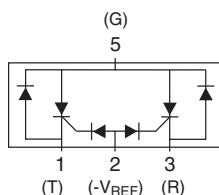


Battrax[®] Single Port Negative SLIC Protector



This programmable *Battrax* device is referenced to a negative voltage source. This dual-chip package includes internal diodes for transient protection from positive surge events.

For a diagram of a *Battrax* application, see Figure 6.47 in Section 6, "Reference Designs" of this *Telecom Design Guide*.

Electrical Parameters

Part Number *	V _{DRM} Volts	V _S Volts	V _T Volts	V _F Volts	I _{DRM} μAmps	I _{GT} mAmps	I _T Amps	I _H mAmps
B1101U_L	$ -V_{REF} + -1.2V $	$ -V_{REF} + -10V $	4	5	5	100	2.2	100
B1161U_L	$ -V_{REF} + -1.2V $	$ -V_{REF} + -10V $	4	5	5	100	2.2	160
B1201U_L	$ -V_{REF} + -1.2V $	$ -V_{REF} + -10V $	4	5	5	100	2.2	200

* "L" in part number indicates RoHS compliance. For non-RoHS compliant device, delete "L" from part number.
For individual "UA" and "UC" 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 a V_{REF} = -48 V.
- V_{DRM} is measured at I_{DRM}.
- V_S is measured at 100 V/μs.
- V_{REF} maximum value for the B1101, B1161, and/or B1201 is -200 V.

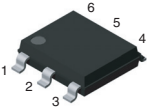
Surge Ratings in Amps

Series	I _{PP}									I _{TSM} 50 / 60 Hz	di/dt
	0.2x310 *	2x10 *	8x20 *	10x160 *	10x560 *	5x320 *	10x360 *	10x1000 *	5x310 *		
	0.5x700 **	2x10 **	1.2x50 **	10x160 **	10x560 **	9x720 **	10x360 **	10x1000 **	10x700 **		
	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps/μs
A	20	150	150	90	50	75	75	45	75	20	500
C	50	500	400	200	150	200	175	100	200	50	500

* Current waveform in μs

** Voltage waveform in μs

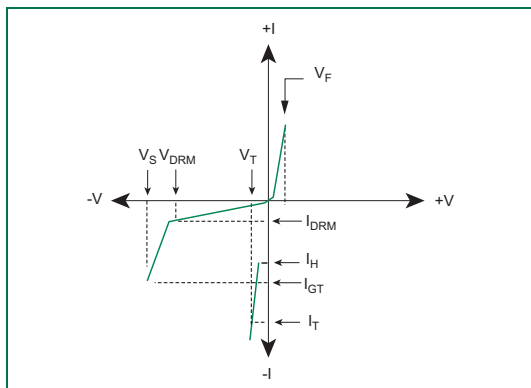
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
 Modified MS-013	T_J	Operating Junction Temperature Range	-40 to +125	°C
	T_S	Storage Temperature Range	-65 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	60	°C/W

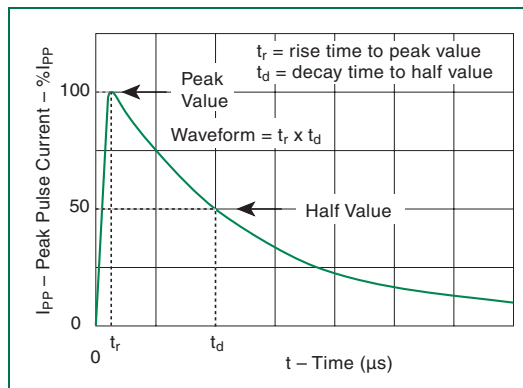
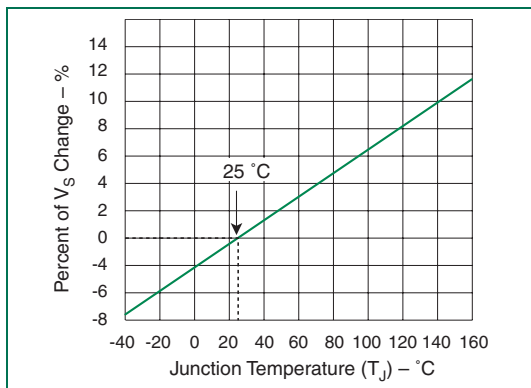
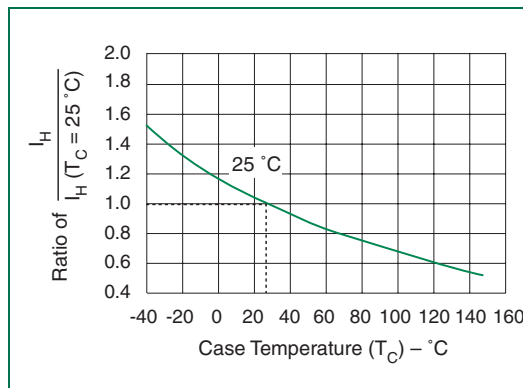
Capacitance Values

Part Number	pF	
	MIN	MAX
B1101UAL	50	200
B1101UCL	50	200
B1161UAL	50	200
B1161UCL	50	200
B1201UAL	50	200
B1201UCL	50	200

Note: Off-state capacitance (C_O) 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