



## SinglFuse™ SF-3812SP-T Series Features

- Single blow fuse for overcurrent protection
- EIA 3812 (10030 metric) footprint
- Ceramic tube design for time lag application
- UL 248-14, IEC 60127-1 and IEC 60127-4 listed
- Surface mount packaging for automated assembly
- RoHS compliant\* and halogen free\*\*

## SF-3812SP-T Series – Time Lag SMD Fuses

### Electrical Characteristics

| Model           | Rated Current (A) | Fusing Time                                 | Resistance (Ω) Typ.*** | Rated Voltage | Interrupting Rating                                                                                          | Typical I <sup>2</sup> t (A <sup>2</sup> s)**** | Certifications |               |
|-----------------|-------------------|---------------------------------------------|------------------------|---------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------|---------------|
|                 |                   |                                             |                        |               |                                                                                                              |                                                 | cUL E198545    | TUV R50421987 |
| SF-3812SP125T-2 | 1.25              | Open within 120 sec. at 200 % rated current | 0.105                  | 250 VAC       | 200 A @ 280 VAC<br>200 A @ 250 VAC<br>200 A @ 63 VAC<br>100 A @ 250 VDC<br>100 A @ 125 VDC<br>200 A @ 63 VDC | 5.04                                            | ✓              | ✓             |

\*\*\* Resistance value measured with ≤10 % rated current at 25 °C ambient. Tolerance ±30 %.

\*\*\*\* Melting I<sup>2</sup>t calculated at 10 times rated current.

### Reliability Testing

| No. | Test                         | Test Condition                                                                                                                                         | Requirement                                                          | Test Reference                                  |
|-----|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------|
| 1   | Solderability                | Temperature setup: 235 ±5 °C<br>Time setup: 10 ±1 sec.                                                                                                 | After test terminal electrode wetting area must be greater than 95 % | IEC 60068-2-58                                  |
| 2   | Resistance to soldering heat | Temperature setup: 235 ±5 °C<br>Time setup: 30 ±5 sec.                                                                                                 | DCR change ≤ ±15 %                                                   | IEC 60068-2-58                                  |
| 3   | Thermal shock                | Temperature setup:<br>25 °C ~ -65 °C ~ 25 °C ~ 125 °C<br>Time setup: -65 °C (30 min)<br>~ 25 °C (5 min) ~ 125 °C (30 min)<br>~ 25 °C (5 min), 5 cycles | DCR change ≤ ±15 %<br>No mechanical damage                           | MIL-STD-202G<br>Method 107G<br>Test Condition B |
| 4   | Humidity unload              | Heat (85 ±0.5 °C)<br>High Humidity (85 ±1 % RH)<br>240 hours                                                                                           | DCR change ≤ ±15 %<br>No mechanical damage                           | MIL-STD-202G<br>Method 103B<br>Test Condition A |
| 5   | Salt spray                   | Salt spray concentration: 5 ±1 %<br>Test liquid temperature: 35 ±0.5 °C<br>96 hours                                                                    | DCR change ≤ ±15 %<br>No mechanical damage                           | MIL-STD-202G<br>Method 101E<br>Test Condition A |
| 6   | Bending                      | The board shall be bent by 1 mm at a rate of 1 mm/sec.                                                                                                 | DCR change ≤ ±15 %                                                   | IEC 60127-4                                     |
| 7   | Vibration                    | Frequency setup: 10 ~ 55 ~ 10 Hz<br>Time setup: 1 Minute/cycle<br>(X-Y-Z, 120 cycles, 6 hours)                                                         | DCR change ≤ ±15 %<br>No mechanical damage                           | MIL-STD-202G<br>Method 201A                     |

### Agency Recognition

UL File Number .....E198545  
TUV File Number .....R 50421987

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**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.

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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.

## SinglFuse™ SF-3812SP-T Series Applications

- Protection on PCBs
- Power Adapters
- Power Boards
- Chargers
- Medical Equipment (low/medium risk)\*
- Battery Protection

## SF-3812SP-T Series – Time Lag SMD Fuses

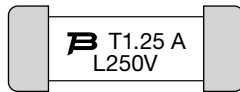
**BOURNS®**

### Environmental Characteristics

|                                  |                                 |
|----------------------------------|---------------------------------|
| Operating Temperature.....       | -55 °C to +125 °C               |
| Storage Conditions               |                                 |
| Temperature .....                | +15 °C to +30 °C                |
| Humidity.....                    | 20 % to 70 %                    |
| Shelf Life.....                  | 2 years from manufacturing date |
| Moisture Sensitivity Level ..... | 1                               |
| ESD Classification (HBM).....    | Class 6                         |

### Typical Part Marking

Represents total content. Layout may vary.



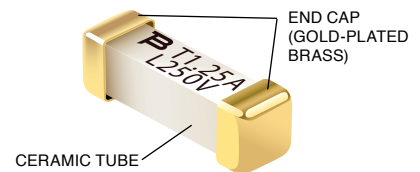
**T:** Time Lag Fuse  
**1.25 A:** Current Rating  
**L:** Low Breaking Power  
**250V:** Voltage Rating

### How to Order

#### SF - 3812 SP 125 T - 2

SinglFuse™ \_\_\_\_\_  
Product Designator \_\_\_\_\_  
SMD Footprint \_\_\_\_\_  
    3812 = EIA 3812  
    (10030 metric) \_\_\_\_\_  
Fuse Blow Type \_\_\_\_\_  
    SP = Time Lag \_\_\_\_\_  
Rated Current \_\_\_\_\_  
    125 = 125 A \_\_\_\_\_  
Structure Type \_\_\_\_\_  
    T = Ceramic Tube \_\_\_\_\_  
Packaging Type \_\_\_\_\_  
    - 2 = Tape & Reel \_\_\_\_\_

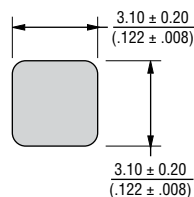
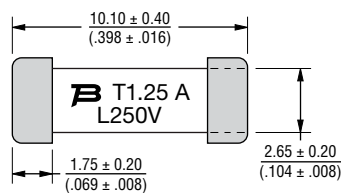
### Construction



### Packaging Quantity

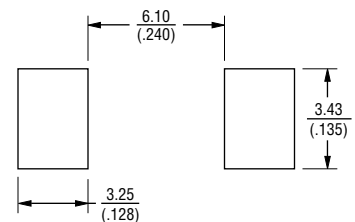
2,500 pieces per 13-inch reel

### Product Dimensions



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

### Recommended Pad Layout



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

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