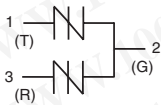


Two-chip *SIDACtor*[®] Device



The two-chip *SIDACtor* design provides a through-hole technology protection solution. It is intended for telecom applications that do not require a balanced solution. For primary protection applications, devices with higher holding current and integrated failsafe options are available.

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).

SIDACtor Devices

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 | | Pins 1-3 | | | | | | |
| P0602A_L | 25 | 40 | 50 | 80 | 4 | 5 | 800 | 2.2 | 50 |
| P1402A_L | 58 | 77 | 116 | 154 | 4 | 5 | 800 | 2.2 | 150 |
| P1602A_L | 65 | 95 | 130 | 190 | 4 | 5 | 800 | 2.2 | 150 |
| P2202A_L | 90 | 130 | 180 | 260 | 4 | 5 | 800 | 2.2 | 150 |
| P2702A_L | 120 | 160 | 240 | 320 | 4 | 5 | 800 | 2.2 | 150 |
| P3002A_L | 140 | 180 | 280 | 360 | 4 | 5 | 800 | 2.2 | 150 |
| P3602A_L | 170 | 220 | 340 | 440 | 4 | 5 | 800 | 2.2 | 150 |
| P4202A_L | 190 | 250 | 380 | 500 | 4 | 5 | 800 | 2.2 | 150 |
| P4802A_L | 220 | 300 | 440 | 600 | 4 | 5 | 800 | 2.2 | 150 |
| P6002A_L | 275 | 350 | 550 | 700 | 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 "AA", "AB", and "AC" 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.

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 |

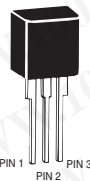
* Current waveform in μs

** Voltage waveform in μs



Two-chip SIDACtor® Device

Thermal Considerations

| Package | Symbol | Parameter | Value | Unit |
|--|------------------|---|-------------|------|
| Modified TO-220  | 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 | 50 | °C/W |

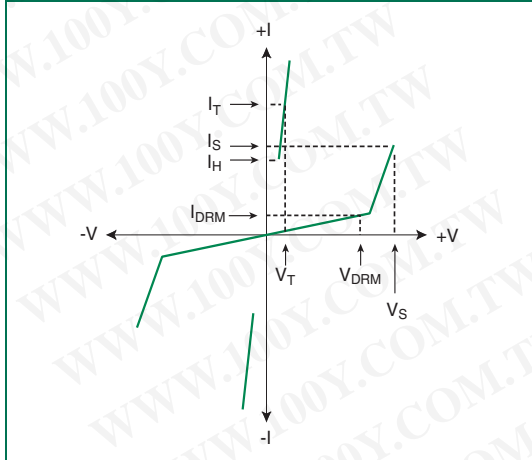
Capacitance Values

| Part Number | pF Pin 1-2 / 3-2 Tip-Ground, Ring-Ground | | pF Pin 1-3 Tip-Ring | |
|-------------|--|-----|---------------------------|-----|
| | MIN | MAX | MIN | MAX |
| P0602AAL | 15 | 145 | 10 | 90 |
| P0602ABL | 15 | 250 | 10 | 145 |
| P0602ACL | 25 | 250 | 10 | 145 |
| P1402AAL | 40 | 60 | 20 | 35 |
| P1402ABL | 40 | 155 | 20 | 90 |
| P1402ACL | 55 | 155 | 30 | 90 |
| P1602AAL | 35 | 60 | 20 | 35 |
| P1602ABL | 35 | 145 | 20 | 85 |
| P1602ACL | 45 | 145 | 25 | 85 |
| P2202AAL | 30 | 50 | 15 | 30 |
| P2202ABL | 30 | 115 | 15 | 65 |
| P2202ACL | 45 | 115 | 25 | 65 |
| P2702AAL | 25 | 45 | 15 | 25 |
| P2702ABL | 25 | 105 | 15 | 60 |
| P2702ACL | 40 | 105 | 20 | 60 |
| P3002AAL | 25 | 40 | 15 | 25 |
| P3002ABL | 25 | 95 | 15 | 55 |
| P3002ACL | 35 | 95 | 20 | 55 |
| P3602AAL | 25 | 35 | 10 | 20 |
| P3602ABL | 25 | 90 | 10 | 50 |
| P3602ACL | 35 | 90 | 15 | 50 |
| P4202AAL | 25 | 35 | 10 | 20 |
| P4202ABL | 25 | 85 | 10 | 50 |
| P4202ACL | 30 | 85 | 15 | 50 |
| P4802AAL | 20 | 35 | 10 | 20 |
| P4802ABL | 20 | 85 | 10 | 50 |
| P4802ACL | 30 | 85 | 15 | 50 |
| P6002AAL | 20 | 35 | 10 | 20 |
| P6002ABL | 20 | 80 | 10 | 45 |
| P6002ACL | 30 | 80 | 15 | 45 |

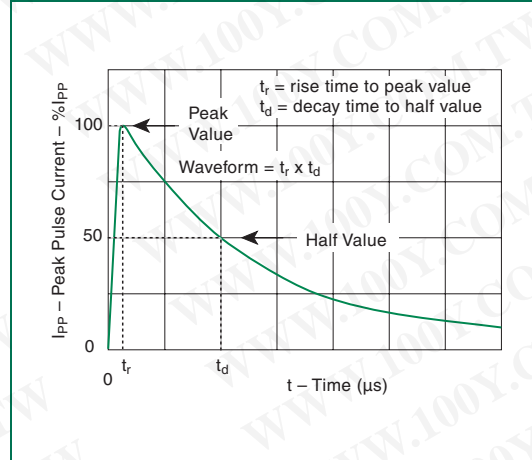
Note: Off-state capacitance (C₀) is measured at 1 MHz with a 2 V bias.



Two-chip SIDACTor® Device

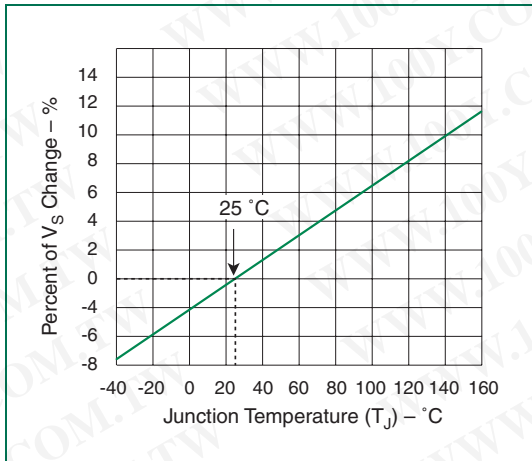


V-I Characteristics

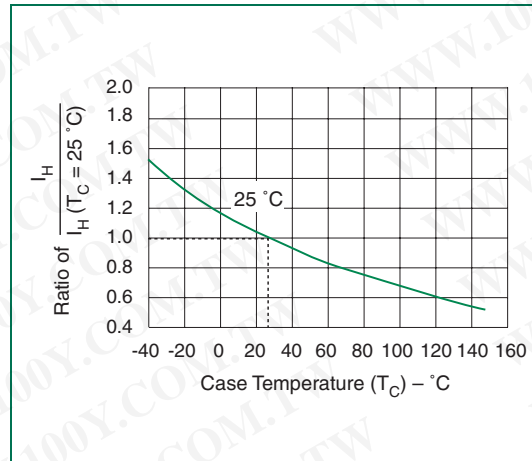


$t_r \times t_d$ Pulse Waveform

SIDACTor Devices



Normalized V_S Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature