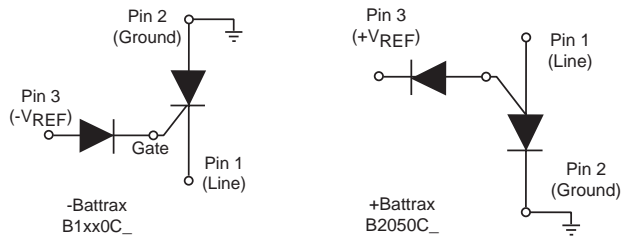


## Battrax SLIC Protector

This solid state protection device can be referenced to either a positive or negative voltage source. The B1xx0C\_ is for a  $-V_{REF}$  and the B2050C\_ is for a  $+V_{REF}$ . Designed using an SCR and a gate diode, the B1xx0C\_ Battrax begins to conduct at  $|-V_{REF}| + |-1.2 V|$  while the B2050C\_ Battrax begins to conduct at  $|+V_{REF}| + |1.2 V|$ .

For a diagram of a Battrax application, see Figure 3.38.



### Electrical Parameters

Part Number *	$V_{DRM}$ Volts	$V_S$ Volts	$V_T$ Volts	$I_{DRM}$ $\mu$ Amps	$I_{GT}$ mAmps	$I_T$ Amps	$I_H$ mAmps	$C_O$ pF
B1100C_	$ -V_{REF}  +  -1.2 V $	$ -V_{REF}  +  -10 V $	4	5	100	2.2	100	50
B1160C_	$ -V_{REF}  +  -1.2 V $	$ -V_{REF}  +  -10 V $	4	5	100	2.2	160	50
B1200C_	$ -V_{REF}  +  -1.2 V $	$ -V_{REF}  +  -10 V $	4	5	100	2.2	200	50
B2050C_	$ +V_{REF}  +  1.2 V $	$ +V_{REF}  +  10 V $	4	5	50	2.2	50	50

\* For individual "CA" and "CC" surge ratings, see table below.

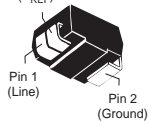
#### General Notes:

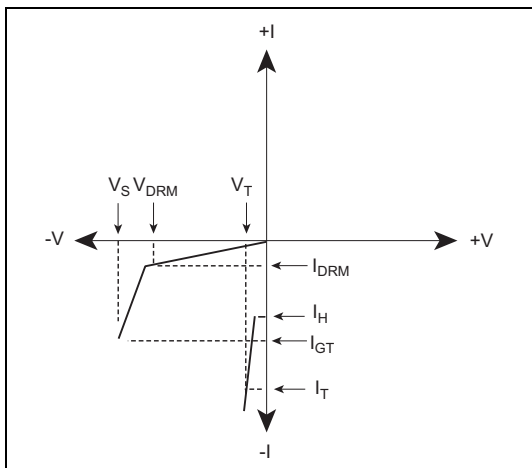
- All measurements are made at an ambient temperature of 25 °C.  $I_{PP}$  applies to -40 °C through +85 °C temperature range.
- $I_{PP}$  is a repetitive surge rating and is guaranteed for the life of the product.
- $I_{PP}$  ratings assume  $V_{REF} = \pm 48 V$ .
- $V_{DRM}$  is measured at  $I_{DRM}$ .
- $V_S$  is measured at 100 V/ $\mu$ s.
- Off-state capacitance ( $C_O$ ) is measured at 1 MHz with a 2 V bias and is a typical value. "CC" product is approximately 2x the listed value.
- Positive Battrax information is preliminary data.
- $V_{REF}$  maximum value for the negative Battrax is -200 V.
- $V_{REF}$  maximum value for the positive Battrax is 110 V.

### Surge Ratings

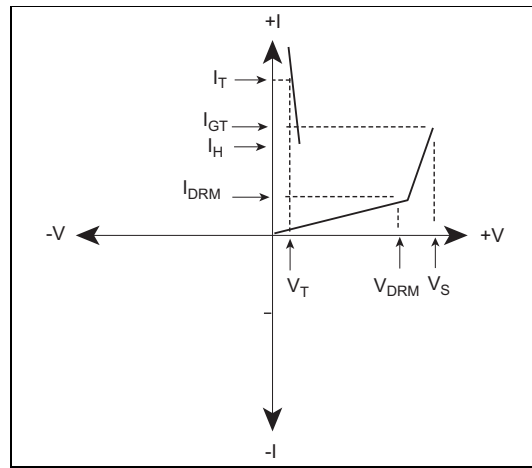
Series	$I_{PP}$ 2x10 $\mu$ s Amps	$I_{PP}$ 8x20 $\mu$ s Amps	$I_{PP}$ 10x160 $\mu$ s Amps	$I_{PP}$ 10x560 $\mu$ s Amps	$I_{PP}$ 10x1000 $\mu$ s Amps	$I_{TSM}$ 60 Hz Amps	$di/dt$ Amps/ $\mu$ s
A	150	150	90	60	50	20	500
C	500	400	200	150	100	50	500

Thermal Considerations

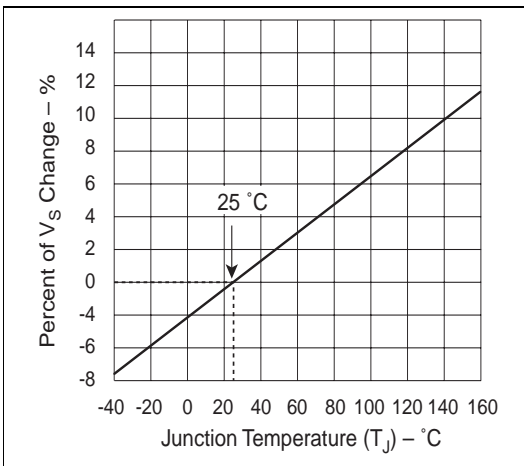
Package	Symbol	Parameter	Value	Unit
Modified DO-214AA 	$T_J$	Operating Junction Temperature Range	-40 to +150	$^{\circ}\text{C}$
	$T_S$	Storage Temperature Range	-65 to +150	$^{\circ}\text{C}$
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	85	$^{\circ}\text{C/W}$



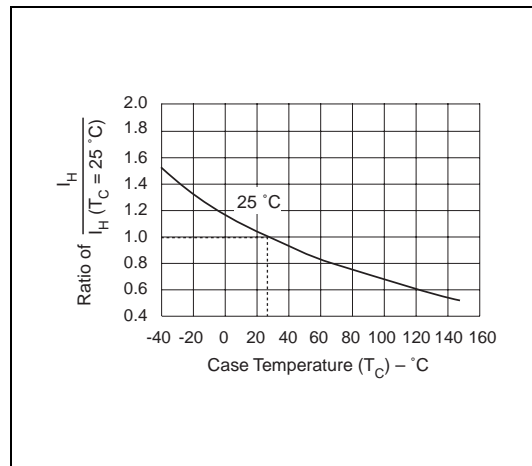
V-I Characteristics for Negative Battrax



V-I Characteristics for Positive Battrax



Normalized  $V_S$  Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature

Data Sheets