

SinglFuse™ SF-1206FP Series Features

- Fast acting precision 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-1206FP Series - Fast Acting Precision Surface Mount Fuses

Electrical Characteristics

Model	Rated Current (Amps)	Fusing Time	Resistance (mΩ) Typ.***	Rated Voltage	Breaking Capacity	Typical I ² t (A ² s) ****
SF-1206FP050	0.50	Open within 5 sec. at 200 % rated current	527.5	DC 63 V	DC 63 V 50 A	0.015
SF-1206FP080	0.80		211			0.040
SF-1206FP100	1.00		145.5			0.062
SF-1206FP125	1.25		90			0.094
SF-1206FP150	1.50		83			0.141
SF-1206FP200	2.00		57			0.285
SF-1206FP250	2.50		37	DC 32 V	DC 32 V 50 A	0.445
SF-1206FP300	3.00		26			0.639
SF-1206FP400	4.00		18			1.109
SF-1206FP500	5.00		13			1.710
SF-1206FP700	7.00		9			3.300

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

****Typical I²t value measured at 10x rated current.

Reliability Testing

Parameter	Requirement	Test Method
Carrying Capacity	No fusing	Rated current, 4 hours
Fusing Time	Within 5 seconds	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 °C	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 http://www.ul.com/ 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

BOURNS®

Asia-Pacific:

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

Europe:

Tel: +36 88 520 390
Email: eurocus@bourns.com

The Americas:

Tel: +1-951 781-5500
Email: americus@bourns.com
www.bourns.com

* 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.

"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.

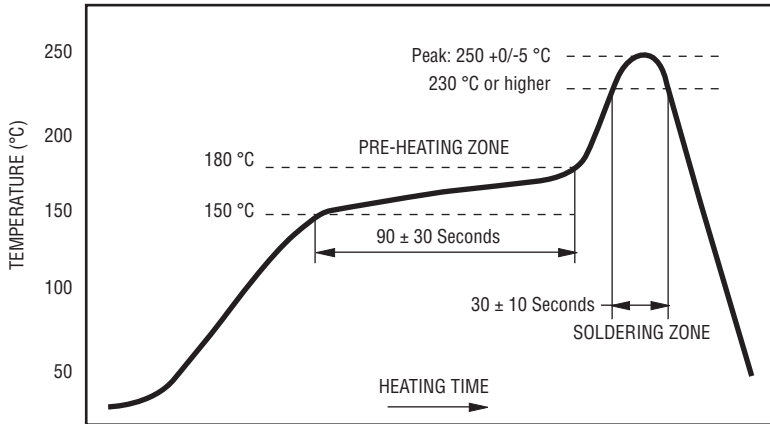
Users should verify actual device performance in their specific applications.

SinglFuse™ SF-1206FP Series Applications

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

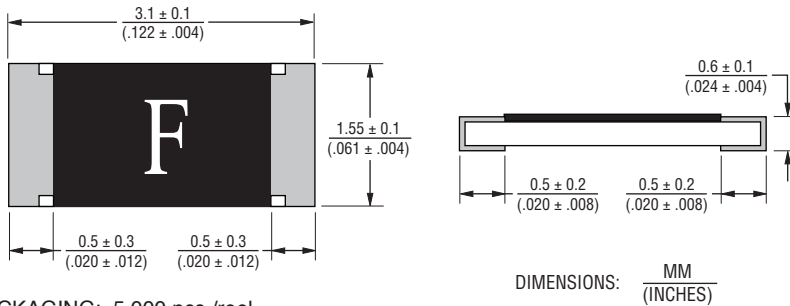
SF-1206FP Series - Fast Acting Precision Surface Mount Fuses **BOURNS®**

Solder Reflow Recommendations



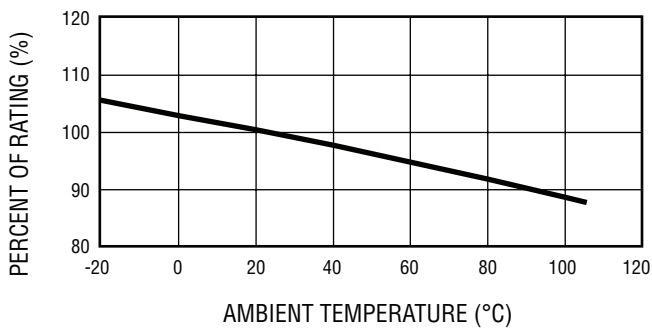
PEAK: 250 +0/-5 °C, 5 seconds
 PRE-HEATING ZONE: 150 to 180 °C, 90 ± 30 seconds
 SOLDERING ZONE: 230 °C or higher, 30 ± 10 seconds

Product Dimensions

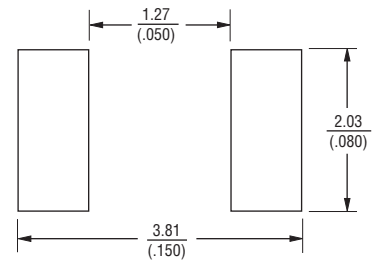


PACKAGING: 5,000 pcs./reel

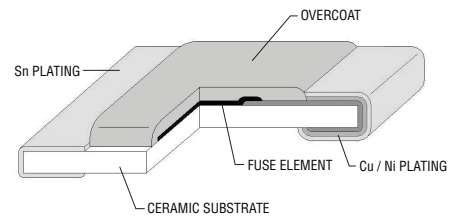
Thermal Derating Curve



Recommended Pad Layout



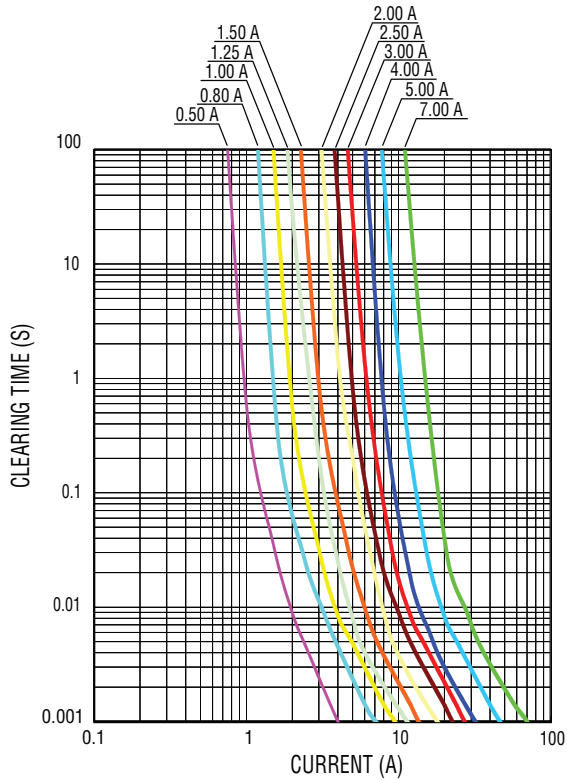
Construction & Material Content



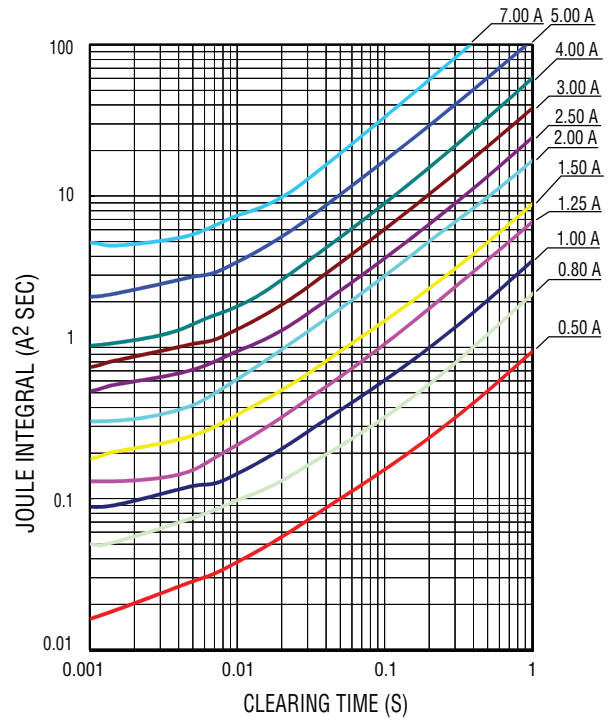
Specifications are subject to change without notice. The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

SF-1206FP Series - Fast Acting Precision Surface Mount Fuses **BOURNS®**

Average Time Current Curves



Minimum I²T V Clear Time Curves



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

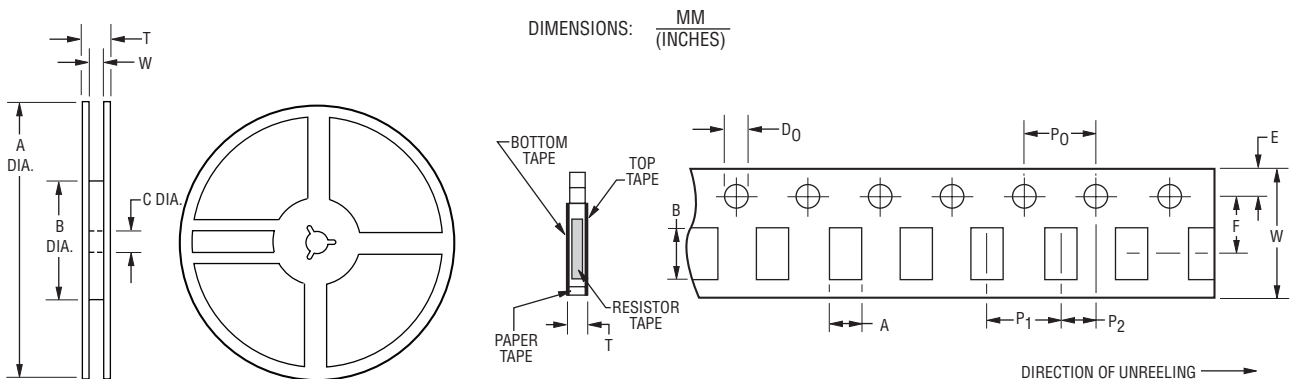
SF - 1206 FP 050 - 2

SinglFuse™
 Product Designator _____
 SMD Footprint _____
 3216 (EIA 1206) size
 Fuse Blow Type _____
 FP = Fast acting precision
 Rated Current _____
 050-700 (500 mA - 7.00 A)
 Packaging Type _____
 - 2 = Tape & Reel (5,000 pcs./reel)

SF-1206FP Series Tape and Reel Specifications

BOURNS®

Tape Dimensions	SF-1206FP Series per EIA 481-2
W	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$
P ₀	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$
P ₁	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$
P ₂	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$
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 ₀	$\frac{1.5 + 0.1/-0}{(.059 + .004/-0)}$
T	$\frac{0.84 \pm 0.1}{(.033 \pm .004)}$
Reel Dimensions	
A	$\frac{178 \pm 0.2}{(7.087 \pm .079)}$
B Min.	$\frac{60.0 \pm 1.0}{(2.362 \pm .039)}$
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.