



**THE DATASHEET OF  
SF-1206S400W-2**





## SingIFuse™ SF-1206S-W Series Features

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

## SF-1206S-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>	TUV <a href="#">R 50432923</a>
SF-1206S150W-2	1.50	0.0498	65 VDC	50 A @ 65 VDC	0.374	✓	✓
SF-1206S160W-2	1.60	0.0428			0.525	✓	✓
SF-1206S200W-2	2.00	0.0318			0.889	✓	✓
SF-1206S250W-2	2.50	0.0279			1.11	✓	✓
SF-1206S300W-2	3.00	0.0219			1.92	✓	✓
SF-1206S315W-2	3.15	0.0199			2.22	✓	✓
SF-1206S350W-2	3.50	0.0179			2.63	✓	
SF-1206S400W-2	4.00	0.0159			3.33	✓	✓
SF-1206S500W-2	5.00	0.0129	32 VDC	50 A @ 32 VDC	5.45	✓	✓
SF-1206S630W-2	6.30	0.0100			8.99	✓	✓
SF-1206S700W-2	7.00	0.0092			10.50	✓	
SF-1206S800W-2	8.00	0.0084			13.64	✓	✓
SF-1206S1000W-2	10.00	0.0050			11.31	✓	
SF-1206S1200W-2	12.00	0.0041			15.2	✓	
SF-1206S1500W-2	15.00	0.0035			24.75	✓	

\*\*\* 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.



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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.

Users should verify actual device performance in their specific applications.

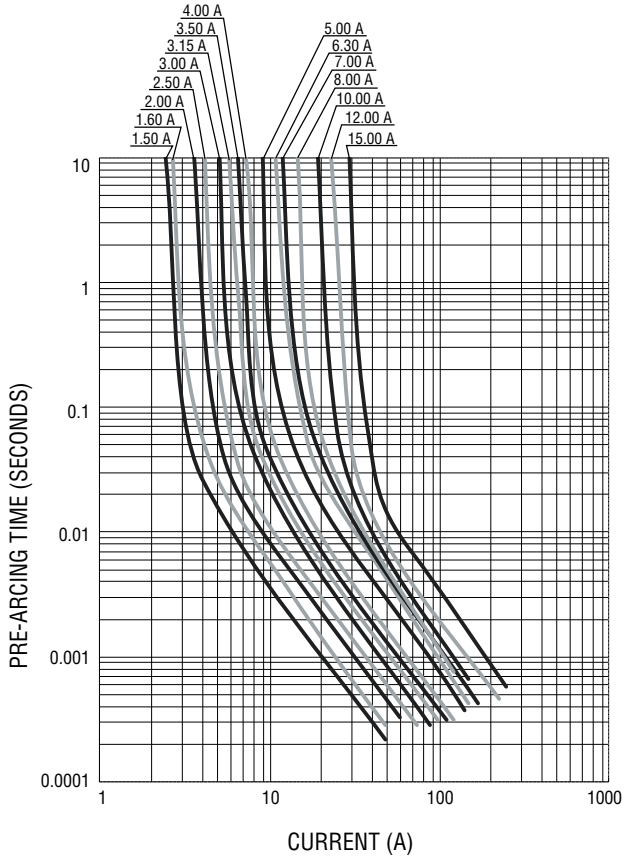
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# SinglFuse™ SF-1206S-W Series Applications

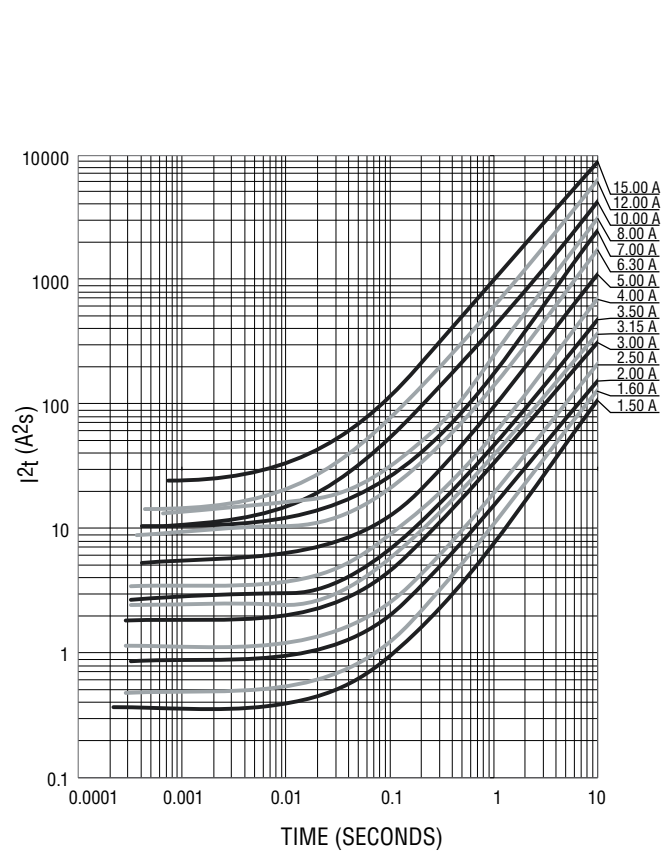
- LCD monitors
- Backlight drivers
- Set top boxes
- DC/DC converters
- Notebooks / ultrabooks
- Low voltage lighting power
- Industrial controllers

**SF-1206S-W Series – Slow Blow Wire Core Surface Mount Fuses** **BOURNS®**

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



**Average I²t vs. t Curves**



**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

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# SF-1206S-W Series – Slow Blow Wire Core Surface Mount Fuses



## 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

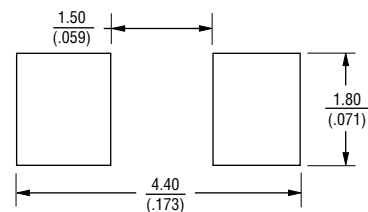
**SF - 1206 S 150 W - 2**

SinglFuse™  
 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

## Packaging

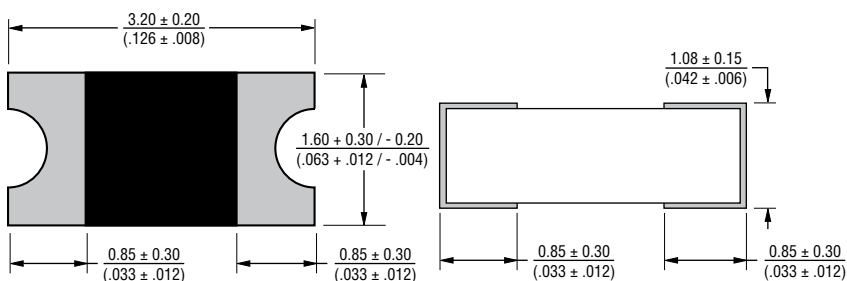
Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	3,500 pieces
Packaging Code	-2

## Recommended Pad Layout

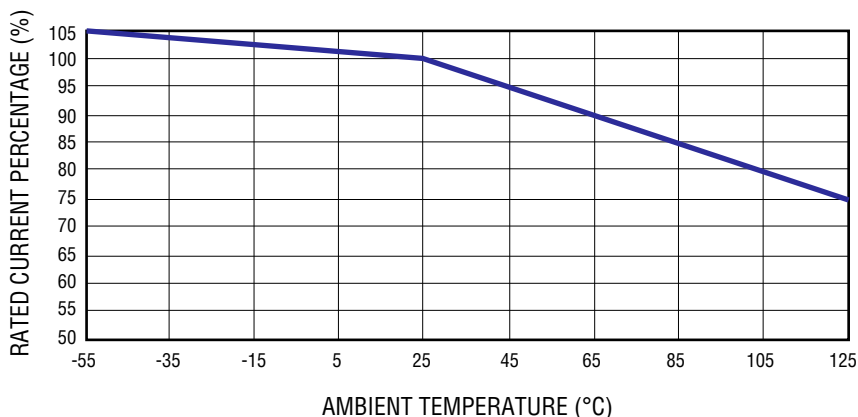


DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

## Product Dimensions



## 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 $T_p$ )	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.

\* ~~Total peak~~ Total 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.

## 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

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