imall

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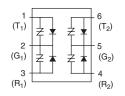
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Multiport SLIC Protector

RoHS



This multiport line protector is designed as a single-package solution for protecting multiple twisted pair from overvoltage conditions. Based on a six-pin SOIC package, it is equivalent to four discrete DO-214AA packages. Available in surge current ratings up to 500 A for a $2x10 \ \mu$ s event, the multiport line protector is ideal for densely populated line cards that cannot afford PCB inefficiencies or the use of series power resistors.

For details of specific design criteria, see Figure 6.44, Figure 6.45, and Figure 6.46 in Section 6, "Reference Designs" of this *Telecom Design Guide*.

Electrical Parameters

| | V _{DRM} Volts | V _S Volts | | | | | | |
|------------------|---------------------------|-------------------------|-------------------------|-------------------------|---------------------------|-------------------------|------------------------|-------------------------|
| Part Number * | 1-2, | ns 2-3, 5-6 | V _T Volts | V _F Volts | I _{DRM} μAmps | l _S mAmps | I _T Amps | l _H mAmps |
| P0641U_L | 58 | 77 | 4 | 5 | 5 | 800 | 2.2 | 120 |
| P0721U_L | 65 | 88 | 4 | 5 | 5 | 800 | 2.2 | 120 |
| P0901U_L | 75 | 98 | 4 | 5 | 5 | 800 | 2.2 | 120 |
| P1101U_L | 95 | 130 | 4 | 5 | 5 | 800 | 2.2 | 120 |
| P1301U_L | 120 | 160 | 4 | 5 | 5 | 800 | 2.2 | 120 |
| P1701U_L | 160 | 200 | 4 | 5 | 5 | 800 | 2.2 | 120 |

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

General Notes:

• All measurements are made at an ambient temperature of 25 °C. IPP 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.

V_{DRM} is measured at I_{DRM.}

V_S and V_F are measured at 100 V/µs.

• Special voltage (V_S and V_{DRM}) and holding current (I_H) requirements are available upon request.

• Parallel capacitive loads may affect electrical parameters.

Surge Ratings in Amps

| | lpp | | | | | | | | | | |
|--------|-------------------------|-------------------|---------------------|-----------------------|-----------------------|---------------------|-----------------------|-------------------------|----------------------|--------------------------------|---------|
| Series | 0.2x310 * 0.5x700 ** | 2x10 * 2x10 ** | 8x20 * 1.2x50 ** | 10x160 * 10x160 ** | 10x560 * 10x560 ** | 5x320 * 9x720 ** | 10x360 * 10x360 ** | 10x1000 * 10x1000 ** | 5x310 * 10x700 ** | I _{TSM} 50 / 60 Hz | di/dt |
| | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps/µs |
| А | 20 | 150 | 150 | 90 | 50 | 75 | 75 | 45 | 75 | 20 | 500 |
| С | 50 | 500 | 400 | 200 | 150 | 200 | 175 | 100 | 200 | 50 | 500 |

* Current waveform in µs

** Voltage waveform in µs

Littelfuse

Multiport SLIC Protector

Thermal Considerations

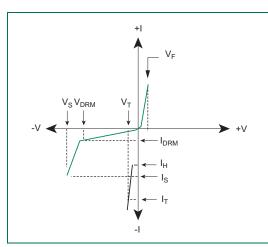
| Package | Symbol | Parameter | Value | Unit |
|--------------------------|----------------|---|-------------|------|
| Modified MS-013 | TJ | Operating Junction Temperature Range | -40 to +150 | °C |
| 6 5 | Τ _S | Storage Temperature Range | -65 to +150 | °C |
| 1 2 3 4 R _{θJA} | | Thermal Resistance: Junction to Ambient | 60 | °C/W |

Capacitance Values

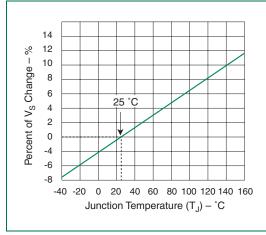
| | Pin 1-2 / 3- | F 2 (4-5 / 6-5) Ring-Ground | pF Pin 1-3 (4-6) Tip-Ring | | |
|-------------|--------------|-----------------------------------|---------------------------------|-----|--|
| Part Number | MIN | MAX | MIN | MAX | |
| P0641UAL | 50 | 200 | 20 | 105 | |
| P0641UCL | 65 | 200 | 20 | 105 | |
| P0721UAL | 45 | 190 | 20 | 105 | |
| P0721UCL | 60 | 190 | 20 | 105 | |
| P0901UAL | 45 | 180 | 20 | 105 | |
| P0901UCL | 60 | 180 | 20 | 105 | |
| P1101UAL | 40 | 160 | 15 | 105 | |
| P1101UCL | 50 | 160 | 15 | 105 | |
| P1301UAL | 40 | 160 | 15 | 105 | |
| P1301UCL | 50 | 160 | 15 | 105 | |
| P1701UAL | 30 | 125 | 15 | 80 | |
| P1701UCL | 40 | 125 | 15 | 80 | |

Note: Off-state capacitance (C_0) is measured at 1 MHz with a 2 V bias.

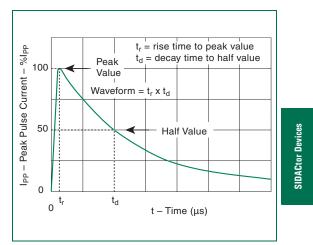


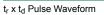


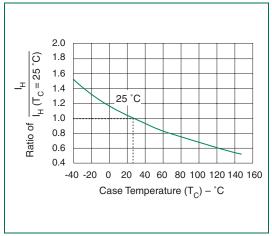
V-I Characteristics



Normalized V_S Change versus Junction Temperature







Normalized DC Holding Current versus Case Temperature