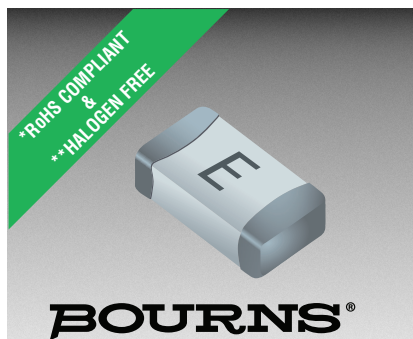




## SinglFuse™ SF-1206HlxxxM Series Features

- Single blow fuse for overcurrent protection
- 3216 (EIA 1206) footprint
- High inrush current withstand fuse
- UL 248-14 listed
- RoHS compliant\* and halogen free\*\*
- Multilayer SMD design
- Surface mount packaging for automated assembly

## SF-1206HlxxxM Series - High Inrush Multilayer Surface Mount Fuses

### Electrical Characteristics

| Model           | Rated Current (Amps) | Fusing Time                                | Resistance (Ω) Typ.*** | Rated Voltage | Interrupting Rating | Typical I <sup>2</sup> t (A <sup>2</sup> s) **** |
|-----------------|----------------------|--------------------------------------------|------------------------|---------------|---------------------|--------------------------------------------------|
| SF-1206HI100M-2 | 1.00                 | Open within 60 sec. at 200 % rated current | 0.340                  | DC 63 V       | DC 63 V 50 A        | 0.11                                             |
| SF-1206HI150M-2 | 1.50                 |                                            | 0.150                  |               |                     | 0.33                                             |
| SF-1206HI200M-2 | 2.00                 |                                            | 0.090                  |               |                     | 0.80                                             |
| SF-1206HI250M-2 | 2.50                 |                                            | 0.065                  | DC 32 V       | DC 32 V 50 A        | 1.19                                             |
| SF-1206HI300M-2 | 3.00                 |                                            | 0.035                  |               |                     | 1.35                                             |
| SF-1206HI350M-2 | 3.50                 |                                            | 0.029                  |               |                     | 1.84                                             |
| SF-1206HI400M-2 | 4.00                 |                                            | 0.023                  |               |                     | 2.74                                             |
| SF-1206HI450M-2 | 4.50                 |                                            | 0.021                  |               |                     | 3.20                                             |
| SF-1206HI500M-2 | 5.00                 |                                            | 0.017                  |               |                     | 5.50                                             |
| SF-1206HI600M-2 | 6.00                 |                                            | 0.013                  | DC 24 V       | DC 24 V 80 A        | 12.50                                            |
| SF-1206HI700M-2 | 7.00                 |                                            | 0.010                  |               |                     | 30.00                                            |
| SF-1206HI800M-2 | 8.00                 |                                            | 0.009                  |               |                     | 60.00                                            |

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

\*\*\*\* Melting I<sup>2</sup>t calculated at 1000 % of current rating.

### Reliability Testing

| No. | Test                      | Requirement                                                                                           | Test Condition                                                                                            | Test Reference         |
|-----|---------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------|
| 1   | Solderability             | Minimum 95 % coverage                                                                                 | One dip at 245 °C for 5 seconds                                                                           | MIL-STD-202 Method 208 |
| 2   | Soldering heat resistance | DCR change ≤ 10 %<br>No mechanical damage                                                             | One dip at 260 °C for 60 seconds                                                                          | MIL-STD-202 Method 210 |
| 3   | Moisture resistance       | DCR change ≤ ±15 %<br>No excessive corrosion                                                          | 10 cycles                                                                                                 | MIL-STD-202 Method 106 |
| 4   | Salt spray                | DCR change ≤ ±10 %<br>No excessive corrosion                                                          | 48 hour exposure, 5 % salt solution                                                                       | MIL-STD-202 Method 101 |
| 5   | Mechanical vibration      | DCR change ≤ ±10 %<br>No mechanical damage                                                            | 0.4 inch D.A. or 30 G between 5-3000 Hz                                                                   | MIL-STD-202 Method 204 |
| 6   | Mechanical shock          | DCR change ≤ ±10 %<br>No mechanical damage                                                            | 1500 G, 0.5 ms, half-sine shocks                                                                          | MIL-STD-202 Method 213 |
| 7   | Thermal Shock             | DCR change ≤ ±10 %<br>No mechanical damage                                                            | 100 cycles between -65 °C and +125 °C                                                                     | MIL-STD-202 Method 107 |
| 8   | Life                      | No electrical "opens" during testing<br>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 between +20 °C and +30 °C | Refer to STP document  |

### Agency Recognition

UL File Number ..... E198545

<http://www.ul.com/> Follow link to Online Certificates Directory, then enter UL File No. E198545, or [click here](#)

**BOURNS®**

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[www.bourns.com](http://www.bourns.com)

\* 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.

"SinglFuse" is a trademark of Bourns, Inc.

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

## SinglFuse™ SF-1206HlxxxM Series Applications

- Portable memory
- LCD monitors
- Disk drives
- PDAs
- Digital cameras
- MP3 players
- Cell phones
- Rechargeable battery packs
- Battery chargers
- Set-top boxes
- Industrial controllers
- Battery Management Systems (BMS)
- LED lighting
- Power tools

### SF-1206HlxxxM Series - High Inrush Multilayer Surface Mount Fuses

**BOURNS®**

#### Environmental Characteristics

|                                  |                                 |
|----------------------------------|---------------------------------|
| Operating Temperature.....       | -55 °C to +150 °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.



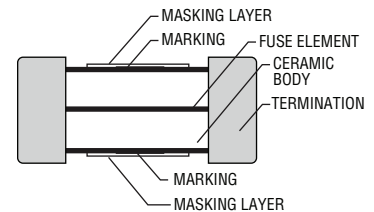
| RATED CURRENT (A) |          |
|-------------------|----------|
| E = 1.00          | M = 4.00 |
| G = 1.50          | T = 4.50 |
| I = 2.00          | N = 5.00 |
| J = 2.50          | O = 6.00 |
| K = 3.00          | P = 7.00 |
| L = 3.50          | R = 8.00 |

#### How to Order

**SF - 1206 HI 100 M - 2**

SinglFuse™  
 Product Designator  
 SMD Footprint  
 1206 = 3216 (EIA 1206) size  
 Fuse Blow Type  
 HI = High Inrush Capability  
 Rated Current  
 100 ~ 800 (1.0 A ~ 8.0 A)  
 Structure Type  
 M = Multilayer  
 Packaging Type  
 - 2 = Tape & Reel

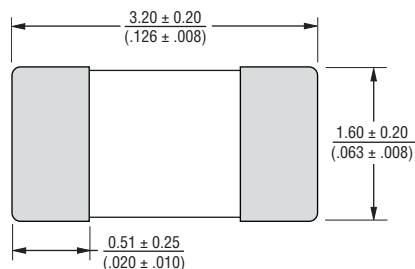
#### Construction



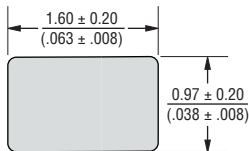
#### Packaging Quantity

3,000 pieces per 7-inch reel

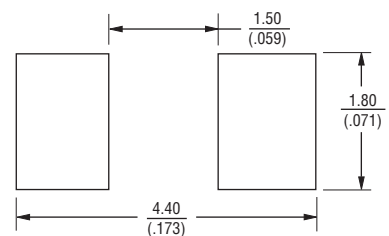
#### Product Dimensions



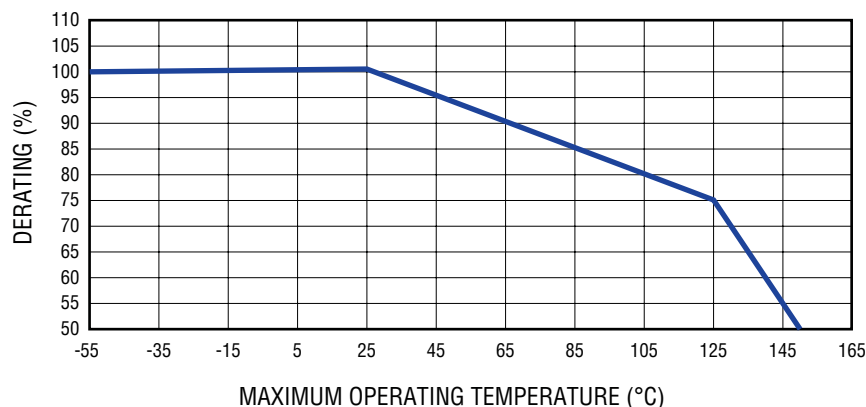
DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$



#### Recommended Pad Layout

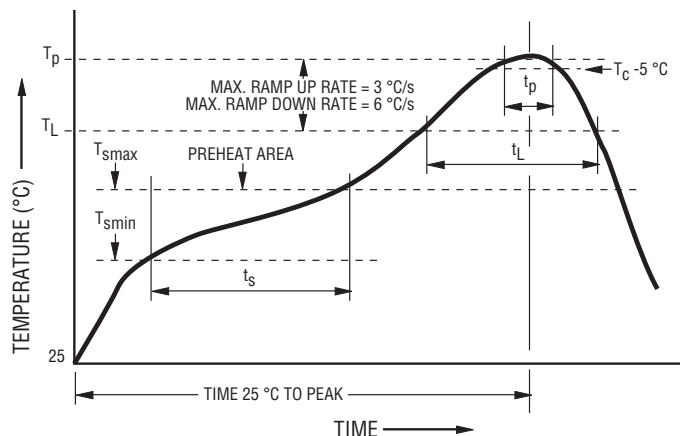


#### Current Rating Thermal Derating Curve



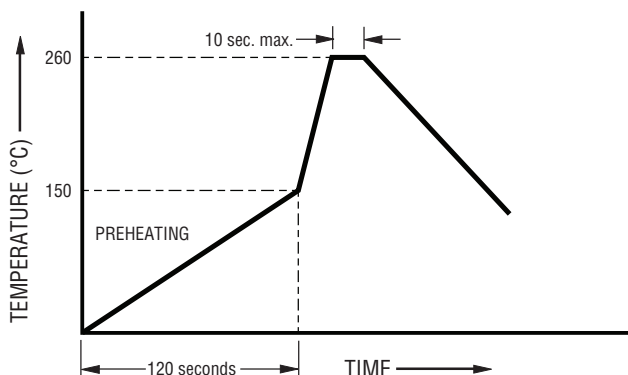
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**Solder Reflow Recommendations**

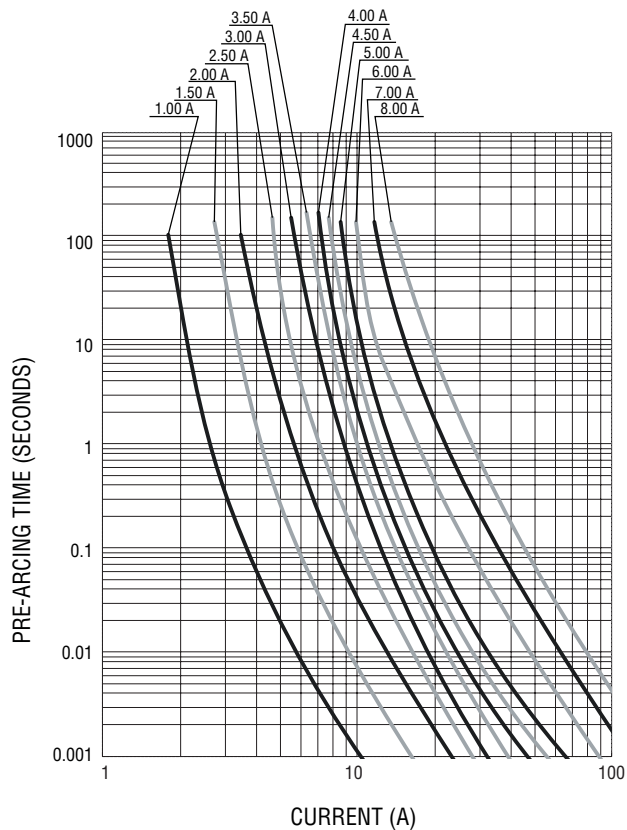
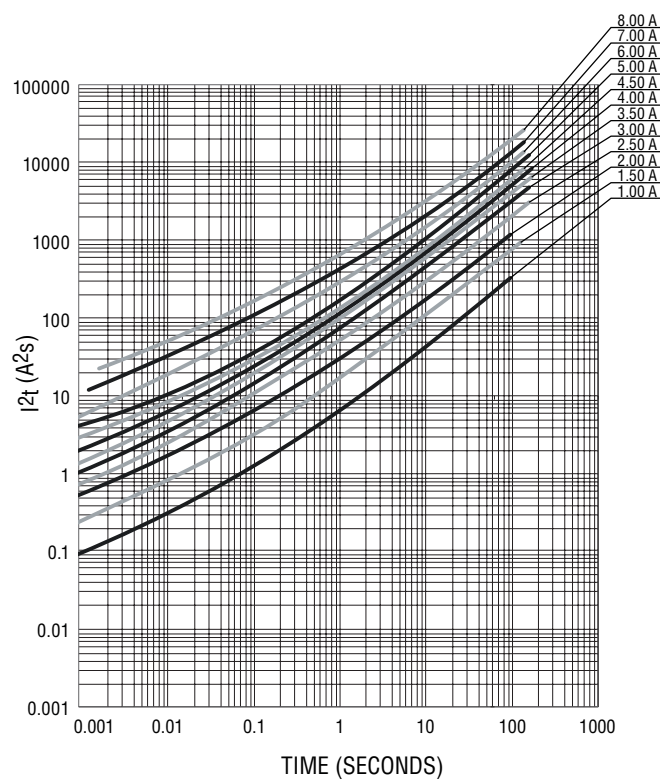
| Profile Feature                                                                                                                           | Pb-Free Assembly                   |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Preheat / Soak:<br>Temperature Min. ( $T_{smin}$ )<br>Temperature Max. ( $T_{smax}$ )<br>Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ ) | 150 °C<br>200 °C<br>60~120 seconds |
| Ramp Up Rate ( $T_L$ to $T_p$ )                                                                                                           | 3 °C / second max.                 |
| Liquidous Temperature ( $T_L$ )<br>Time ( $t_L$ ) maintained above $T_L$                                                                  | 217 °C<br>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 1206 size models.

Average Pre-Arcing Time vs. Current Curves

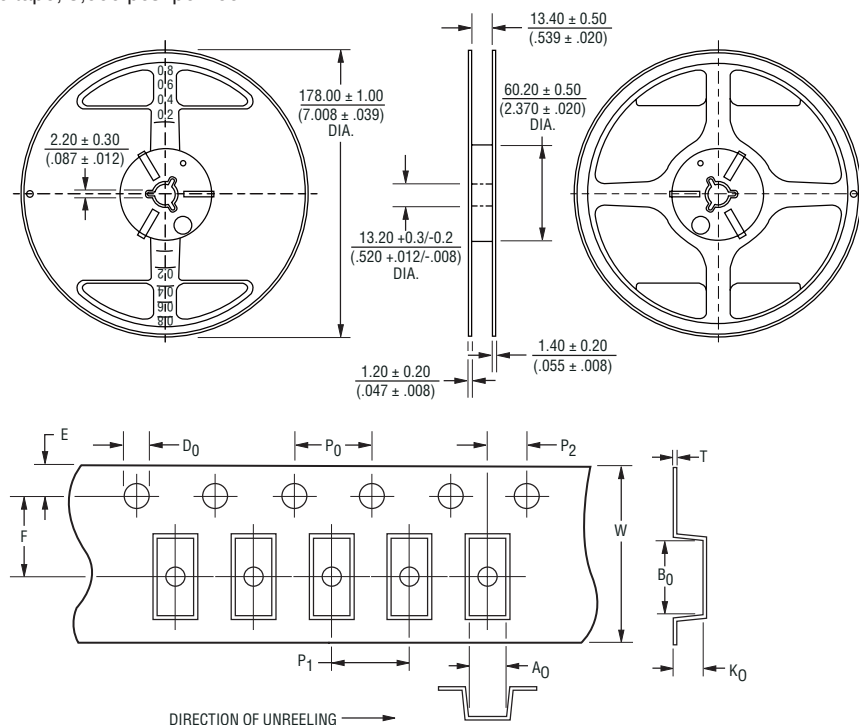
Average  $I^2t$  vs.  $t$  Curves

# SF-1206HlxxxM Series Tape and Reel Packaging Specifications

**BOURNS®**

| Tape Dimensions |  | SF-1206HlxxxM Series<br>per EIA 481-2   |
|-----------------|--|-----------------------------------------|
| W               |  | $\frac{8.00 \pm 0.10}{(.315 \pm .004)}$ |
| P <sub>0</sub>  |  | $\frac{4.0 \pm 0.10}{(.157 \pm .004)}$  |
| P <sub>1</sub>  |  | $\frac{4.0 \pm 0.10}{(.157 \pm .004)}$  |
| P <sub>2</sub>  |  | $\frac{2.0 \pm 0.05}{(.079 \pm .002)}$  |
| A <sub>0</sub>  |  | $\frac{1.80 \pm 0.10}{(.071 \pm .004)}$ |
| B <sub>0</sub>  |  | $\frac{3.50 \pm 0.10}{(.138 \pm .004)}$ |
| F               |  | $\frac{3.50 \pm 0.05}{(.138 \pm .002)}$ |
| E <sub>1</sub>  |  | $\frac{1.75 \pm 0.10}{(.069 \pm .004)}$ |
| D <sub>0</sub>  |  | $\frac{1.50 \pm 0.10}{(.059 \pm .004)}$ |
| K <sub>0</sub>  |  | $\frac{1.10 \pm 0.10}{(.043 \pm .004)}$ |
| T               |  | $\frac{0.23 \pm 0.02}{(.009 \pm .001)}$ |

PACKAGING: Plastic tape, 3,000 pcs. per reel



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

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The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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