



**THE DATASHEET OF
SF-0402F400-2**





SinglFuse™ SF-0402F Series Features

- Fast acting thin film chip fuse for overcurrent protection
- 1005 (EIA 0402) miniature footprint
- Surface mount packaging for automated assembly
- UL listed (UL 248-14)
- RoHS compliant* and halogen free**

SF-0402F Series - Fast Acting Surface Mount Fuses

Electrical Characteristics

Model	Rated Current (Amps)	Fusing Time	Resistance (mΩ)***	Rated Voltage	Breaking Capacity	Typical I ² t (A ² s)****
SF-0402F0315	0.315	Open within 1 min. at 200 % rated current	690	DC 32 V	DC32 V 35 A	0.00203
SF-0402F050	0.50		340			0.00317
SF-0402F075	0.75		140			0.00402
SF-0402F080	0.80		100			0.00532
SF-0402F100	1.00		95			0.00724
SF-0402F125	1.25		57			0.01344
SF-0402F150	1.50		45			0.01356
SF-0402F160	1.60		44			0.01672
SF-0402F200	2.00		33			0.01983
SF-0402F250	2.50		25			0.03763
SF-0402F300	3.00		19			0.05427
SF-0402F315	3.15		18			0.06304
SF-0402F400	4.00		12			0.0896

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

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

Reliability Testing

No.	Test	Requirement	Test Condition
1	Carrying Capacity	No fusing	Rated current, 4 hours
2	Fusing Time	Within 1 minute	200 % of its rated current
3	Interrupting Ability	No mechanical damages	After the fuse is interrupted, rated voltage applied for 30 seconds again
4	Bending Test	No mechanical damages	Distance between holding points: 90 mm, Bending: 3 mm, 1time, 30 seconds
5	Resistance to Solder Heat	±20 %	260 °C ±5 °C, 10 seconds ±1 second
6	Solderability	95 % coverage minimum	235 °C ±5 °C, 2 ±0.5 second 245 °C ±5 °C, 2 ±0.5 second (lead free)
7	Temperature Rise	<75 °	100 % of its rated current, measure of surface temperature
8	Resistance to Dry Heat	±20 %	105 °C ±5 °C, 1000 hours
9	Resistance to Solvent	No evident damage on protective coating and marking	23 °C ±5 °C of isopropyl alcohol, 90 seconds
10	Residual Resistance	10k ohms or more	Measure DC resistance after fusing
11	Thermal Shock	ΔR < 10 %	-20 °C / +25 °C /+125 °C /+25 °C, 10 cycles

Agency Recognition

UL File Number E198545

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



WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

* 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.

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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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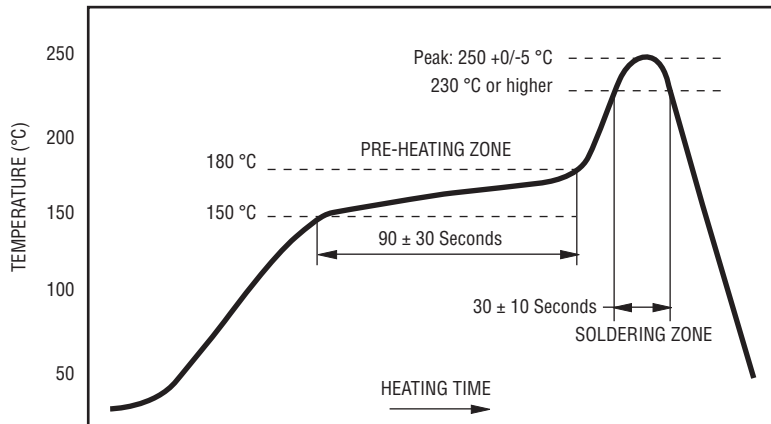
SinglFuse™ SF-0402F Series Applications

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

SF-0402F Series - Fast Acting Surface Mount Fuses

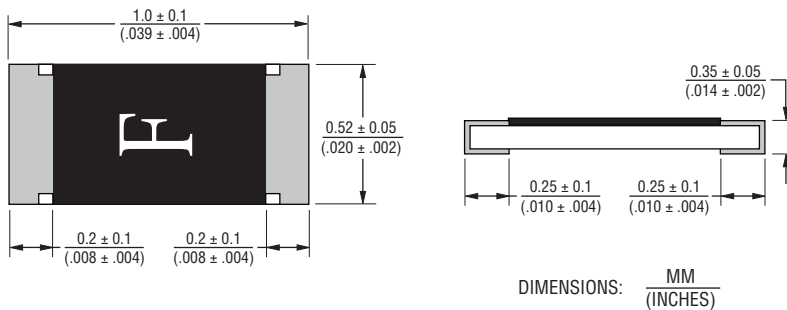
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Solder Reflow Recommendations

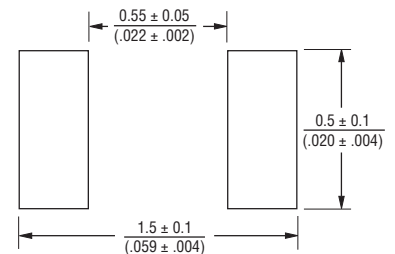


PEAK: 250 +0/-5 °C, 5 seconds
PRE-HEATING ZONE: 150 to 180 °C, 90 ± 30 seconds
SOLDERING ZONE: 230 °C or higher, 30 ± 10 seconds

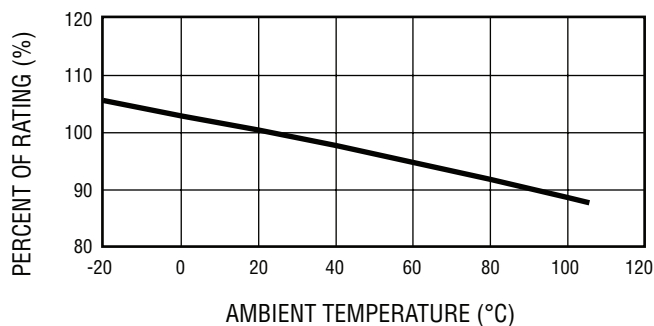
Product Dimensions



Recommended Pad Layout



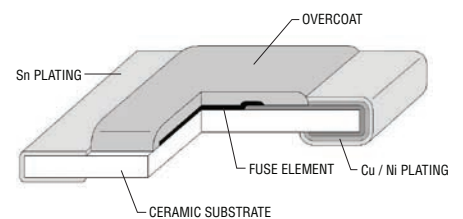
Thermal Derating Curve



Packaging Quantity

10,000 pieces per 7-inch reel

Construction & Material Content



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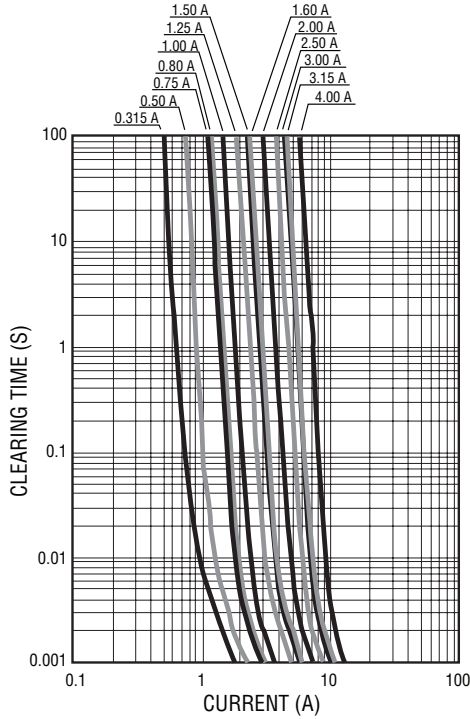
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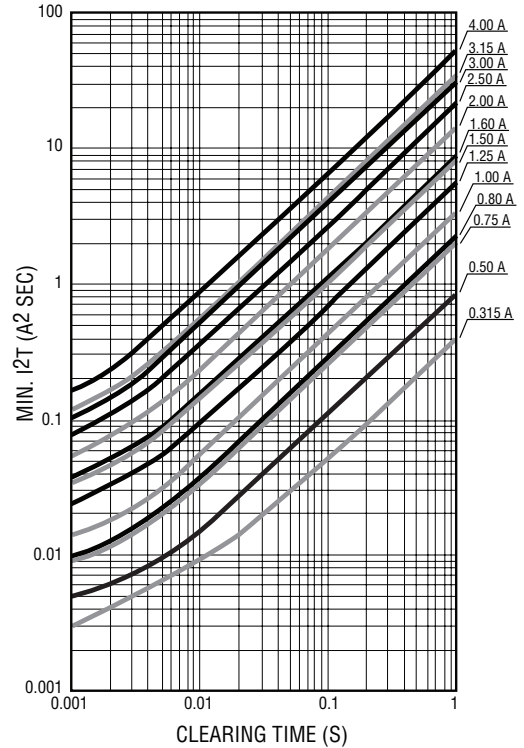
SF-0402F Series - Fast Acting Surface Mount Fuses



Average Time Current Curves



Minimum I²T V Clear Time Curves



Typical Part Marking

Represents total content. Layout may vary.



RATED CURRENT (A)	
D = 0.315	N = 1.60
F = 0.50	S = 2.00
V = 0.75	T = 2.50
K = 0.80	3 = 3.00
L = 1.00	U = 3.15
M = 1.25	W = 4.00
P = 1.50	

How to Order

SF - 0402 F 0315 - 2

SinglFuse™
 Product Designator _____
 SMD Footprint _____
 1005 (EIA 0402) size
 Fuse Blow Type _____
 F = Fast acting
 Rated Current _____
 0315-400 (315 mA - 4.00 A)
 Packaging Type _____
 - 2 = Tape & Reel (10,000 pcs./reel)

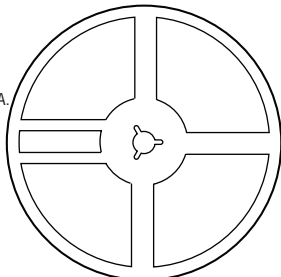
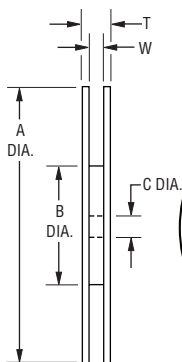
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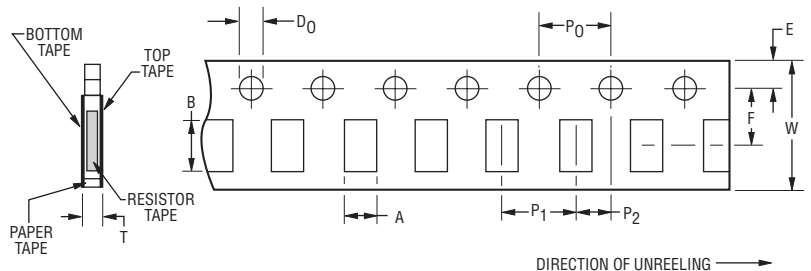
SF-0402F Series Tape and Reel Specifications

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Tape Dimensions	SF-0402F 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	$\frac{2.0 \pm 0.1}{(.079 \pm .004)}$
P ₂	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$
A	$\frac{0.7 \pm 0.05}{(.028 \pm .002)}$
B	$\frac{1.2 \pm 0.05}{(.047 \pm .002)}$
F	$\frac{3.5 \pm 0.05}{(.138 \pm .002)}$
E	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$
D ₀	$\frac{1.5 \pm 0.1}{(.059 \pm .004)}$
T	$\frac{0.45 \pm 0.01}{(.018 \pm .004)}$
Reel Dimensions	
A	$\frac{180 \pm 0/-3.0}{(7.087 \pm 0/-118)}$
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	$\frac{11.4 \pm 2.0}{(.449 \pm .079)}$



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



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- ✓ Shortage Management
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