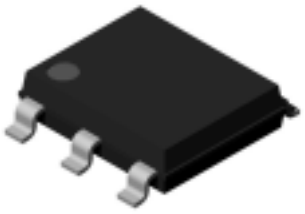
TECCOR® ELECTRONICS



6 Pin SMT

SIDACtor®

Solid State Overvoltage Protection

Preliminary
BATTRAX®
SLIC Protection

Dual Negative

Features

- Battery referenced transient voltage protection
- Clamping speed of nanoseconds
- Surge current rating up to 500A, 2x10µs
- Glass passivated junctions for superior reliability
- Utilizes patented ion implant technology for peerless performance

ISO 9001 TECCOR ELECTRONICS

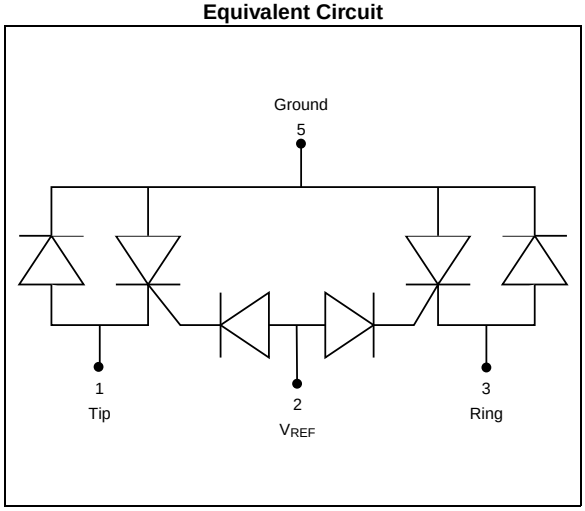
Description

Teccor's 6-pin Battrax® product is designed to offer engineers an integrated over-voltage protection solution for SLIC based linecards. Used in conjunction with Teccor's TeleLink® fuse, Teccor can provide a complete solution for GR1089 surge immunity and power cross requirements without the use of additional series power resistors. Such a solution not only reduces costs, but free's up valuable PCB real estate as well.

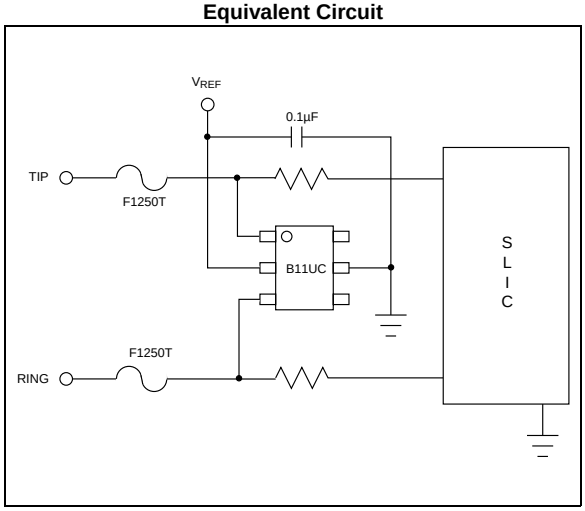
Construction and Operation

Teccor's 6-pin Battrax® devices are constructed using two SCR's, two gate diodes, and two steering diodes. Typically referenced to V_{BATT}, the gate diodes force the SCR's to conduct when a voltage that is more negative than V_{REF} is applied to the cathode (Pin 1 and 3) of the gate diode. During conduction, the SCR's appear as a low resistive path which allows all negative transients to be shorted to ground. All transients with a positive polarity are passed through the steering diodes to ground.

Equivalent Circuit



Equivalent Circuit



Electrical Specifications

Parameters	Description	Test Condtions	Values	
			Min	Max
V_{REF}	Operating Reference Voltage	V_{DC}	-10V	-200V
V_{KT}	Cathode Trigger Voltage	V_{REF} - V_K	-1V	-5V
V_{DRM}	Blocking Voltage	V_{DC}	V_{REF} - 1V	
V_S	Switching Voltage	100V/µs	V_{REF} - 10V	
V_T	On-State Voltage	I_T=1A	3V	
I_{DRM}	Leakage Current	V_S= -48V V_K= -45V	5µA	
I_{GT}	Gate Current	I_{REF} - I_K	50mA	
I_T	Maximum Continuous On-State Current	60Hz	1A	
I_H	Holding Current	B1101U_	100mA	
		B1161U_	160mA	
		B1201U_	200mA	
C_O	Off-State Current	1MHz V_K= -2V V_S= -48V	80pF	

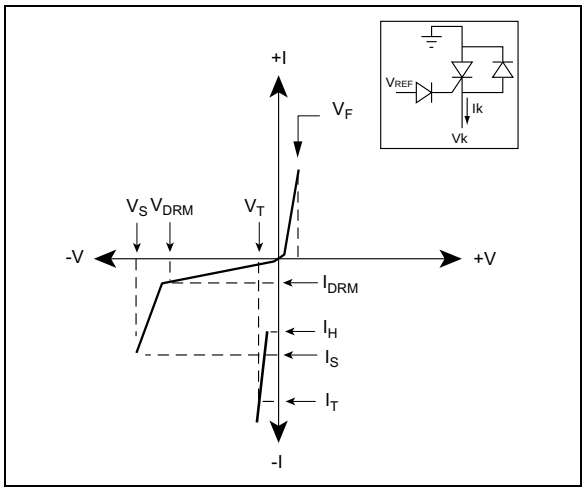
Note:
1. Thermal resistance: junction to ambient is 85°C/W

Surge Ratings

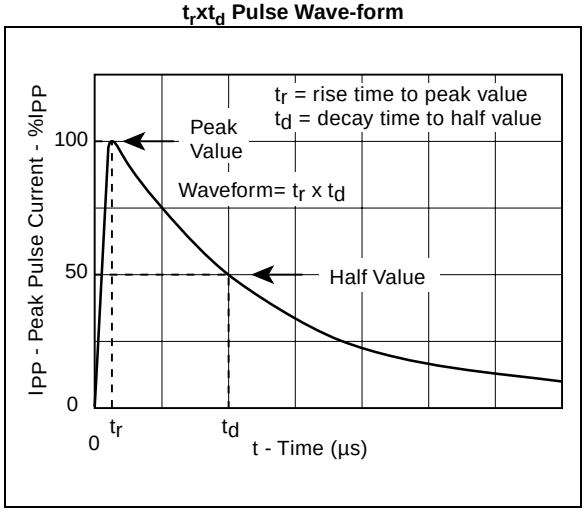
Series	I_{PP} 2x10µs Amps	I_{PP} 8x20µs Amps	I_{PP} 10x160µs Amps	I_{PP} 10x560µs Amps	I_{PP} 10x1000µs Amps	I_{TSM} 60Hz Amps	di/dt Amps/µs
A	200	150	100	60	50	20	500
B	250	250	150	100	80	30	500
C	500	400	200	150	100	60	500

Notes:
1. All measurements made at 25°C
2. Part qualified with V_{REF} = -48V
3. I_{PP} applies to -40°C through +85°C
4. I_{PP} is a repetitive surge and is guaranteed for the life of the product

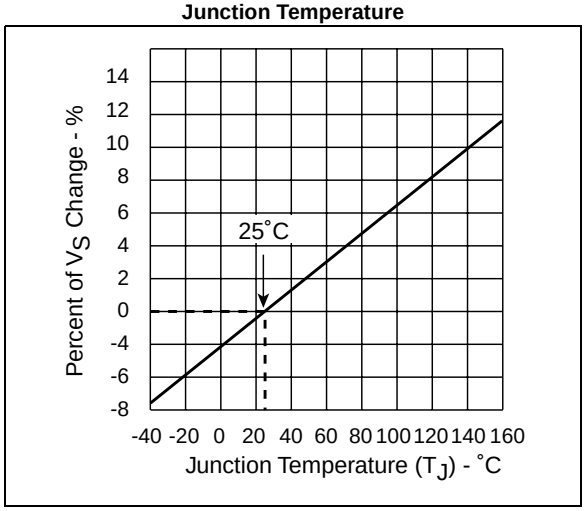
V-I Characteristics



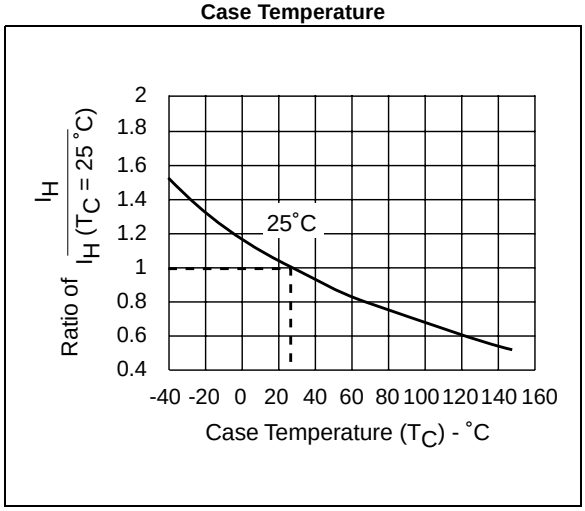
t_rxt_d Pulse Wave-form



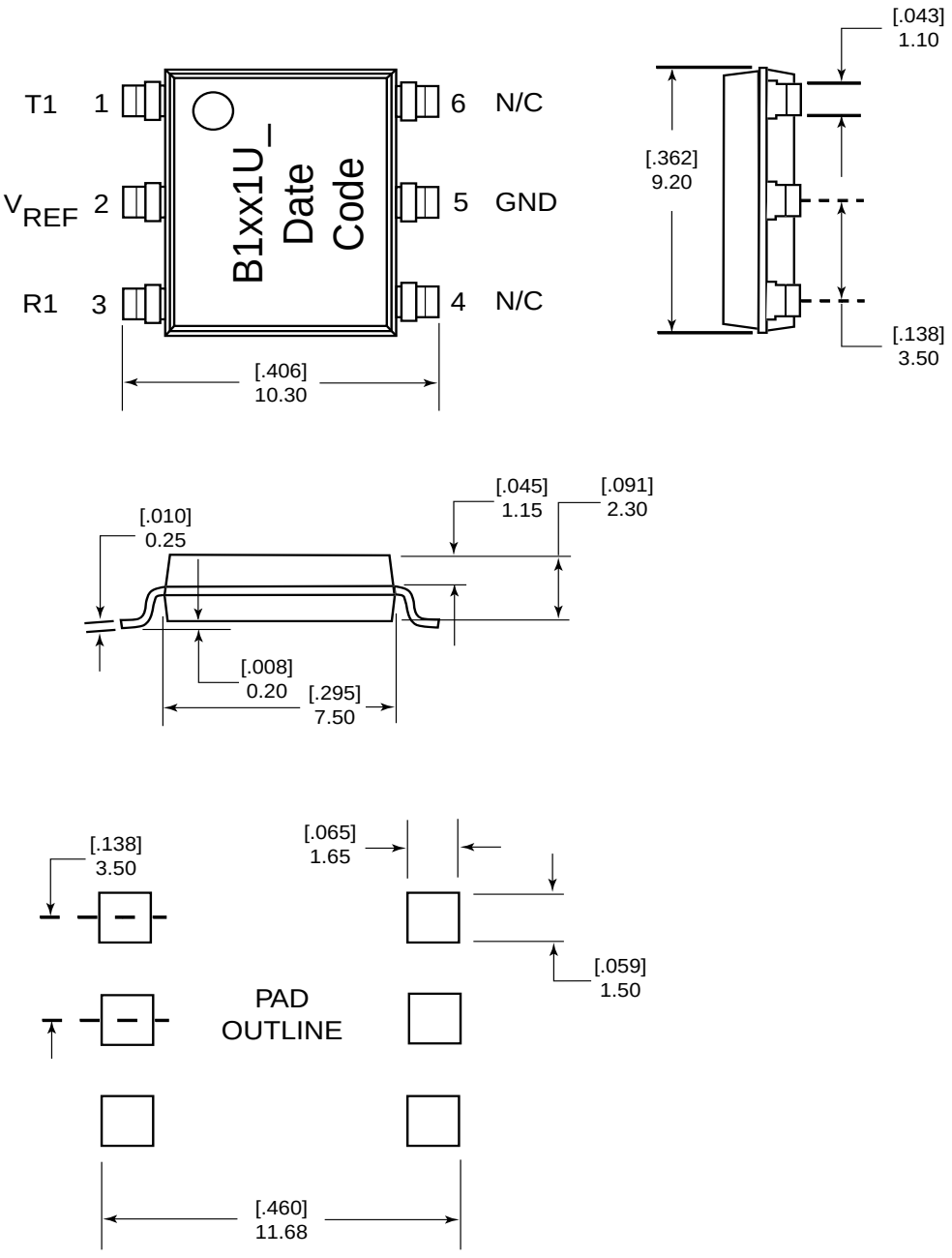
Normalized V_S Change vs. Junction Temperature



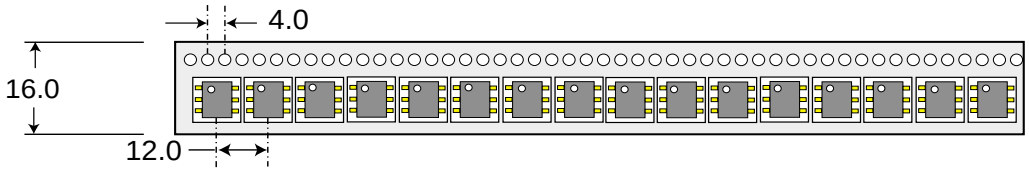
Normalized DC Holding Current vs. Case Temperature



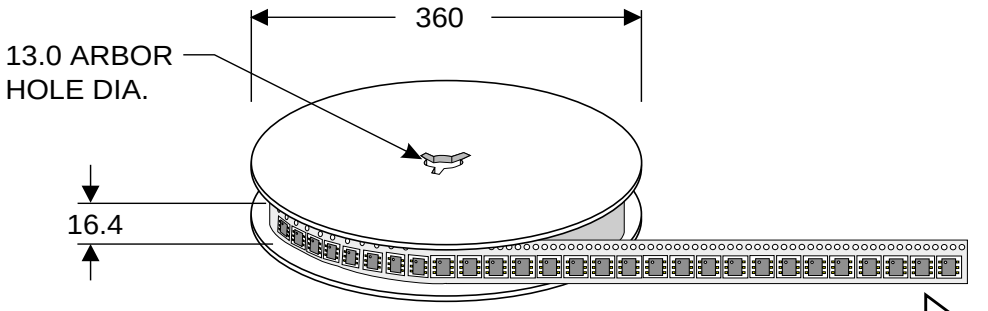
Package and Layout Dimensions



Tape and Reel Packing Specifications



Dimensions
are in mm



Direction of Feed

2,000 Devices per Reel

TECCOR ELECTRONICS
1801 Hurd Drive
Irving, Texas 75038-4385
United States of America

Phone: 972-580-7777
Fax: 972-550-1309

Web site: http://www.teccor.com
E-mail: sidactor.techsales@teccor.com
Please contact the factory for further information.

Data Sheet: Battrax® Dual Neg - 1200

An Invensys company