High Surge Current (D-rated) SIDACtor® Device

RoHS

1 Littelfuse

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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	Ι _{DRM} μAmps	I _S mAmps	I _T Amps **	l _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. 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_{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

	ірр										
ies	0.2x310 *	2x10 *	8x20 *					10x1000 *		ITSM	
Sei	0.5x700 **	2x10 **	1.2x50 **	10x160 **	10x560 **	9x720 **	10x360 **	10x1000 **	10x700 **	50 / 60 Hz	di/dt
	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	TJ	Operating Junction Temperature Range	-40 to +150	°C
	Ts	Storage Temperature Range	-65 to +150	°C
	R _{0JA}	Thermal Resistance: Junction to Ambient	90	°C/W

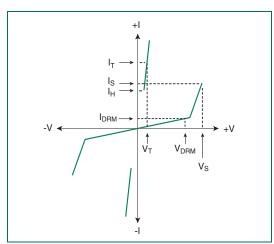
Capacitance Values

	pF		
Part Number	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	

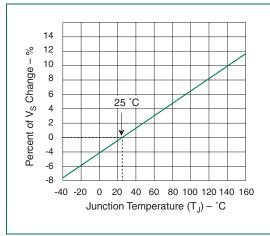
Note: Off-state capacitance (C_0) is measured at 1 MHz with a 2 V bias.

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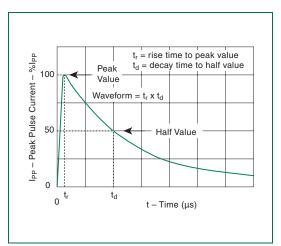
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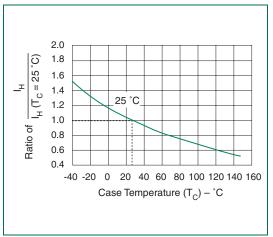
V-I Characteristics



Normalized V_S Change versus Junction Temperature







Normalized DC Holding Current versus Case Temperature