

SinglFuse™ SF-1206SxxxW Series Features

- Single blow fuse for overcurrent protection
- 3216 (EIA 1206) footprint
- Slow blow fuse
- UL 248-14 listed
- RoHS compliant* and halogen free**
- Wire core SMD design
- Surface mount packaging for automated assembly

SF-1206SxxxW 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-1206S150W-2	1.50	Open within 5 sec. at 250 % rated current	0.050	DC 65 V	DC 65 V 50 A	0.37
SF-1206S160W-2	1.60		0.043			0.52
SF-1206S200W-2	2.00		0.032			0.88
SF-1206S250W-2	2.50		0.028			1.10
SF-1206S300W-2	3.00		0.022			1.90
SF-1206S315W-2	3.15		0.020			2.20
SF-1206S350W-2	3.50		0.018			2.60
SF-1206S400W-2	4.00		0.016	3.30		
SF-1206S500W-2	5.00		0.013	5.40		
SF-1206S630W-2	6.30		0.010	8.90		
SF-1206S700W-2	7.00		0.0092	10.40		
SF-1206S800W-2	8.00		0.0084	13.50		
SF-1206S1000W-2	10.00		0.0050	11.20		
SF-1206S1200W-2	12.00		0.0041	15.00		
SF-1206S1500W-2	15.00		0.0035	24.50		

*** 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



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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Users should verify actual device performance in their specific applications.

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SingIFuse™ SF-1206SxxxW Series Applications

- LCD monitors
- Backlight drivers
- Set top boxes
- DC/DC converters
- Notebooks / ultrabooks
- Low voltage lighting power
- Industrial controllers

SF-1206SxxxW 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)

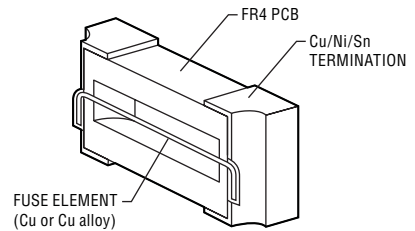
G = 1.50	N = 5.00
T = 1.60	O = 6.30
I = 2.00	P = 7.00
J = 2.50	R = 8.00
K = 3.00	Q = 10.00
V = 3.15	X = 12.00
L = 3.50	Y = 15.00
M = 4.00	

How to Order

SF - 1206 S 150 W - 2

SingIFuse™
 Product Designator
 SMD Footprint
 1206 = 3216 (EIA1206) size
 Fuse Blow Type
 S = Slow Blow
 Rated Current
 150 ~ 1500 (1.50 A ~ 15.00 A)
 Structure Type
 W = Wire Core
 Packaging Type
 - 2 = Tape & Reel

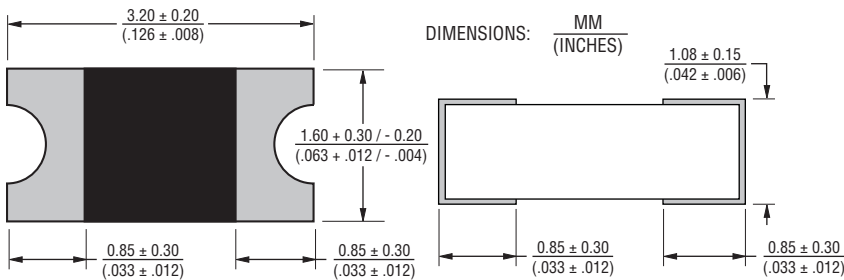
Construction



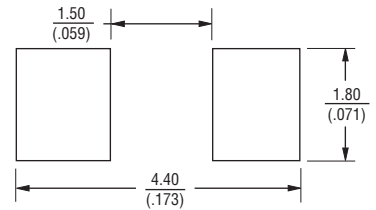
Packaging Quantity

3,500 pieces per 7-inch reel

Product Dimensions



Recommended Pad Layout



Current Rating Thermal Derating Curve



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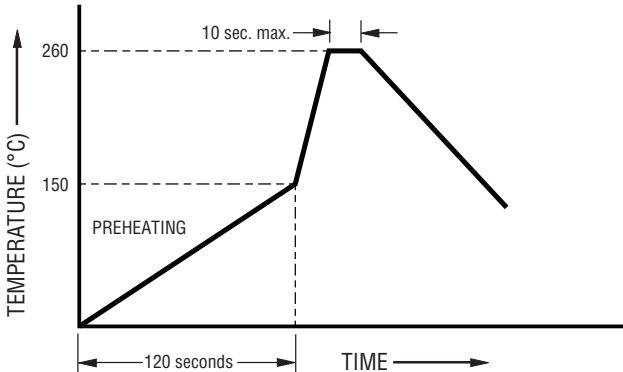
Solder Reflow Recommendations



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.

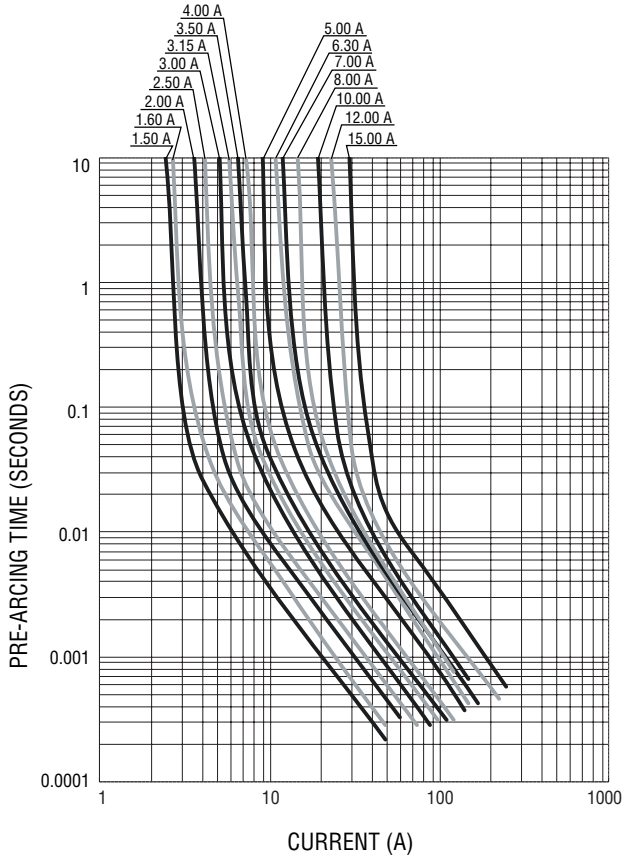
* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

Recommended Temperature Profile for Wave Soldering

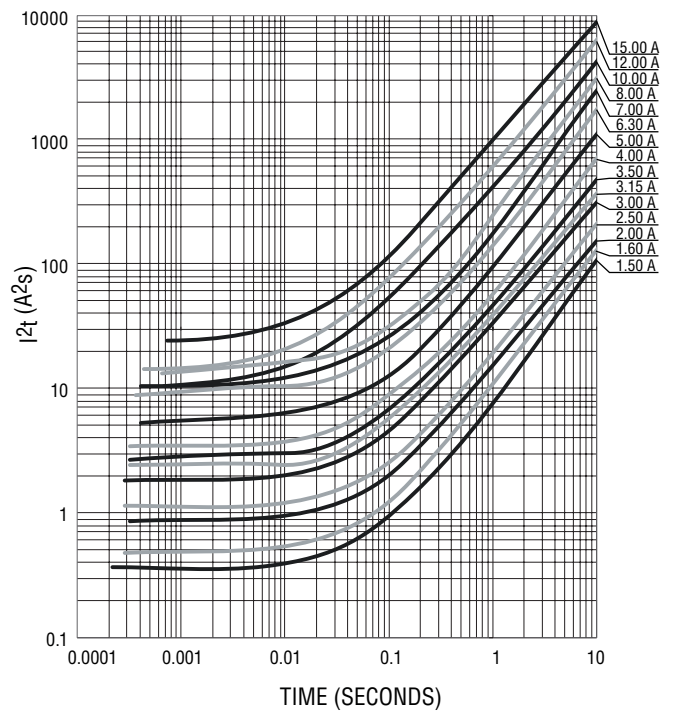


Wave soldering is suitable for 1206 size models.

Average Pre-Arcing Time vs. Current Curves



Average I²t vs. t Curves



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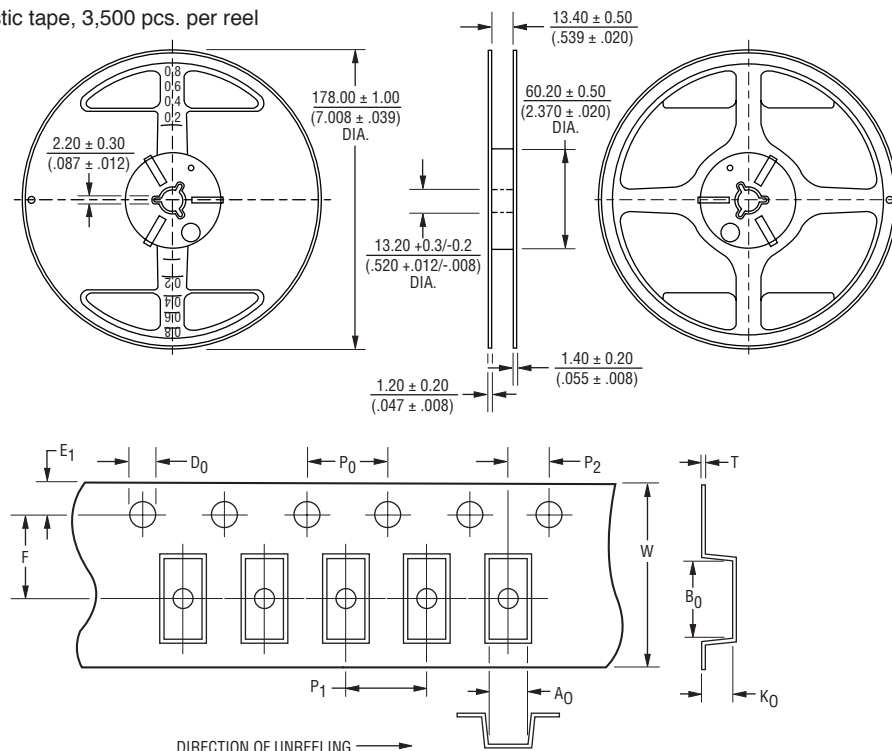
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SF-1206SxxxW Series Tape and Reel Packaging Specifications

BOURNS®

Tape Dimensions	SF-1206SxxxW Series per EIA 481-2
W	$\frac{8.10 \pm 0.20}{(.319 \pm .008)}$
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	$\frac{2.05 \pm 0.10}{(.081 \pm .004)}$
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	$\frac{1.30 \pm 0.10}{(.051 \pm .004)}$
T	$\frac{0.22 \pm 0.05}{(.009 \pm .002)}$

PACKAGING: Plastic tape, 3,500 pcs. per reel



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

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