



SinglFuse™ SF-1206SP Series Features

- Time lag 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-1206SP Series - Time Lag 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-1206SP050	0.50	Open within 1~120 sec. at 200 % rated current	738.5	DC 63 V	DC 63 V 50 A	0.027
SF-1206SP080	0.80		215			0.072
SF-1206SP100	1.00		163.5			0.134
SF-1206SP125	1.25		100			0.233
SF-1206SP150	1.50		68.5			0.305
SF-1206SP200	2.00		48.5	DC 32 V	DC 32 V 50 A	0.509
SF-1206SP250	2.50		35			0.777
SF-1206SP300	3.00		27			1.285
SF-1206SP400	4.00		14			2.374
SF-1206SP500	5.00		11			5.510
SF-1206SP700	7.00		7.5			10.170

*** Resistance value measured with less than 10 % of rated current. Resistance tolerance ± 25 %.

****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 120 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, 1 time, 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	$\Delta R < 10$ %	-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-1206SP Series Applications

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

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Typical Part Marking

Represents total content. Layout may vary.



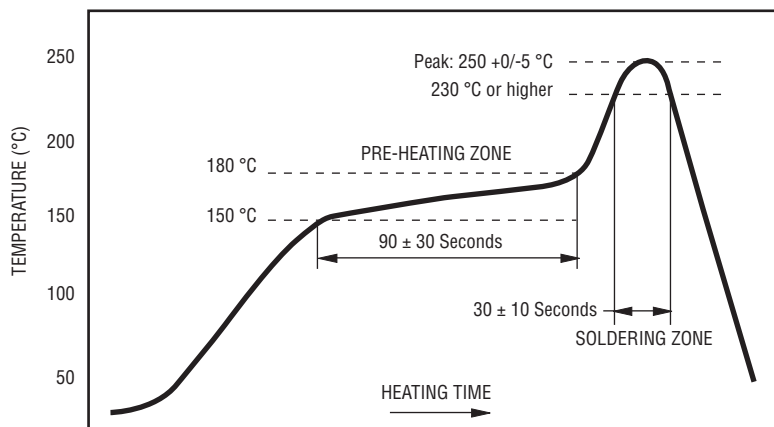
RATED CURRENT (A)
 F = 0.50 T = 2.50
 K = 0.80 3 = 3.00
 L = 1.00 W = 4.00
 M = 1.25 Y = 5.00
 P = 1.50 Z = 7.00
 S = 2.00

How to Order

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

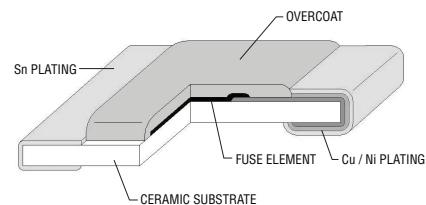
SF - 1206 SP 050 - 2

Solder Reflow Recommendations

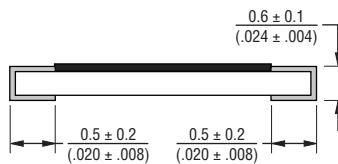
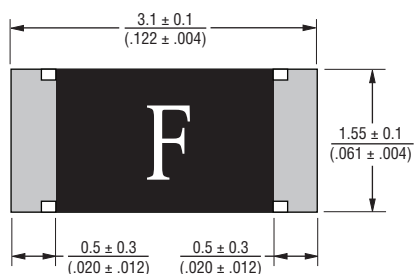


PEAK: 250 +0/-5 °C, 5 seconds
 PRE-HEATING ZONE: 150 to 180 °C, 90 ± 30 seconds
 SOLDERING ZONE: 230 °C or higher, 30 ± 10 seconds

Construction & Material Content



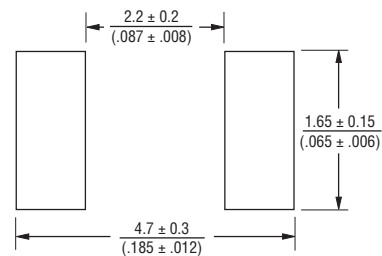
Product Dimensions



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

PACKAGING: 5,000 pcs./reel

Recommended Pad Layout

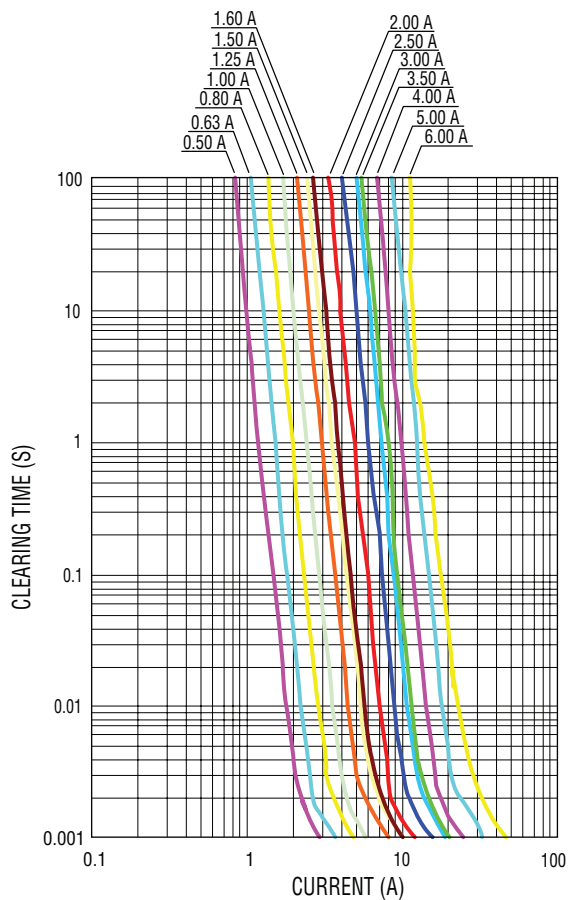


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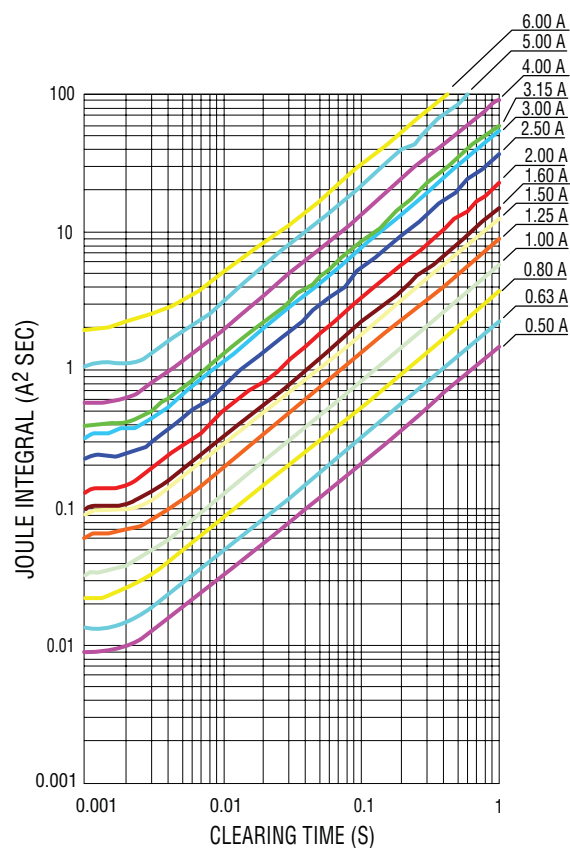
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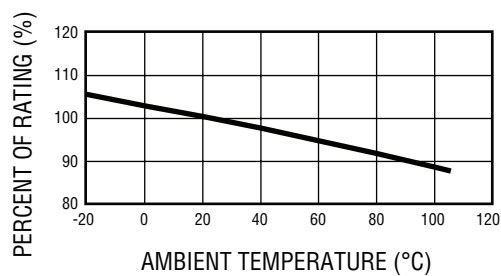
Average Time Current Curves



Minimum I²T V Clear Time Curves



Thermal Derating Curve



REV. A 08/17

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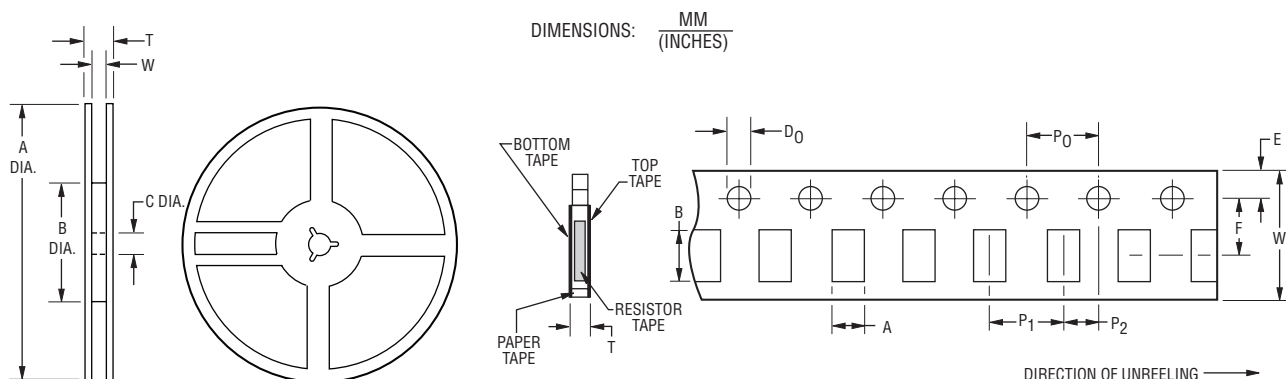
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SF-1206SP Series Tape and Reel Specifications

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Tape Dimensions	SF-1206SP 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	$\frac{11.4 \pm 2.0}{(.449 \pm .079)}$



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