

## Features

- For use in telecommunication circuit applications requiring low current protection with high surge tolerance
- Overcurrent protection to Telcordia GR-1089-CORE Issue 4 (B1250T only) & UL 1950/60950
- Bourns® TISP® products are recommended for the overvoltage section of the circuit



These models are currently available but not recommended for new designs.

- Agency recognition: File: E198545
- RoHS compliant\*

## Telefuse™ SMD Power Cross Protection Fuse

### Electrical Characteristics

Model Number	Ampere Rating (A)	Voltage Rating (VRMS)	Typical Cold Resistance (Ohms)	Volt-drop @ 100 % In (Volts) Max.	Melting I2T < 10 msec (A2 sec.)	Melting I2T @ 10 In (A2 sec.)	Maximum Power Dissipation (W)
B0500T	0.500	600	0.350	0.23	2	2.3	0.20
B1250T	1.25	600	0.075	0.18	14	17	0.40
B2000T	2.0	600	0.056	0.16	33	37	0.52

### Temperature Range

.....-55 °C to +125 °C

### Environmental Characteristics

Thermal Shock ..... MIL-STD-202, Method 107, Test Condition B (-65 °C to +125 °C)  
 Shock..... MIL-STD-202, Method 213, Test Condition I (100 Gs peak for 6 milliseconds)  
 Vibration ..... MIL-STD-202, Method 201 (10-55 Hz, 0.06 inch total excursion)  
 Salt Spray ... MIL-STD-202, Method 101, Test Condition B (48 hrs.)  
 Insulation Resistance ..... MIL-STD-202, Method 302, Test Condition A (after opening) 10,000 ohms minimum  
 Solderability ..... MIL-STD-202, Method 208  
 Resistance to Solder Heat ..... MIL-STD-202, Method 210, Test Condition J (235 °C, 30 sec.)  
**Physical Characteristics**  
 Body Material ..... Ceramic with tin plated brass caps  
 Solder ..... RoHS 6 Compliant lead free  
 RoHS reflow compatible; reference 240 °C, 30 sec. max.  
 Soldering Process Window  
 IR Reflow 240 °C for 30 seconds max. (Not recommended for Wave solder direct immersion)  
 Packaging.....2,000 pcs. per 13 " reel

### Lightning Surge Withstand Capabilities

Max. Rise/Min. Decay (µs)	Repetitions		Minimum Peak Voltage (V)	Minimum Withstand Peak Current (A)		
	Total	Each Polarity		B0500T	B1250T	B2000T
10/1000	50	25	1000	25	100	120
10/360	50	25	1000	30	125	150
2/10	20	10	2500	120	500	600
10/360	10	5	1000	30	125	150
2/10	2	1	5000	120	500	600
8/20	2	1	5000	75	300	350

Test Methods per GR-1089/TIA-968-A (FCC Pt. 68)

### AC Power Fault Tests

GR-1089 1st Level Test	Voltage (VRMS)	Short Circuit Current (A)	Applications	Duration	Fuse Characteristics		
					B0500T	B1250T	B2000T
1	50	0.33	1	15 min.	Parts pass all 1st Level tests		
2	100	0.17	1	15 min.			
3	200, 400, 600	1	60	1 sec.			
4	1000	1	60	1 sec.			
6	600	0.5	1	30 sec.			
7	440	2.2	5	2 sec.			
8	600	3	5	1.1 sec.	Will open		
9	1000	5	5	0.4 sec.	Will open		

### AC Current Limiting Protector Tests/Fusing Coordination Tests

Voltage (Vac)	Current (A)	Duration	Maximum Time for Fuse to Open (Seconds)		
			B0500T	B1250T	B2000T
600	2.2	Up to 15 Min.	1.0	900	Will not open
600	2.6		0.8	50	2000
600	3.0		0.5	10	100
600	3.75		0.3	5	10
600	5		0.2	2	3
600	7		0.08	1	2
600	10		0.04	0.5	0.7
600	12.5		0.01	0.2	0.3
600	20		0.005	0.07	0.1
600	25		0.004	0.04	0.07
600	30		0.003	0.02	0.05

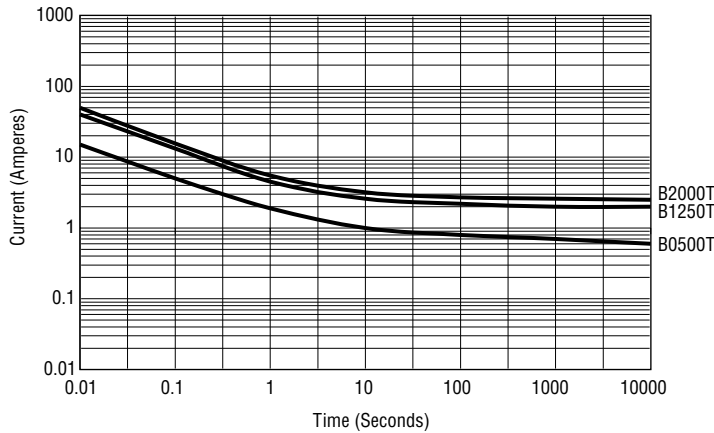
\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.

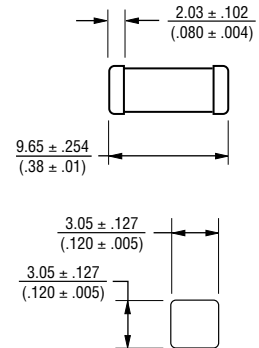
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

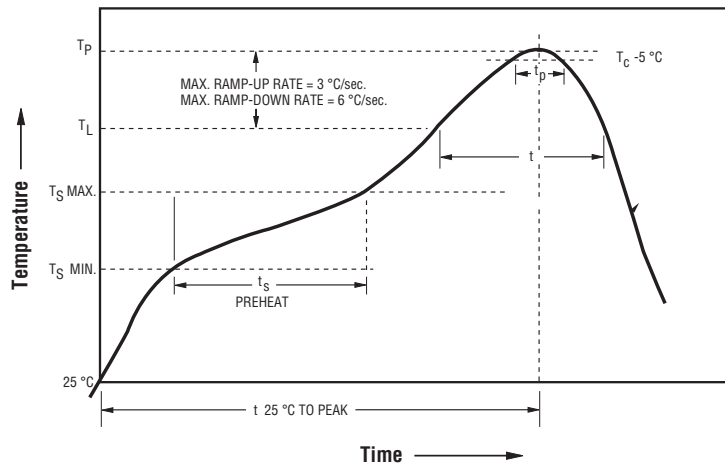
## Time/Current Characteristic Curve



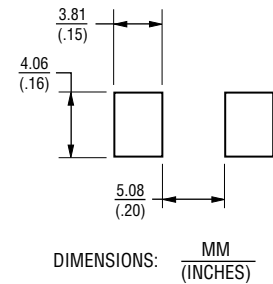
## Product Dimensions



## Solder Profile



## Recommended Pad Layout



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

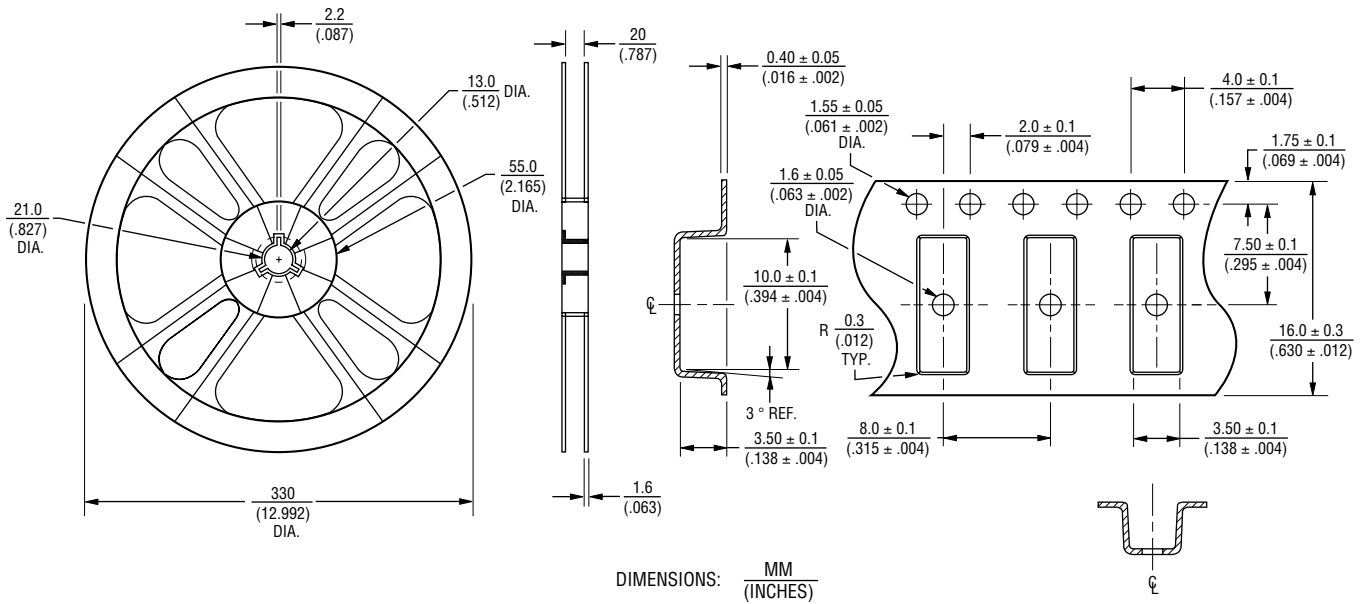
## IR Reflow Profile

Reflow Parameter	Value
Minimum Preheat Temperature ( $T_{S\text{MIN}}$ )	130 °C
Maximum Preheat Temperature ( $T_{S\text{MAX}}$ )	170 °C
Preheat Time	60-180 seconds
$T_{S\text{MAX}}$ to $T_L$ Ramp-Up Rate	3 °C / second max.
Time above Temperature $T_L$ ( $t_L$ )	200 °C for 60-120 seconds
Peak Temperature ( $T_p$ )	240 °C max.
Time within 5 °C of Peak $T_p$	20-30 seconds
Ramp-Down Rate	6 °C / second. max.

# Telefuse™ SMD Power Cross Protection Fuse

**BOURNS®**

## Packaging Specifications



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

REV. 11/16

“Telefuse” is a trademark of Bourns, Inc.

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