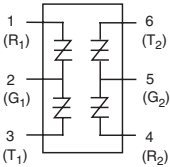


# Multiport *SIDACTor*<sup>®</sup> Device

RoHS

 Littelfuse<sup>®</sup>



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 <sub>DRM</sub> Volts	V <sub>S</sub> Volts	V <sub>DRM</sub> Volts	V <sub>S</sub> Volts	V <sub>T</sub> Volts	I <sub>DRM</sub> μAmps	I <sub>S</sub> mAmps	I <sub>T</sub> Amps	I <sub>H</sub> 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:

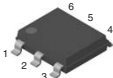
- All measurements are made at an ambient temperature of 25 °C. I<sub>PP</sub> applies to -40 °C through +85 °C temperature range.
- I<sub>PP</sub> is a repetitive surge rating and is guaranteed for the life of the product.
- Listed *SIDACTor* devices are bi-directional. All electrical parameters and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

## Surge Ratings in Amps

Series	I <sub>PP</sub>									I <sub>TSM</sub> 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

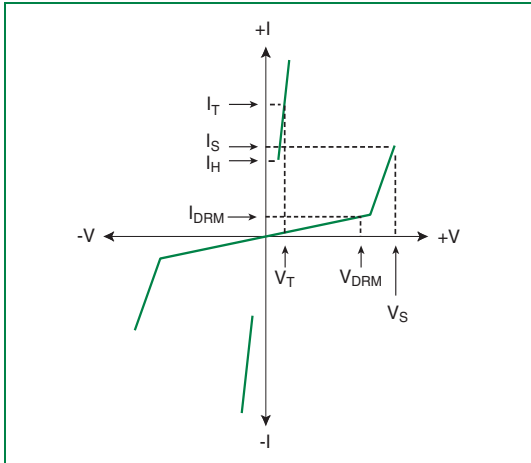
**Thermal Considerations**

Package	Symbol	Parameter	Value	Unit
Modified MS-013 	T <sub>J</sub>	Operating Junction Temperature Range	-40 to +150	°C
	T <sub>S</sub>	Storage Temperature Range	-65 to +150	°C
	R <sub>θJA</sub>	Thermal Resistance: Junction to Ambient	60	°C/W

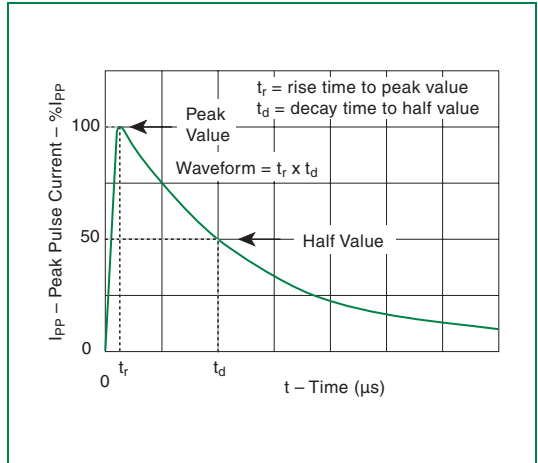
**Capacitance Values**

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

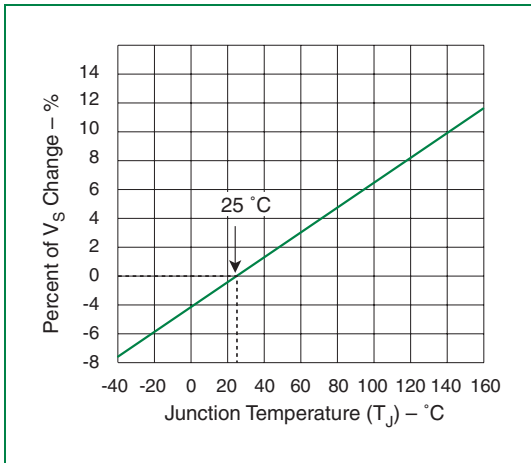
 Note: Off-state capacitance (C<sub>0</sub>) is measured at 1 MHz with a 2 V bias.



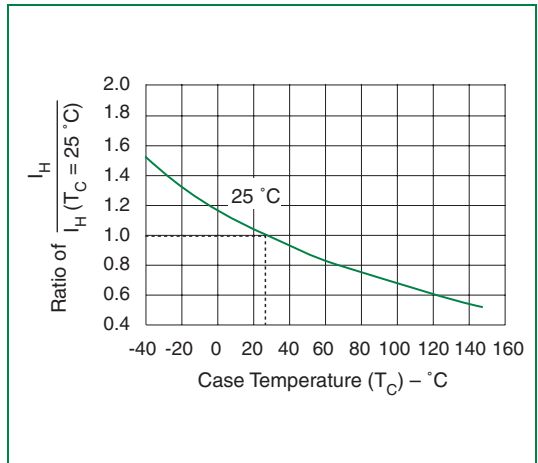
V-I Characteristics



$t_r \times t_d$  Pulse Waveform



Normalized  $V_S$  Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature

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[P1104UCRP](#) [P1504UCRP](#) [P0304UCRP](#) [P0084UARP](#) [P0084UATP](#) [P1304UCMCRP](#) [P1304UCMCTP](#)  
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[P2604UBRP](#) [P2604UBTP](#) [P3504UBTP](#) [P0304UATP](#) [P1504UATP](#) [P1104UATP](#) [P1304UATP](#) [P0304UARP](#)  
[P1304UARP](#) [P1504UARP](#) [P1104UARP](#) [P1804UALRP](#) [P1104UALRP](#) [P1504UALRP](#)