



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 ² t (A ² s)**** | Certifications | |
|-----------------|-------------------|------------------------|---------------|---------------------|---|------------------------------|--------------------------------|
| | | | | | | cUL: E198545 | TUV R 50432923 |
| 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 I²t calculated at 0.001 second pre-arcing time.



Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com

EMEA: Tel: +36 88 885 877 • Email: eurocus@bourns.com

The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com

www.bourns.com



WARNING Cancer and Reproductive Harm
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.

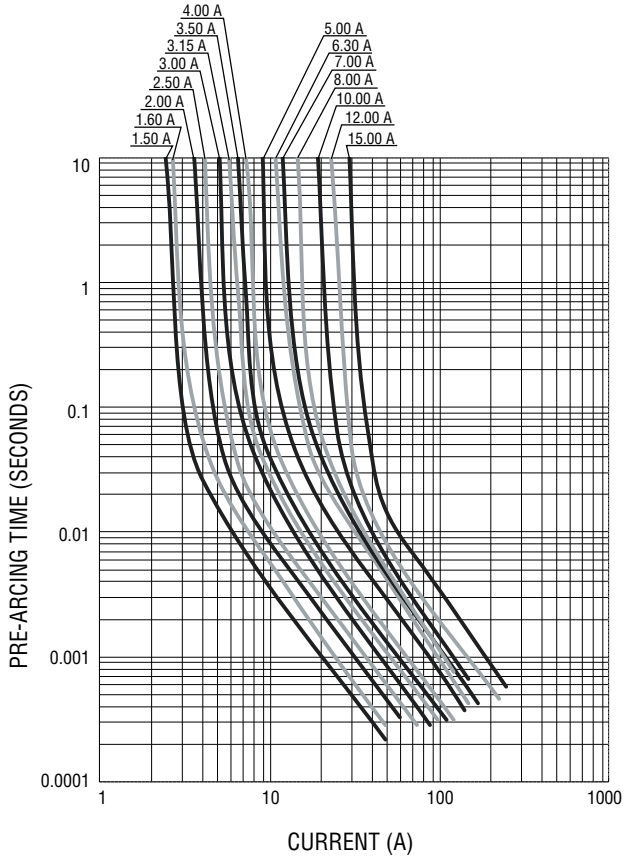
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SinglFuse™ SF-1206S-W Series Applications

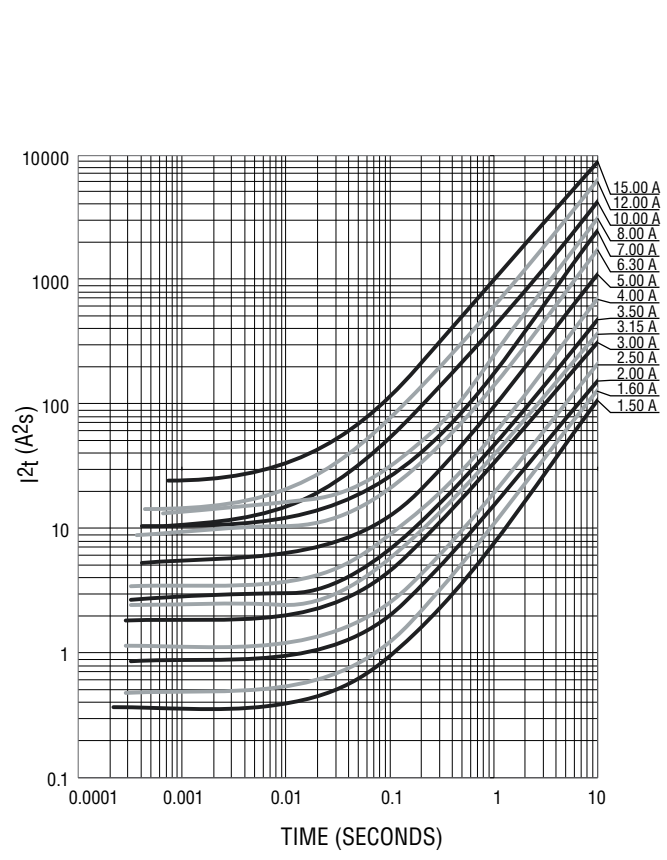
- LCD monitors
- Backlight drivers
- Set top boxes
- DC/DC converters
- Notebooks / ultrabooks
- Low voltage lighting power
- Industrial controllers

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

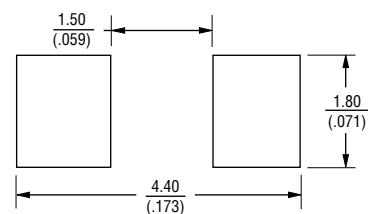
SF - 1206 S 150 W - 2

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

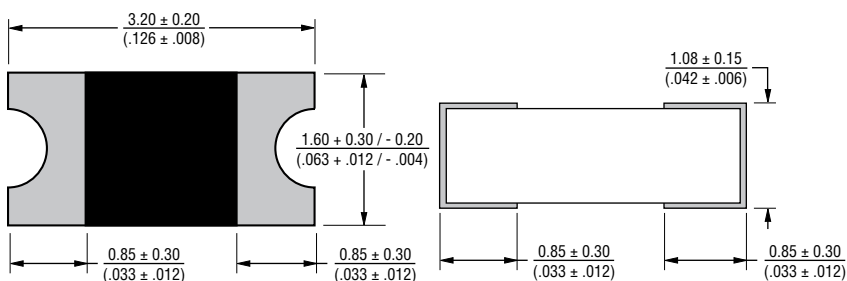
| | |
|----------------|----------------------|
| Reel Dimension | 7-inch Tape and Reel |
| Specification | EIA 481-2 |
| Quantity | 3,500 pieces |
| Packaging Code | -2 |

Recommended Pad Layout

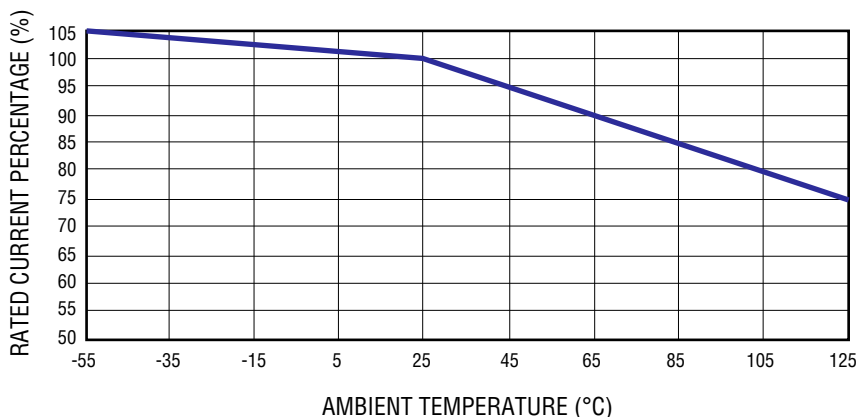


DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Product Dimensions



Current Rating Thermal Derating Curve

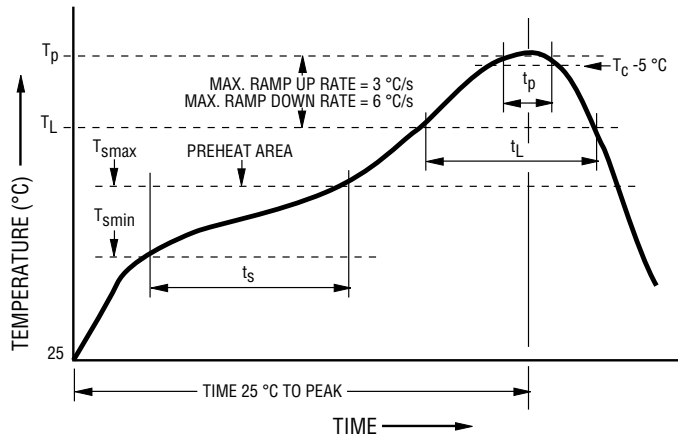


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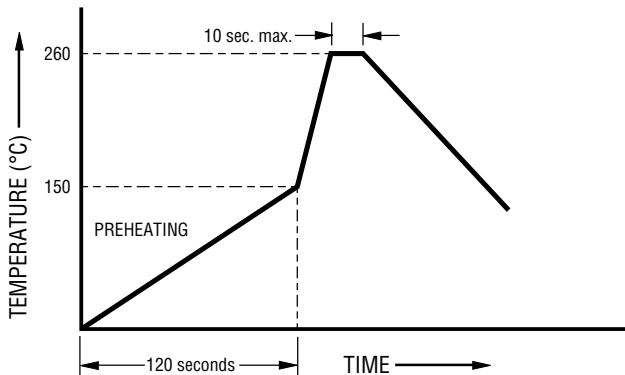
Solder Reflow Recommendations



| 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 $245\text{ }^\circ\text{C}$ followed by a 2 mm bend | Refer to STP document |
| 2 | Solderability | Minimum 90 % coverage | One dip at $245\text{ }^\circ\text{C}$ 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 $260\text{ }^\circ\text{C}$ 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 $-65\text{ }^\circ\text{C}$ and $+125\text{ }^\circ\text{C}$ | 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 $+25\text{ }^\circ\text{C}$ | Refer to STP document |

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