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

RoHS

Littelfuse

DO-214AA *SIDACtor* solid state protection devices with a D surge rating protect telecommunications equipment located in hostile environments. These *SIDACtor* devices withstand the simultaneous surges outlined in GR 1089 lightning tests. (See “First Level Lightning Surge Test” on page 7-5.) Surge ratings are twice that of a device with a C surge rating. This provides a method for building an SMT version of the balanced ‘Y’ configuration. (US Patent 4,905,119) *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_T Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps **	I_H mAmps
P0080SDL	6	25	4	5	800	2	50
P0640SDL	58	77	4	5	800	2.2	50
P0720SDL	65	88	4	5	800	2.2	50
P0900SDL	75	98	4	5	800	2.2	50
P1100SDL	90	130	4	5	800	2.2	50
P1300SDL	120	160	4	5	800	2.2	50
P1500SDL	140	180	4	5	800	2.2	50
P1800SDL	170	220	4	5	800	2.2	50
P2300SDL	190	260	4	5	800	2.2	50
P2600SDL	220	300	4	5	800	2.2	50
P3100SDL	275	350	4	5	800	2.2	50
P3500SDL	320	400	4	5	800	2.2	50

* **“L” in part number indicates RoHS compliance.** For non-RoHS compliant device, delete “L” from part number. For surge ratings, see table below.

** The 2.2 A version cannot be used to meet 4.4 A requirements.

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}	di/dt
	0.2x310 * 0.5x700 **	2x10 * 2x10 **	8x20 * 1.2x50 **	10x160 * 10x160 **	10x560 * 10x560 **	5x320 * 9x720 **	10x360 * 10x360 **	10x1000 * 10x1000 **	5x310 * 10x700 **	50 / 60 Hz	
	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps/µs
D	—	—	1000	—	—	—	—	200	—	50	1000

* Current waveform in µs

** Voltage waveform in µs

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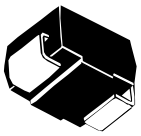
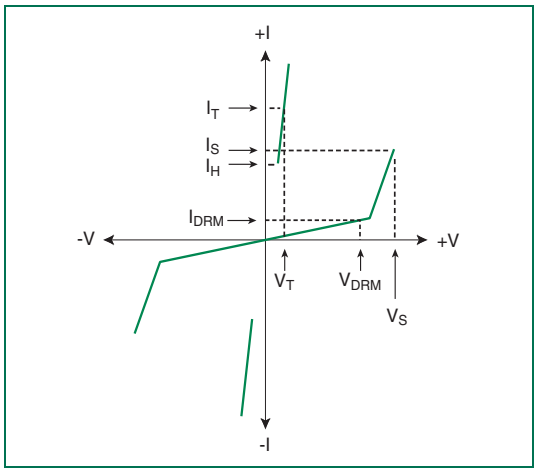
Thermal Considerations

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

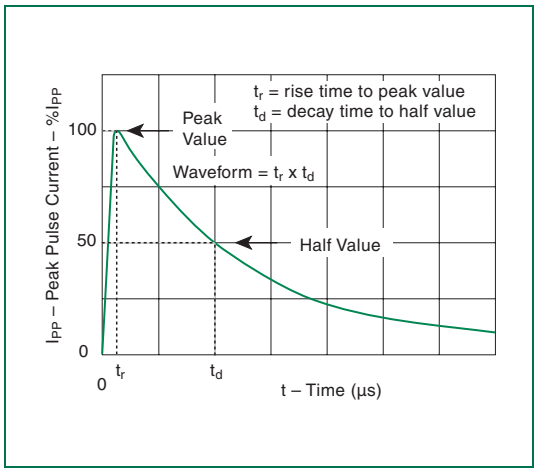
Capacitance Values

Part Number	pF	
	MIN	MAX
P0080SDL	50	110
P0640SDL	100	160
P0720SDL	100	150
P0900SDL	95	140
P1100SDL	75	115
P1300SDL	65	100
P1500SDL	60	90
P1800SDL	50	90
P2300SDL	50	80
P2600SDL	50	75
P3100SDL	45	70
P3500SDL	45	65

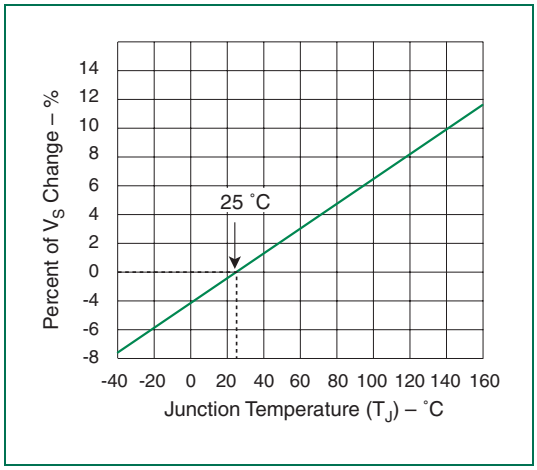
Note: Off-state capacitance (C_O) is measured at 1 MHz with a 2 V bias.



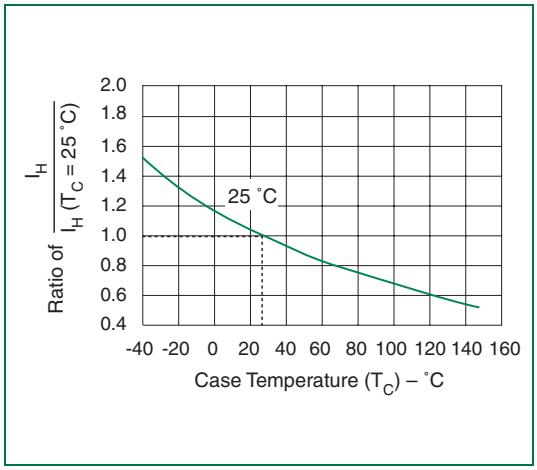
V-I Characteristics



t_r x t_d Pulse Waveform



Normalized V_S Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature