

# CATV Line Amplifiers/Power Inserters 5 kA *SIDACTor*<sup>®</sup> Device



This *SIDACTor* device is a 5000 A solid state protection device offered in a non-isolated TO-218 package. It protects equipment located in the severe surge environment of CATV (Community Antenna TV) systems and antenna locations.

## 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
P1500MEL	140	180	4	5	800	2.2/25	50
P1900MEL	140	220	4	5	800	2.2/25	50
P2300MEL	180	260	4	5	800	2.2/25	50

SIDACTor Devices

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

\*\* I<sub>T</sub> is a free air rating; heat sink I<sub>T</sub> rating is 25 A.

### 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>.
- V<sub>S</sub> is measured at 100 V/μs.
- Special voltage (V<sub>S</sub> and V<sub>DRM</sub>) and holding current (I<sub>H</sub>) requirements are available upon request.

## Surge Ratings in Amps

Series	I <sub>PP</sub>		I <sub>TSM</sub> 50 / 60 Hz	di/dt
	8x20 *	1.2x50 **		
	Amps		Amps	Amps/μs
E	5000		400	630

\* Current waveform in μs

\*\* Voltage waveform in μs

**Thermal Conditions**

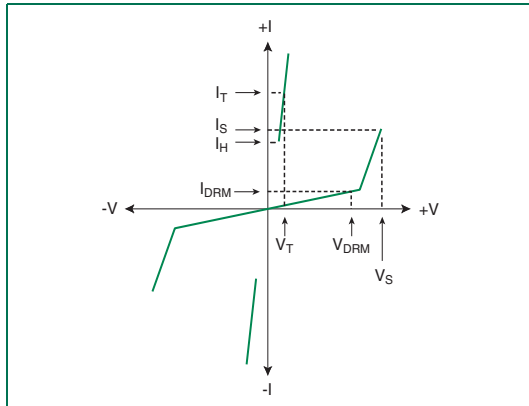
Package	Symbol	Parameter	Value	Unit
TO-218 	$T_J$	Operating Junction Temperature Range	-40 to +150	°C
	$T_S$	Storage Temperature Range	-65 to +150	°C
	$T_C$	Maximum Case Temperature	100	°C
	$R_{\theta JC}$	Thermal Resistance: Junction to Case	1.7	°C/W
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	56	°C/W

$R_{\theta JC}$  rating assumes the use of a heat sink and on state mode for extended time at 25 A, with average power dissipation of 29.125 W.

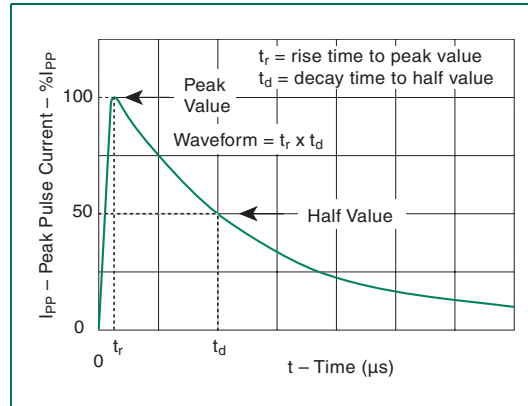
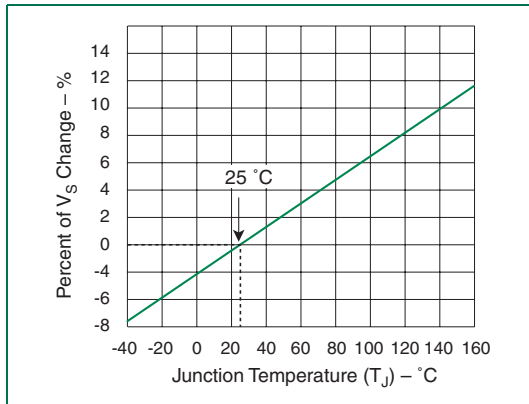
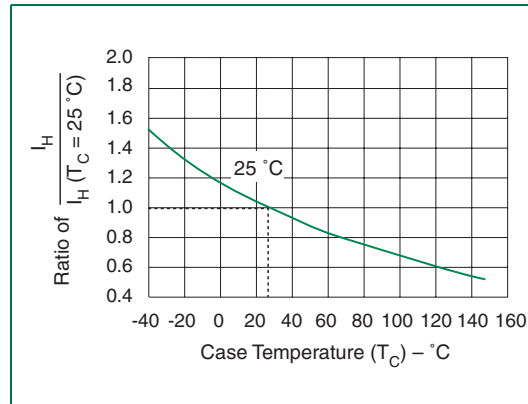
**Capacitance Values**

Part Number	pF	
	MIN	MAX
P1500MEL	400	650
P1900MEL	400	650
P2300MEL	350	600

Note: Off-state capacitance ( $C_0$ ) 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