

## SinglFuse™ SF-1206F Series Features

- Fast acting thin film chip fuse for overcurrent protection
- 3216 (EIA 1206) miniature footprint
- Surface mount packaging for automated assembly
- UL listed (UL 248-14)
- RoHS compliant\* and halogen free\*\*

## SF-1206F Series - Fast Acting Surface Mount Fuses

### Electrical Characteristics

Model	Rated Current (Amps)	Fusing Time	Resistance (mΩ) Typ.***	Rated Voltage	Breaking Capacity	Typical I <sup>2</sup> t (A <sup>2</sup> s)****
SF-1206F050	0.50	Open within 1 min. at 200 % rated current	590	DC 63 V	DC 63 V 50 A	0.011
SF-1206F080	0.80		225			0.031
SF-1206F100	1.00		130			0.034
SF-1206F125	1.25		88			0.062
SF-1206F150	1.50		65			0.144
SF-1206F200	2.00		38			0.181
SF-1206F250	2.50		32	DC 32 V	DC 32 V 50 A	0.351
SF-1206F300	3.00		23			0.501
SF-1206F400	4.00		15	DC 24 V	DC 24 V 50 A	0.954
SF-1206F500	5.00		11			0.966
SF-1206F700	7.00		7			3.25

\*\*\* Resistance value was measured with less than 10 % of rated current.

\*\*\*\*Typical I<sup>2</sup>t value is measured at 10x rated current.

### Reliability Testing

Parameter	Requirement	Test Method
Carrying Capacity	No fusing	Rated current, 4 hours
Fusing Time	Within 1 minute	200 % of its rated current
Interrupting Ability	No mechanical damages	After the fuse is interrupted, rated voltage applied for 30 seconds again
Bending Test	No mechanical damages	Distance between holding points: 90 mm, Bending: 3 mm, 1time, 30 seconds
Resistance to Solder Heat	±20 %	260 °C ±5 °C, 10 seconds ±1 second
Solderability	95 % coverage minimum	235 °C ±5 °C, 2 ±0.5 second 245 °C ±5 °C, 2 ±0.5 second (lead free)
Temperature Rise	<75 °	100 % of its rated current, measure of surface temperature
Resistance to Dry Heat	±20 %	105 °C ±5 °C, 1000 hours
Resistance to Solvent	No evident damage on protective coating and marking	23 °C ±5 °C of isopropyl alcohol, 90 seconds
Residual Resistance	10k ohms or more	Measure DC resistance after fusing
Thermal Shock	ΔR < 10 %	-20 °C / +25 °C / +125 °C / +25 °C, 10 cycles
UL File Number	E198545 <a href="http://www.ul.com/">http://www.ul.com/</a> Follow link to Online Certificates Directory, then enter UL File No. E198545, or click here	

### Environmental Characteristics

Operating Temperature	-20 °C to +105 °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

\* 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.

## BOURNS®

### Asia-Pacific:

Tel: +886-2 2562-4117  
Email: [asiacus@bourns.com](mailto:asiacus@bourns.com)

### Europe:

Tel: +36 88 520 390  
Email: [eurocus@bourns.com](mailto:eurocus@bourns.com)

### The Americas:

Tel: +1-951 781-5500  
Email: [americus@bourns.com](mailto:americus@bourns.com)

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

## SingIFuse™ SF-1206F Series Applications

- Portable memory
- LCD monitors
- Disk drives
- PDAs
- Digital cameras
- DVDs
- Cell phones
- Rechargeable battery packs
- Battery chargers
- Set top boxes
- Industrial controllers

## SF-1206F Series - Fast Acting Surface Mount Fuses

**BOURNS®**

### Typical Part Marking

Represents total content. Layout may vary.



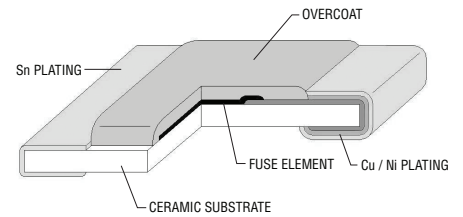
RATED CURRENT (A)  
 F = 0.50    T = 2.50  
 K = 0.80    3 = 3.00  
 L = 1.00    W = 4.00  
 M = 1.25    Y = 5.00  
 P = 1.50    Z = 7.00  
 S = 2.00

### How to Order

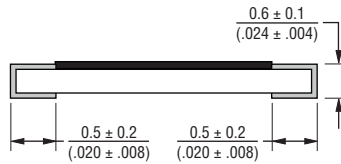
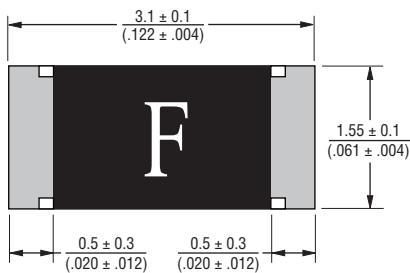
**SF - 1206 F 050 - 2**

SingIFuse™  
 Product Designator  
 SMD Footprint  
 3216 (1206) size  
 Fuse Blow Type  
 F = Fast acting  
 S = Slow blow  
 Rated Current  
 050-700 (500 mA - 7.00 A)  
 Packaging Type  
 - 2 = Tape & Reel (5,000 pcs./reel)

### Construction & Material Content



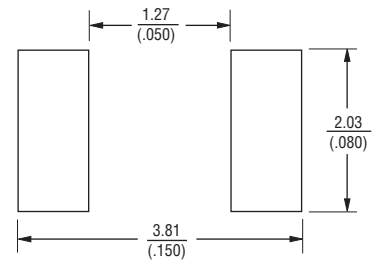
### Product Dimensions



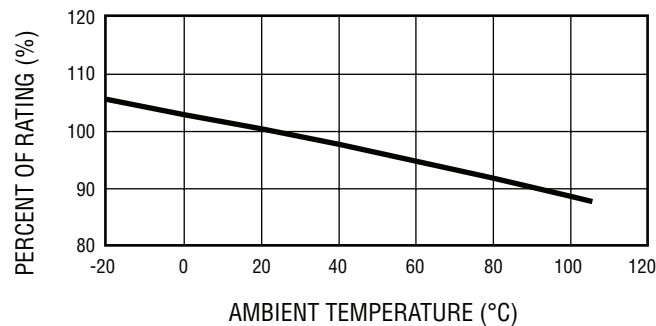
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

PACKAGING: 5,000 pcs./reel

### Recommended Pad Layout



### Thermal Derating Curve

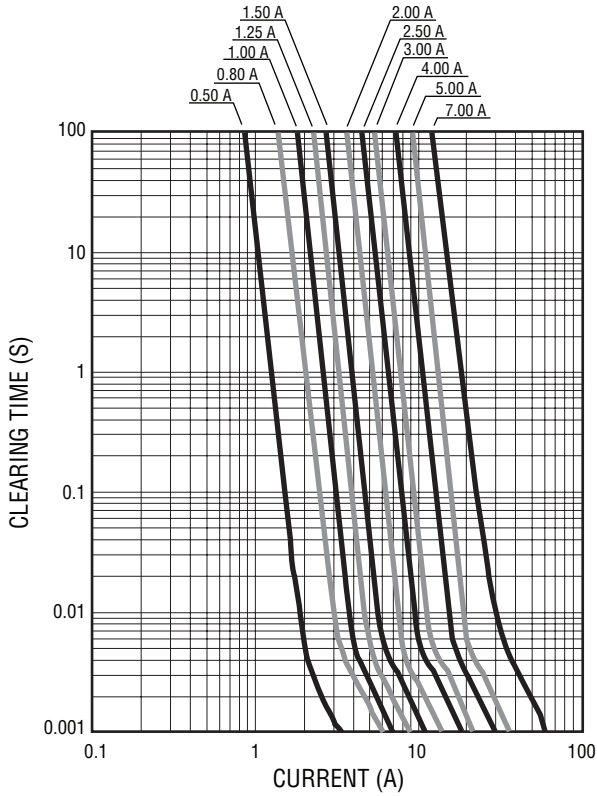


Specifications are subject to change without notice.  
 The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.  
 Users should verify actual device performance in their specific applications.

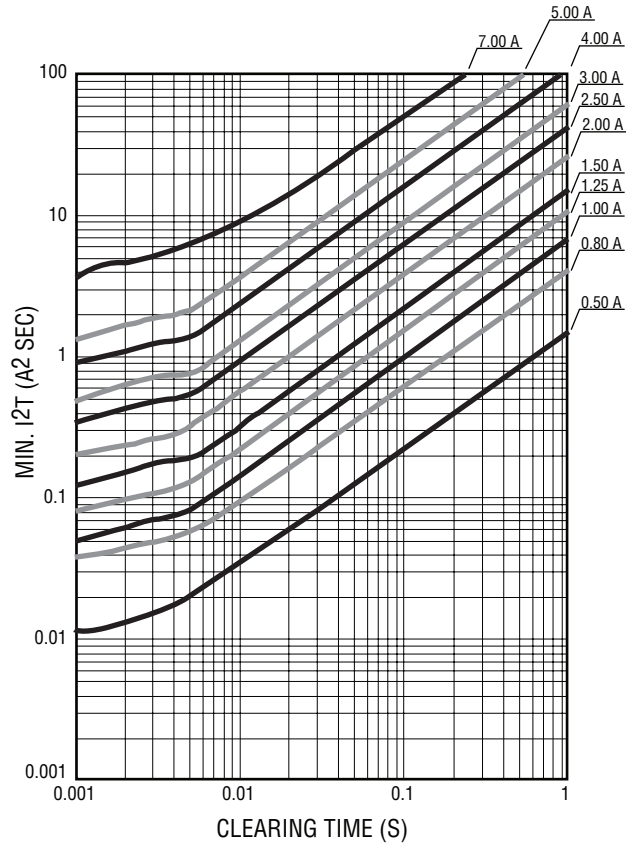
# SF-1206F Series - Fast Acting Surface Mount Fuses



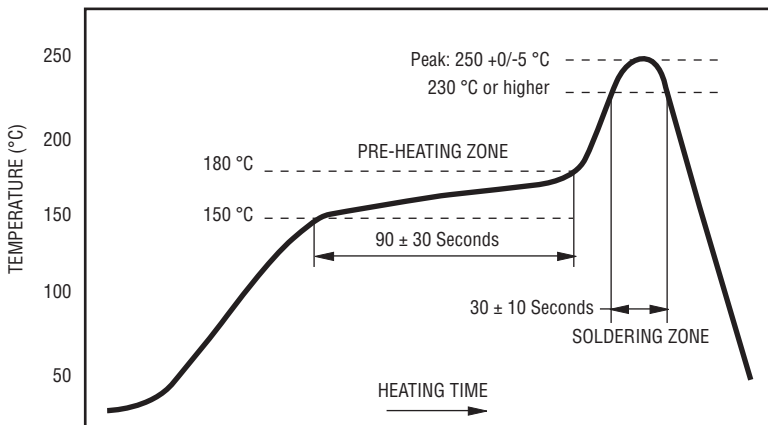
**Average Time Current Curves**



**Minimum I<sup>2</sup>T V Clear Time Curves**



**Solder Reflow Recommendations**



PEAK: 250 ± 5 °C, 5 seconds  
 PRE-HEATING ZONE: 150 to 180 °C, 90 ± 30 seconds  
 SOLDERING ZONE: 230 °C or higher, 30 ± 10 seconds

REV. G 08/17

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.

# SF-1206F Series Tape and Reel Specifications

# BOURNS®

Tape Dimensions	SF-1206F Series per EIA 481-2
W	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$
P <sub>0</sub>	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$
P <sub>1</sub>	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$
P <sub>2</sub>	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$
A	$\frac{2.0 \pm 0.15}{(.079 \pm .006)}$
B	$\frac{3.6 \pm 0.2}{(.142 \pm .008)}$
F	$\frac{3.5 \pm 0.05}{(.138 \pm .002)}$
E	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$
D <sub>0</sub>	$\frac{1.5 + 0.1/-0}{(.059 + .004/-0)}$
T	$\frac{0.84 \pm 0.1}{(.033 \pm .004)}$
<b>Reel Dimensions</b>	
A	$\frac{180 +0/-3.0}{(7.087 +0/-1.18)}$
B Min.	$\frac{60.0}{(2.362)}$
C	$\frac{13.0 \pm 1.0}{(.512 \pm .039)}$
W	$\frac{9.0 \pm 1.0}{(.354 \pm .039)}$
T	$\frac{11.4 \pm 2.0}{(.449 \pm .079)}$



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.