

## CATV Line Amplifiers/Power Inserters NE SIDACtor Device



This SIDACtor device is a 3000 A solid state protection device offered in a non-isolated TO-263 (D<sup>2</sup>) package. It protects equipment located in the severe surge environment of CATV (Community Antenna TV) applications.

In CATV line amplifiers and power inserters, this device can replace the gas tubes traditionally used for station protection because SIDACtor devices have much tighter voltage tolerances.

### Electrical Parameters

Part Number *	V <sub>DRM</sub> Volts	V <sub>S</sub> Volts	V <sub>T</sub> Volts	I <sub>DRM</sub> $\mu$ Amps	I <sub>S</sub> mAmps	I <sub>T</sub> Amps **	I <sub>H</sub> mAmps	C <sub>O</sub> pF
P1900NE	140	220	4	5	800	2.2/25	50	260

\* 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.

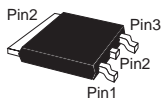
#### General Notes:

- 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/ $\mu$ s.
- Special voltage (V<sub>S</sub> and V<sub>DRM</sub>) and holding current (I<sub>H</sub>) requirements are available upon request.
- Off-state capacitance (C<sub>O</sub>) is measured at 1 MHz with a 2 V bias and is a typical value.

### Surge Ratings

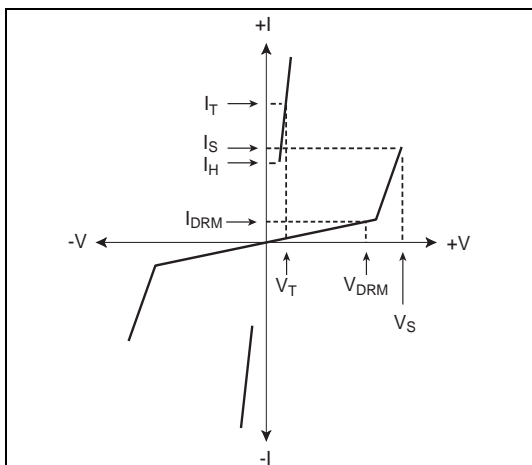
Series	I <sub>PP</sub> 8x20 $\mu$ s Amps	I <sub>TSM</sub> 60 Hz Amps	di/dt Amps/ $\mu$ s
E	3000	400	500

**Thermal Considerations**

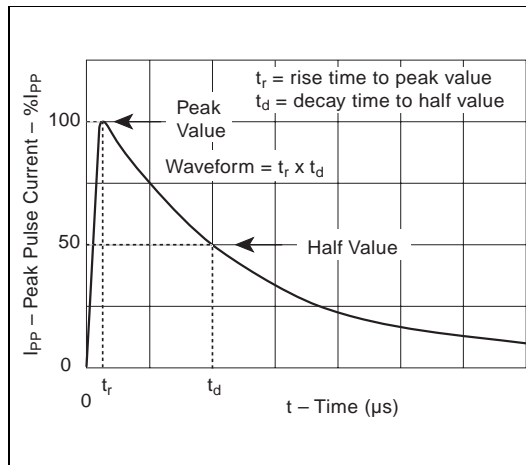
Package	Symbol	Parameter	Value	Unit
TO-263 D <sup>2</sup> PAK 	$T_J$	Operating Junction Temperature Range	-40 to +150	°C
	$T_S$	Storage Temperature Range	-65 to +150	°C
	$T_C$	Maximum Case Temperature	100	°C
	$R_{\theta JC}^*$	Thermal Resistance: Junction to Case	1.7	°C/W
	$R_{\theta JA}$	Thermal Resistance: 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.

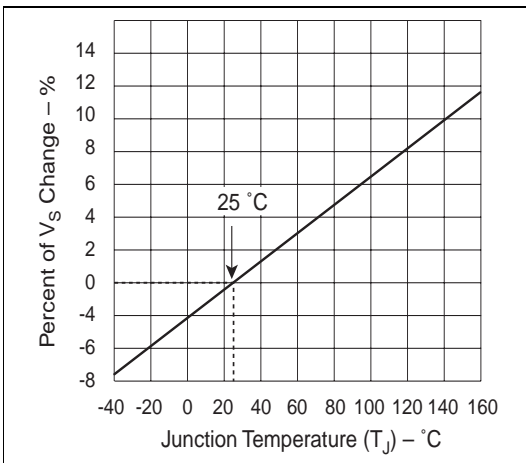
Data Sheets



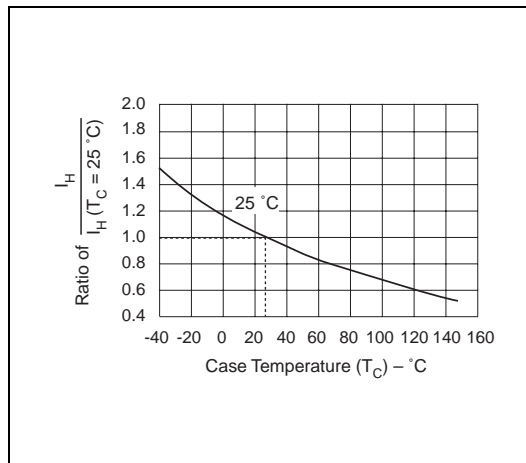
V-I Characteristics



$t_r \times t_d$  Pulse Wave-form



Normalized  $V_S$  Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature