



## SingIFuse™ SF-1210S-W Series Features

- Single blow fuse for overcurrent protection
- 3225 (EIA 1210) footprint
- Slow blow fuse
- UL 248-14 compliant
- RoHS compliant\* and halogen free\*\*
- Wire core SMD design
- Surface mount packaging for automated assembly

## SF-1210S-W Series - Slow Blow Wire Core Surface Mount Fuses

### Clearing Time Characteristics for Series

% of Current Rating	Clearing Time at 25 °C	
	Min.	Max.
100 %	4 hours	—
250 %	—	5 seconds

### Additional Information

Click these links for more information:



### 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: <a href="#">E198545</a>
SF-1210S100W-2	1.00	0.079	125 VAC	100 A @ 125 VAC	0.20	✓
SF-1210S150W-2	1.50	0.050			0.50	✓
SF-1210S200W-2	2.00	0.037			0.90	✓
SF-1210S250W-2	2.50	0.033			1.20	✓
SF-1210S300W-2	3.00	0.028			1.50	✓

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

\*\*\*\* Melting I<sup>2</sup>t calculated at 0.001 second pre-arcing time.

### Environmental Characteristics

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



RATED CURRENT (A)  
 E = 1.00    J = 2.50  
 G = 1.50    K = 3.00  
 I = 2.00

### How to Order

#### SF - 1210 S 150 W - 2

SingIFuse™  
 Product Designator \_\_\_\_\_  
 SMD Footprint \_\_\_\_\_  
 1210 = 3225 (EIA 1210) size  
 Fuse Blow Type \_\_\_\_\_  
 S = Slow Blow  
 Rated Current \_\_\_\_\_  
 100 ~ 300 (1.00 A ~ 3.00 A)  
 Structure Type \_\_\_\_\_  
 W = Wire Core  
 Packaging Type \_\_\_\_\_  
 - 2 = Tape & Reel

### Packaging

Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	2,500 pieces
Packaging Code	-2

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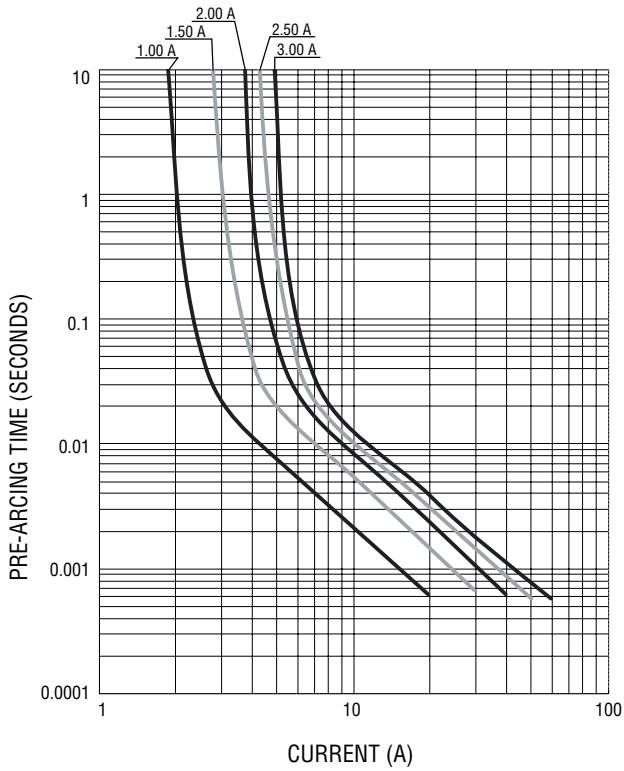
**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SinglFuse™ SF-1210S-W Series Applications

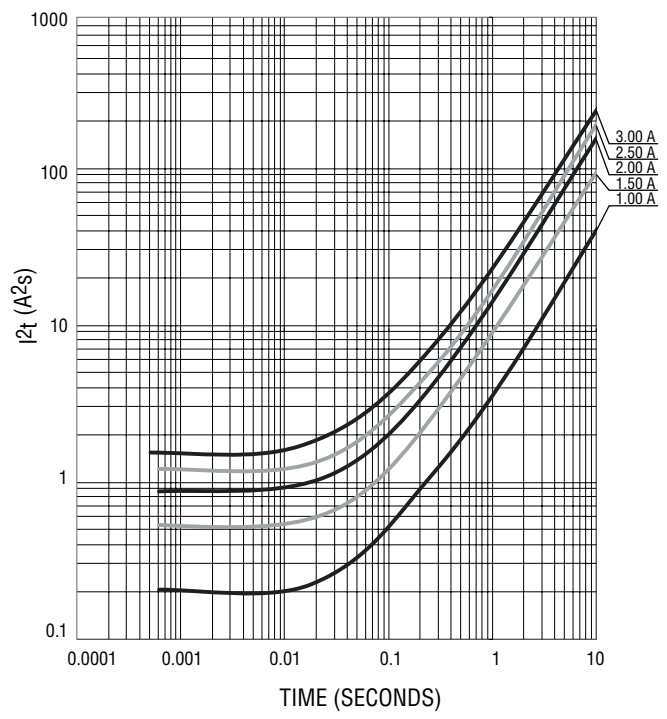
- White goods
- Lighting and drivers
- DC/DC converters
- Low voltage power and chargers
- Industrial equipment

## SF-1210S-W Series – Slow Blow Wire Core Surface Mount Fuses **BOURNS®**

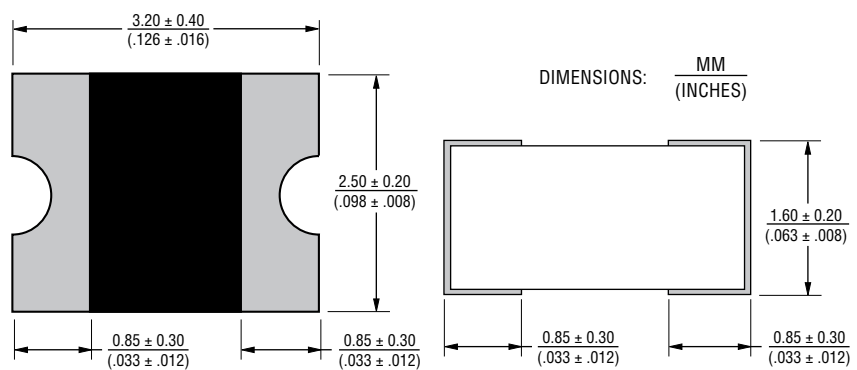
**Average Pre-Arcing Time vs. Current Curves**



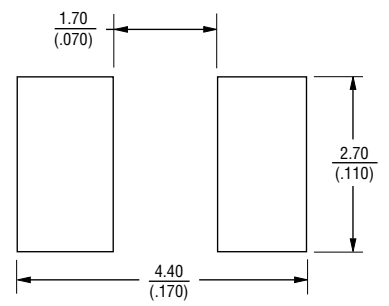
**Average I²t vs. t Curves**



**Product Dimensions**

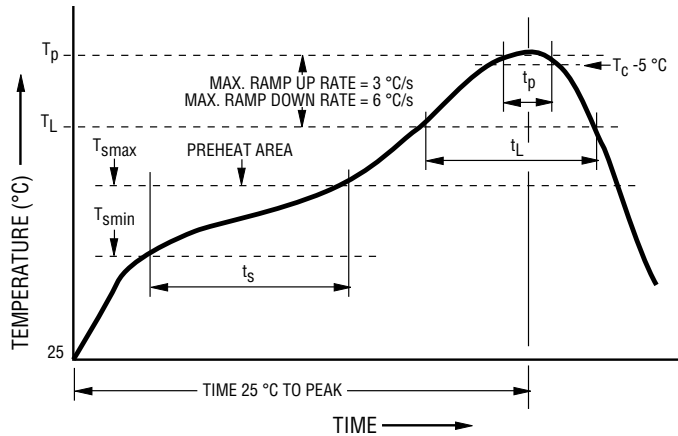


**Recommended Pad Layout**



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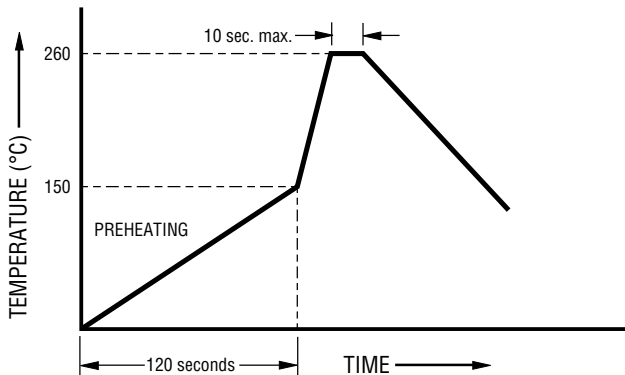
**Solder Reflow Recommendations**



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.

**Recommended Temperature Profile for Wave Soldering**

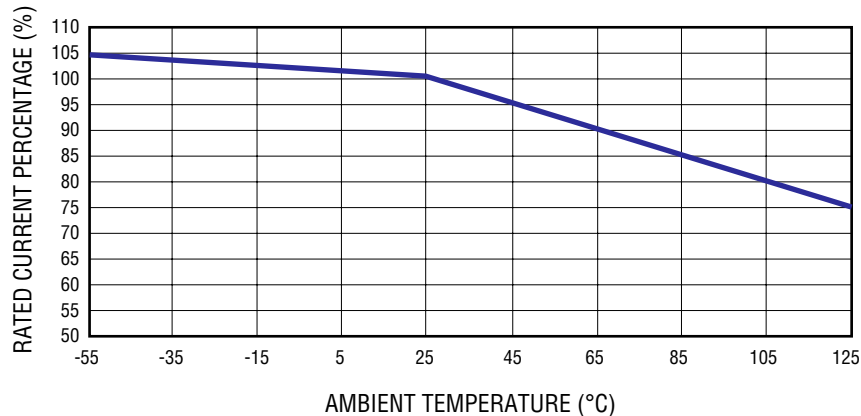


Wave soldering is suitable for 1210 size models.

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**Current Rating Thermal Derating Curve****Reliability Testing**

No.	Test	Requirement	Test Condition	Test Reference
1	Reflow and bend	DCR change $\leq 20\%$ ( $\leq 10\%$ for $\leq 1\text{ A}$ ) No mechanical damage	3 reflows at 245 °C followed by a 2 mm bend	Refer to STP document
2	Solderability	Minimum 90 % coverage	One dip at 245 °C for 5 seconds	MIL-STD-202 Method 208
3	Soldering heat resistance	DCR change $\leq 20\%$ ( $\leq 10\%$ for $\leq 1\text{ A}$ ) New solder coverage $\leq 75\%$	One dip at 260 °C for 10 seconds	MIL-STD-202 Method 210
4	Moisture resistance	DCR change $\leq \pm 15\%$ No excessive corrosion	10 cycles	MIL-STD-202 Method 106
5	Salt spray	DCR change $\leq \pm 10\%$ No excessive corrosion	48 hour exposure, 5 % salt solution	MIL-STD-202 Method 101
6	Mechanical vibration	DCR change $\leq \pm 10\%$ No mechanical damage	0.4 inch D.A. or 30 G between 5-3000 Hz	MIL-STD-202 Method 204
7	Mechanical shock	DCR change $\leq \pm 10\%$ No mechanical damage	1500 G, 0.5 ms, half-sine shocks	MIL-STD-202 Method 213
8	Thermal Shock	DCR change $\leq \pm 10\%$ No mechanical damage	100 cycles between -65 °C and +125 °C	MIL-STD-202 Method 107
9	Life	No electrical "opens" during testing Voltage drop change shall be less than $\pm 20\%$ of initial value	80 % rated current (75 % for $< 1\text{ A}$ fuses) for 2000 hours at ambient temperature +25 °C	Refer to STP document

REV. C 03/21

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