



## Features

- EIA 3812 (10030 metric) footprint
- Ceramic tube design for time lag fusing speed and low power applications
- High interrupting capability up to 50 A @ 250 VAC
- UL 248-14, IEC 60127-1 and IEC 60127-7 compliant
- RoHS compliant\* and halogen free\*\*

## Applications

- Lighting systems
- Power adaptors
- Power supplies
- AC/DC converters
- Telecom equipment system power

## SF-3812TL-TS Series – SMD Fuses

### Pre-arcing Time Characteristics for Series

Current Rating	% of Current Rating	Pre-Arcing Time at 25 °C	
		Min.	Max.
0.5~5 A (UL)	100 %	4 hours	—
	250 %	—	120 seconds
2 A, 3.5~5 A (TUV)	210 %	—	1 hour
	1000 %	—	1 second

### Additional Information

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### Electrical Characteristics

Model	Rated Current (A)	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I <sup>2</sup> t (A <sup>2</sup> s) ****	Certifications	
						cUL	TUV
						<a href="#">E198545</a>	<a href="#">R 50421699</a>
SF-3812TL050TS	0.50	0.616	250 VAC	50 A @ 250 VAC	2.88	✓	
SF-3812TL075TS	0.75	0.256			3.80	✓	
SF-3812TL100TS	1.0	0.176			9.21	✓	
SF-3812TL150TS	1.5	0.101			12.92	✓	
SF-3812TL200TS	2.0	0.057			19.67	✓	✓
SF-3812TL250TS	2.5	0.039			34.52	✓	
SF-3812TL300TS	3.0	0.029			52.68	✓	
SF-3812TL350TS	3.5	0.018			75.49	✓	✓
SF-3812TL400TS	4.0	0.016			105	✓	✓
SF-3812TL500TS	5.0	0.014			215	✓	✓

\*\*\* Resistance value measured with ≤10 % rated current at 25 °C ambient.

\*\*\*\* Melting I<sup>2</sup>t calculated at 8 ms pre-arcing time.

### Environmental Characteristics

Operating Temperature.....-55 °C to +125 °C  
 Storage Conditions  
 Temperature ..... +5 °C to +35 °C  
 Humidity ..... 40 % to 75 %  
 Moisture Sensitivity Level.....1

### Packaging

Reel Dimension	13-inch Tape and Reel
Specification	EIA 481-2
Quantity	2,000 pieces



**WARNING**  
**Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

"SinglFuse" is a trademark of Bourns, Inc.

Specifications are subject to change without notice.

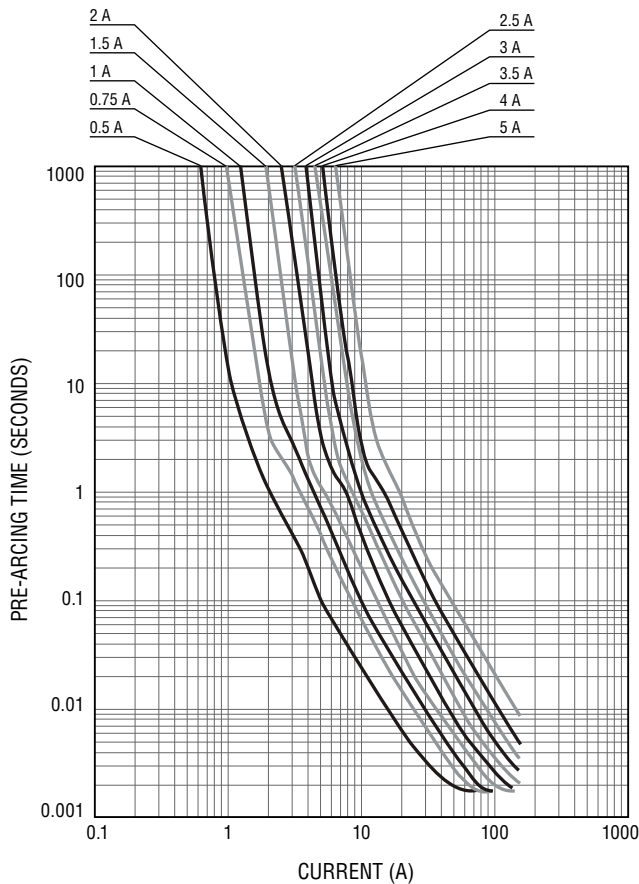
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

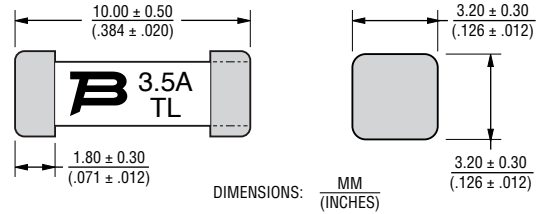
# SF-3812TL-TS Series – SMD Fuses

**BOURNS®**

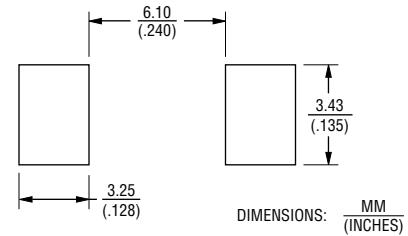
## Average Pre-Arcing Time vs. Current Curves



## Product Dimensions



## Recommended Pad Layout

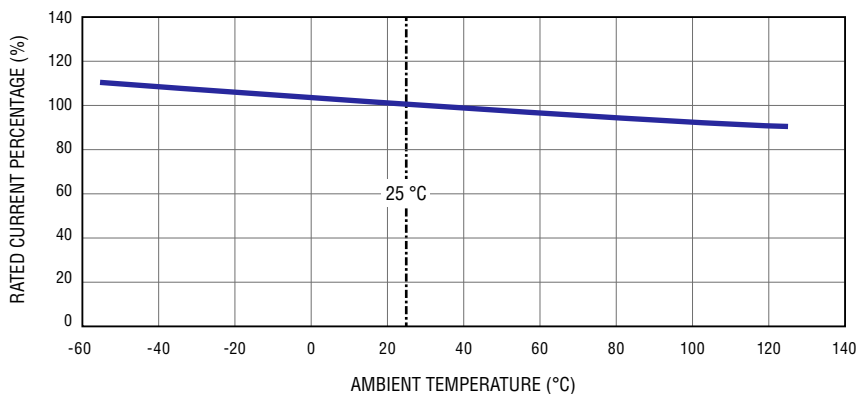


## How to Order

**SF - 3812 TL 100 TS**

SinglFuse™ \_\_\_\_\_  
 Product Designator \_\_\_\_\_  
 SMD Footprint \_\_\_\_\_  
 3812 = EIA 3812 (10030 metric)  
 Fusing Characteristic \_\_\_\_\_  
 TL = Time Lag & Low Power  
 120 sec. max @ 250 % In  
 Rated Current \_\_\_\_\_  
 050 - 500 (0.5 A ~ 5 A)  
 Structure Type \_\_\_\_\_  
 TS = Ceramic Tube

## Current Rating Thermal Derating Curve



## Typical Part Marking

Represents total content. Layout may vary.



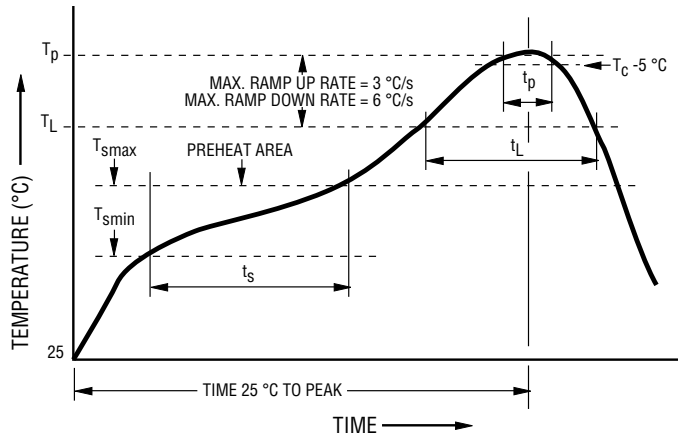
Rated Current	Part Marking
0.5 A	500mA TL
0.75 A	750mA TL
1.0 A	1A TL
1.5 A	1.5A TL
2.0 A	2A TL
2.5 A	2.5A TL
3.0 A	3A TL
3.5 A	3.5A TL
4.0 A	4A TL
5.0 A	5A TL

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## SF-3812TL-TS Series – SMD Fuses

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### Solder Reflow Recommendations



Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. ( $T_{smin}$ ) Temperature Max. ( $T_{smax}$ ) Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	150 °C 200 °C 60~120 seconds
Ramp Up Rate ( $T_L$ to $T_p$ )	3 °C / second max.
Liquidous Temperature ( $T_L$ ) Time ( $t_L$ ) maintained above $T_L$	217 °C 60~150 seconds
Peak Package Body Temperature ( $T_p$ )	260 °C
Time ( $t_p$ )* within 5 °C of the specified classification temperature ( $T_c$ )	30 seconds*
Ramp Down Rate ( $T_p$ to $T_L$ )	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

\* Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.

**BOURNS®**

**Americas:** Tel: +1 951-781-5500 • Email: [americus@bourns.com](mailto:americus@bourns.com)

**Mexico:** Tel: +52-614-478-0400 • Email: [mexicus@bourns.com](mailto:mexicus@bourns.com)

**Asia:** Tel: +886-2-2562-4117 • Email: [asiacus@bourns.com](mailto:asiacus@bourns.com)

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