport Balanced *SIDACtor*[®] Device



This six-pin SMT package offers a guaranteed balanced protection, based on a Littelfuse patent (US Patent 4,905,119). The 'Y' configuration offers identical metallic and longitudinal protection all in one package. *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} Volt | V _S Volts | V _T Volts | I _{DRM} μAmps | I _S mAmps | I _T Amps | I _H mAmps |
|---------------|------------------------|----------------------|-----------------------|----------------------|----------------------|------------------------|----------------------|---------------------|----------------------|
| | Pins 1-2, 2-3, 1-3 | | Pins 4-5, 5-6, 4-6 | | | | | | |
| P1556U_L | 130 | 180 | 130 | 180 | 8 | 5 | 800 | 2.2 | 150 |
| P1806U_L | 150 | 210 | 150 | 210 | 8 | 5 | 800 | 2.2 | 150 |
| P2106U_L | 170 | 250 | 170 | 250 | 8 | 5 | 800 | 2.2 | 150 |
| P2356U_L | 200 | 270 | 200 | 270 | 8 | 5 | 800 | 2.2 | 150 |
| P2706U_L | 230 | 300 | 230 | 300 | 8 | 5 | 800 | 2.2 | 150 |
| P3206U_L | 270 | 350 | 270 | 350 | 8 | 5 | 800 | 2.2 | 150 |
| P3406U_L | 300 | 400 | 300 | 400 | 8 | 5 | 800 | 2.2 | 150 |
| P5106U_L | 420 | 600 | 420 | 600 | 8 | 5 | 800 | 2.2 | 150 |

| Part Number * | V _{DRM} Volts | V _S Volts | V _{DRM} Volt | V _S Volts | V _T Volts | I _{DRM} μAmps | I _S mAmps | I _T Amps | I _H mAmps |
|---------------|-------------------------|----------------------|-----------------------|----------------------|----------------------|------------------------|----------------------|---------------------|----------------------|
| | Pins 1-2, 2-3, 4-5, 5-6 | | Pins 4-6, 1-3 | | | | | | |
| A2106U_6L | 170 | 250 | 50 | 80 | 3.5 | 5 | 800 | 2.2 | 120 |
| A5030U_6L | 400 | 550 | 270 | 340 | 3.5 | 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}.
- V_S is measured at 100 V/μs.
- Special voltage (V_S and V_{DRM}) and holding current (I_H) requirements are available upon request.
- Device is designed to meet balance requirements of GTS 8700 and GR 974.

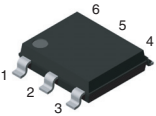
Surge Ratings in Amps

| Series | I _{PP} | | | | | | | | | I _{TSM} 50 / 60 Hz | di/dt |
|--------|-----------------|---------|-----------|-----------|-----------|----------|-----------|------------|-----------|--------------------------------|---------|
| | 0.2x310 * | 2x10 * | 8x20 * | 10x160 * | 10x560 * | 5x320 * | 10x360 * | 10x1000 * | 5x310 * | | |
| | 0.5x700 ** | 2x10 ** | 1.2x50 ** | 10x160 ** | 10x560 ** | 9x720 ** | 10x360 ** | 10x1000 ** | 10x700 ** | | |
| | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps/μs |
| 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

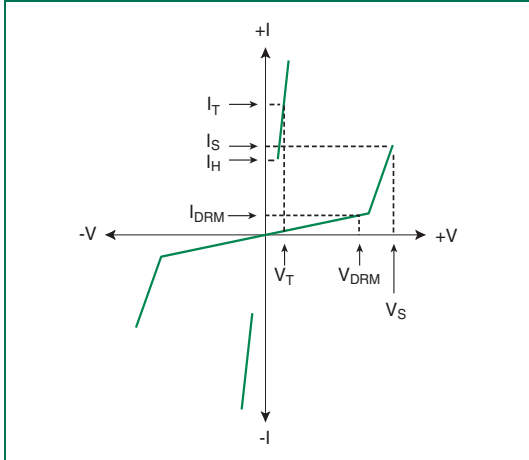
Thermal Considerations

| Package | Symbol | Parameter | Value | Unit |
|---|------------------|---|-------------|------|
|  | T _J | Operating Junction Temperature Range | -40 to +125 | °C |
| | T _S | Storage Temperature Range | -65 to +150 | °C |
| | R _{θJA} | Thermal Resistance: Junction to Ambient | 60 | °C/W |

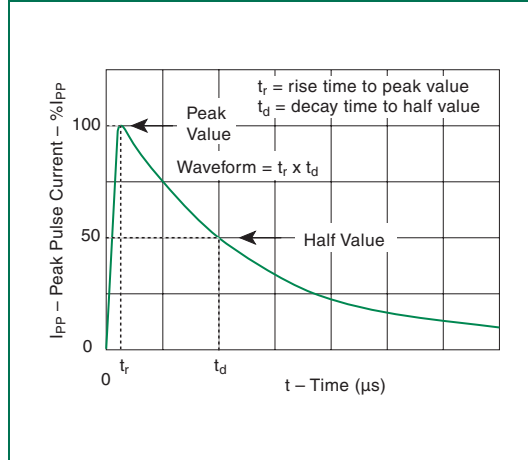
Capacitance Values

| 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 |
| P1556UAL | 10 | 30 | 10 | 45 |
| P1556UBL | 15 | 60 | 25 | 95 |
| P1556UCL | 20 | 60 | 30 | 55 |
| P1806UAL | 10 | 55 | 20 | 85 |
| P1806UBL | 15 | 55 | 25 | 85 |
| P1806UCL | 15 | 55 | 30 | 85 |
| P2106UAL | 15 | 55 | 15 | 85 |
| P2106UBL | 20 | 55 | 20 | 85 |
| P2106UCL | 15 | 55 | 30 | 85 |
| P2356UAL | 15 | 50 | 15 | 75 |
| P2356UBL | 15 | 50 | 20 | 75 |
| P2356UCL | 15 | 50 | 25 | 75 |
| P2706UAL | 10 | 50 | 15 | 75 |
| P2706UBL | 10 | 50 | 20 | 75 |
| P2706UCL | 15 | 50 | 25 | 75 |
| P3206UAL | 10 | 45 | 15 | 70 |
| P3206UBL | 10 | 45 | 20 | 70 |
| P3206UCL | 25 | 45 | 45 | 70 |
| P3406UAL | 10 | 45 | 15 | 65 |
| P3406UBL | 10 | 45 | 15 | 65 |
| P3406UCL | 15 | 45 | 20 | 65 |
| P5106UAL | 10 | 45 | 15 | 35 |
| P5106UBL | 10 | 45 | 15 | 35 |
| P5106UCL | 30 | 45 | 25 | 40 |
| A2106UA6L | 10 | 30 | 20 | 60 |
| A2106UB6L | 10 | 30 | 20 | 60 |
| A2106UC6L | 10 | 45 | 20 | 70 |
| A5030UA6L | 10 | 45 | 15 | 35 |
| A5030UB6L | 10 | 45 | 15 | 35 |
| A5030UC6L | 20 | 35 | 25 | 40 |

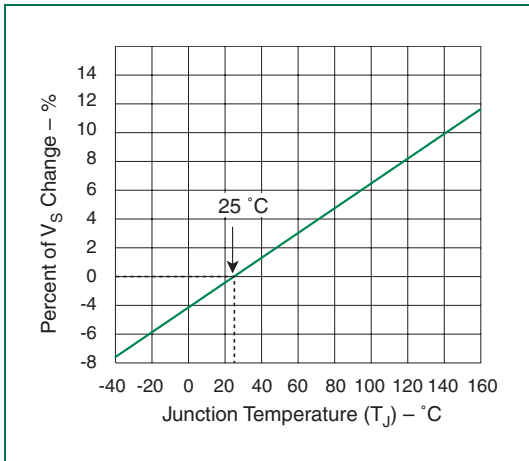
 Note: Off-state capacitance (C_O) is measured at 1 MHz with a 2 V bias.



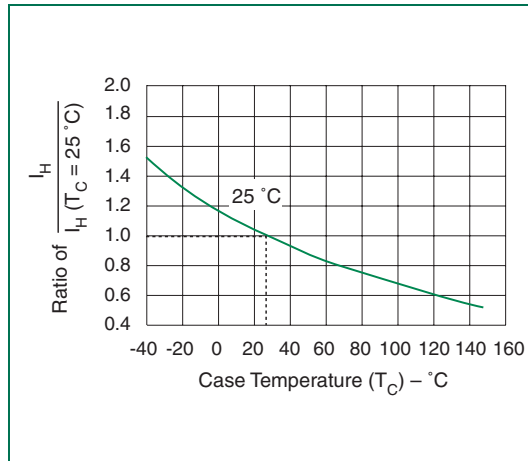
V-I Characteristics



$t_r \times t_d$ Pulse Waveform



Normalized V_S Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature