

SinglFuse™ SF-1210SxxxW Series Features

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



This series is currently available but [not recommended for new designs](#). The [SF-1206S-W Series](#) and [SF-1206S-M Series](#) are recommended for new designs.

SF-1210SxxxW Series - Slow Blow Wire Core Surface Mount Fuses

Electrical Characteristics

Model	Rated Current (Amps)	Fusing Time	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I ² t (A ² s) ****
SF-1210S100W-2	1.00	Open within 5 sec. at 250 % rated current	0.079	AC 125 V	AC 125 V 100 A DC 65 V 100 A	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 I²t calculated at 0.001 second pre-arcing time.

Reliability Testing

No.	Test	Requirement	Test Condition	Test Reference
1	Reflow and bend	DCR change ≤ 20 % (≤ 10 % for ≤1 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 ≤ 20 % (≤ 10 % for ≤1 A) New solder coverage ≤ 75 %	One dip at 260 °C for 10 seconds	MIL-STD-202 Method 210
4	Moisture resistance	DCR change ≤ ±15 % No excessive corrosion	10 cycles	MIL-STD-202 Method 106
5	Salt spray	DCR change ≤ ±10 % No excessive corrosion	48 hour exposure, 5 % salt solution	MIL-STD-202 Method 101
6	Mechanical vibration	DCR change ≤ ±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 ≤ ±10 % No mechanical damage	1500 G, 0.5 ms, half-sine shocks	MIL-STD-202 Method 213
8	Thermal Shock	DCR change ≤ ±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 ±20 % of initial value	80 % rated current (75 % for < 1 A fuses) for 2000 hours at ambient temperature +25 °C	Refer to STP document

Agency Recognition

UL File Number E198545

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WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

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

** 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.

Users should verify actual device performance in their specific applications.

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SingIFuse™ SF-1210SxxxW Series Applications

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

SF-1210SxxxW Series - Slow Blow Wire Core Surface Mount Fuses **BOURNS®**

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.



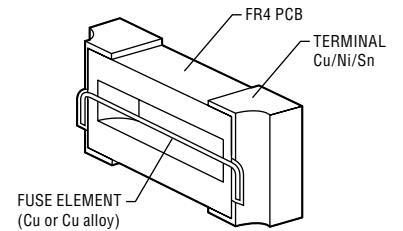
RATED CURRENT (A)
 E = 1.00 J = 2.50
 G = 1.50 K = 3.00
 I = 2.00

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

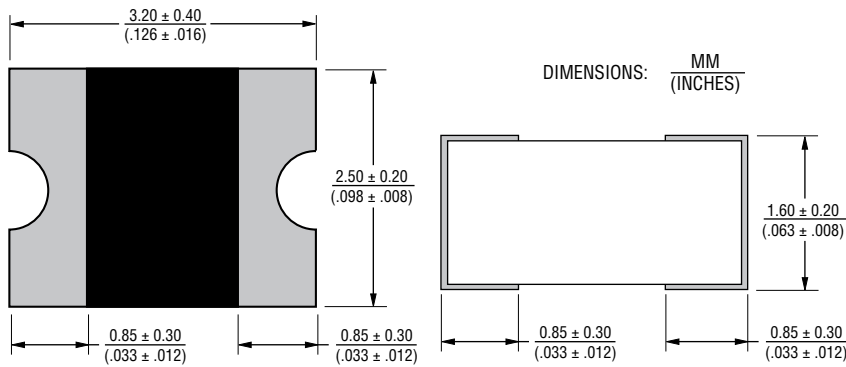
Construction



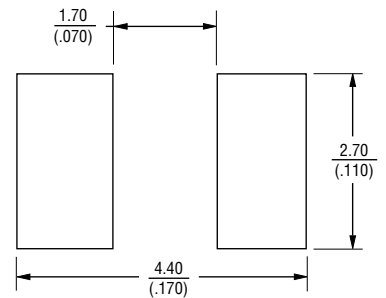
Packaging Quantity

2,500 pieces per 7-inch reel

Product Dimensions

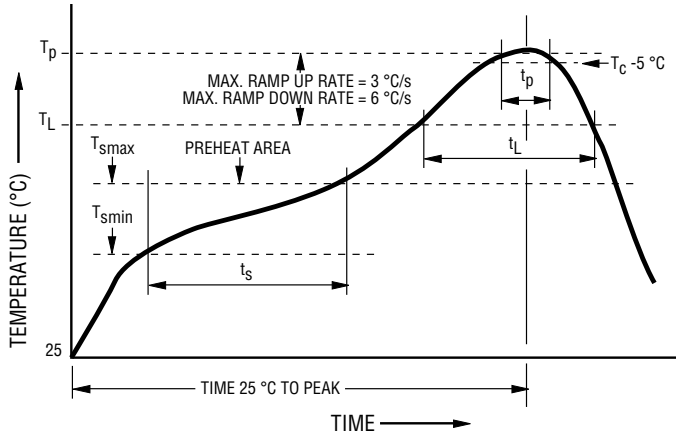


Recommended Pad Layout



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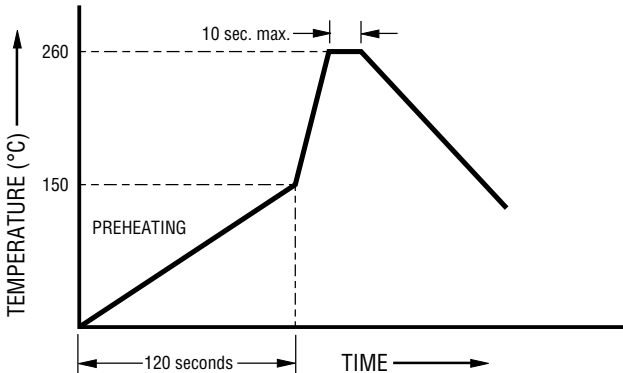
Solder Reflow Recommendations



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_d)	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_d)	260 °C
Time (t_p)* within 5 °C of the specified classification temperature (T_c)	30 seconds*
Ramp Down Rate (T_d to T_L)	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

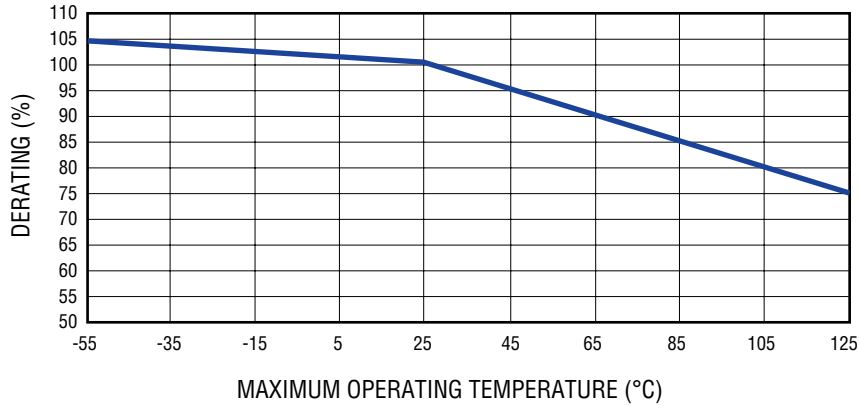
* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

Recommended Temperature Profile for Wave Soldering

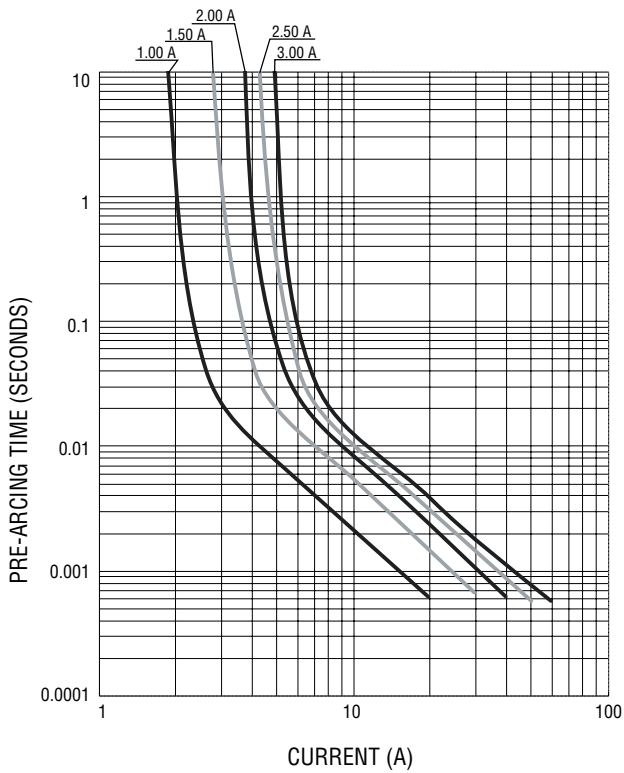


Wave soldering is suitable for 1210 size models.

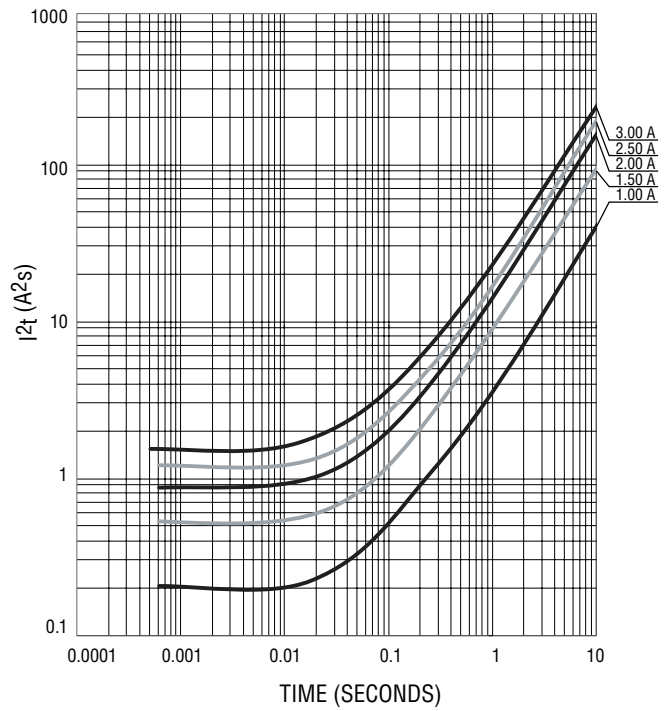
Current Rating Thermal Derating Curve



Average Pre-Arcing Time vs. Current Curves



Average I²t vs. t Curves



REV. C 04/21

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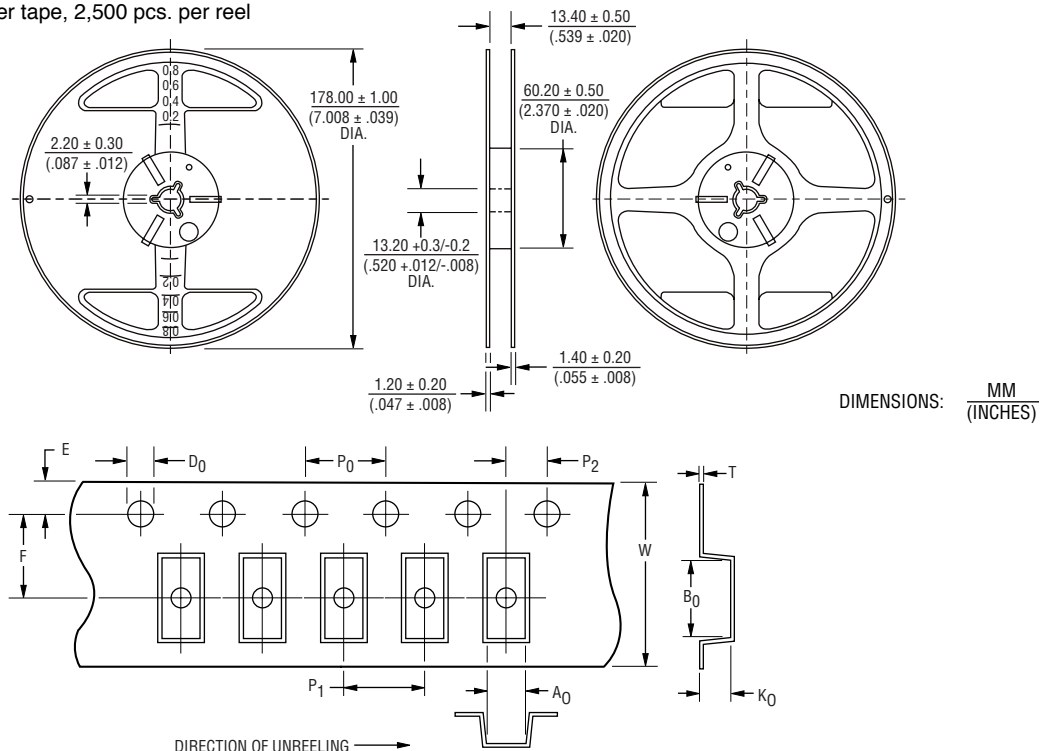
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SF-1210SxxxW Series Tape and Reel Packaging Specifications

BOURNS®

Tape Dimensions	SF-1210SxxxW Series per EIA 481-2
W	$\frac{8.00 \pm 0.10}{(.315 \pm .004)}$
P ₀	$\frac{4.0 \pm 0.10}{(.157 \pm .004)}$
P ₁	$\frac{4.0 \pm 0.10}{(.157 \pm .004)}$
P ₂	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$
A ₀	$\frac{2.69 \pm 0.10}{(.106 \pm .004)}$
B ₀	$\frac{3.50 \pm 0.10}{(.138 \pm .004)}$
F	$\frac{3.50 \pm 0.05}{(.138 \pm .002)}$
E ₁	$\frac{1.75 \pm 0.10}{(.069 \pm .004)}$
D ₀	$\frac{1.50 \pm 0.10}{(.059 \pm .004)}$
K ₀	$\frac{1.43 \pm 0.10}{(.056 \pm .004)}$
T	$\frac{0.23 \pm 0.02}{(.009 \pm .001)}$

PACKAGING: Paper tape, 2,500 pcs. per reel



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