# **High Surge Current (D-rated) SIDACtor Device**



DO-214AA *SIDACtor* solid state protection devices with a D surge rating protect telecommunications equipment such as modems, line cards, fax machines, and other CPE.

These *SIDACtor* devices withstand simultaneous surges incurred in GR 1089 lightning tests. (See "First Level Lightning Surge Test" on page 4-5.) Surge ratings are twice that of a device with a C surge rating. This allows a discrete surface mount version of Littelfuse's patented "Y" configuration. (US Patent 4,905,119)

*SIDACtor* devices are used to enable equipment to meet 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>T</sub> Volts	I <sub>DRM</sub> μAmps	I <sub>S</sub> mAmps	I <sub>T</sub> Amps ***	I <sub>H</sub> mAmps	C <sub>O</sub> pF
P0080SD **	6	25	4	5	800	2.2	50	200
P0300SD **	25	40	4	5	800	2.2	50	220
P0640SD **	58	77	4	5	800	2.2	50	100
P0720SD **	65	88	4	5	800	2.2	50	100
P0900SD **	75	98	4	5	800	2.2	50	100
P1100SD	90	130	4	5	800	2.2	50	80
P1300SD	120	160	4	5	800	2.2	50	80
P1500SD	140	180	4	5	800	2.2	50	80
P1800SD	170	220	4	5	800	2.2	50	60
P2300SD	190	260	4	5	800	2.2	50	60
P2600SD	220	300	4	5	800	2.2	50	60
P3100SD	275	350	4	5	800	2.2	50	60
P3500SD	320	400	4	5	800	2.2	50	60

<sup>\*</sup> For 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.
- IPP 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>.
- V<sub>S</sub> is measured at 100 V/µs.
- Special voltage ( $V_S$  and  $V_{DRM}$ ) and holding current ( $I_H$ ) requirements are available upon request.
- Off-state capacitance ( $C_{\text{O}}$ ) is measured at 1 MHz with a 2 V bias and is a typical value.

# **Surge Ratings**

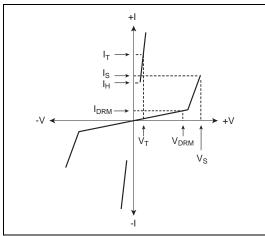
	Series	l <sub>PP</sub> 2x10 μs Amps	l <sub>PP</sub> 8x20 μs Amps	I <sub>PP</sub> 10x160 µs Amps	I <sub>PP</sub> 10x560 µs Amps	I <sub>PP</sub> 10x1000 μs Amps	I <sub>TSM</sub> 60 Hz Amps	di/dt Amps/µs
I	D	1000	800	400	300	200	50	1000

<sup>\*\*</sup> Contact factory for release date.

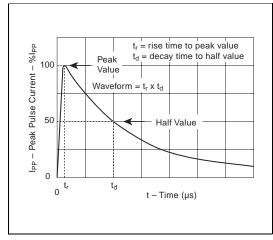
<sup>\*\*\*</sup> The 2.2 A version cannot be used to meet 4.4 A requirements.

## **Thermal Considerations**

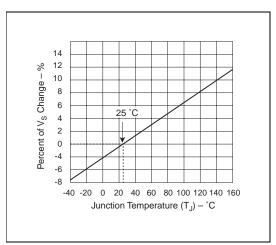
Package	Symbol	Parameter	Value	Unit
DO-214AA	TJ	Operating Junction Temperature Range	-40 to +150	°C
	Ts	Storage Temperature Range	-65 to +150	°C
	$R_{ hetaJA}$	Thermal Resistance: Junction to Ambient	90	°C/W



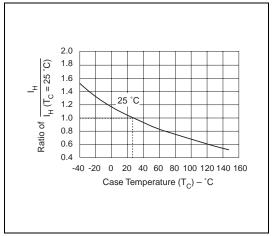
V-I Characteristics



 $t_{\rm r} \ x \ t_{\rm d}$  Pulse Wave-form



Normalized V<sub>S</sub> Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature