

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 I²t (A²s)****
SF-0402F0315	0.315	Open within 1 min. at 200 % rated current	690		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	DC 32 V		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 %.

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 NumberE198545

Environmental Characteristics

Operating Temperature Storage Conditions	-20 °C to +105 °C
Temperature	+5 °C to +35 °C 40 % to 75 %
Shelf Life	2 years from manufacturing date
	1



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
- 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.
Users should verify actual device performance in their specific applications.

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^{****}Typical I2t value measured at 10x rated current.

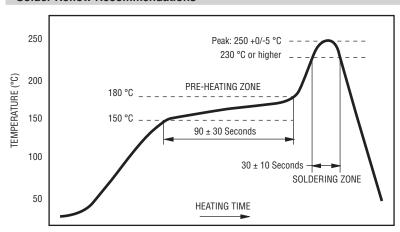
SinglFuse™ SF-0402F Series Applications

- Portable memory
- LCD monitors
- Disk drives
- **PDAs**
- Digital cameras
- DVDs

- Rechargeable battery packs
- Battery chargers
- Set top boxes
- Industrial controllers

SF-0402F Series - Fast Acting Surface Mount Fuses

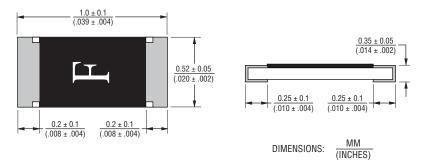
Solder Reflow Recommendations



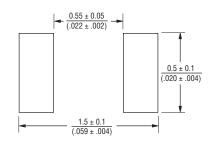
PEAK: 250 +0/-5 °C, 5 seconds

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

Product Dimensions



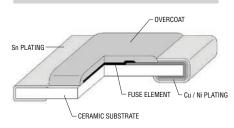
Recommended Pad Layout



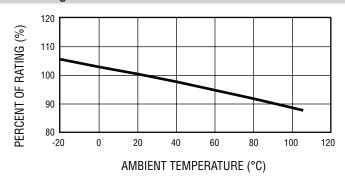
Packaging Quantity

10,000 pieces per 7-inch reel

Construction & Material Content



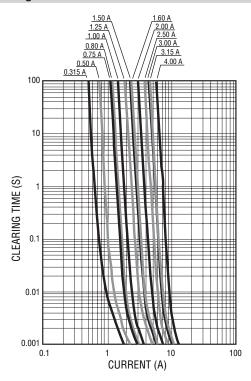
Thermal Derating Curve



SF-0402F Series - Fast Acting Surface Mount Fuses

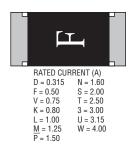
BOURNS®

Average Time Current Curves

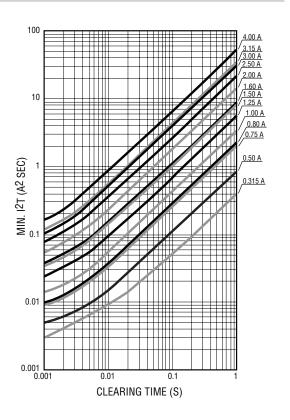


Typical Part Marking

Represents total content. Layout may vary.



Minimum I²T V Clear Time Curves



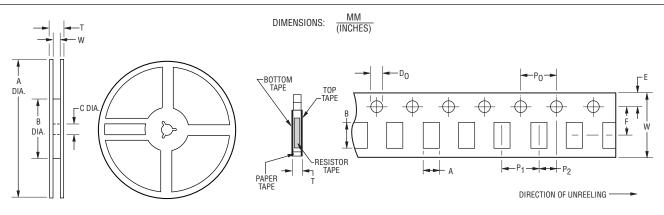
How to Order SF - 0402 F 0315 - 2 SinglFuse™ Product Designator SMD Footprint 1005 (EIA 0402) size Fuse Blow Type F = Fast acting Rated Current 0315-400 (315 mA - 4.00 A) Packaging Type - 2 = Tape & Reel (10,000 pcs./reel)

REV. K 01/19

SF-0402F Series Tape and Reel Specifications

CE 0400E Carias

Tape Dimensions	SF-0402F Series per EIA 481-2
W	8.0 ± 0.2 (.315 ± .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	$\frac{0.7 \pm 0.05}{(.028 \pm .002)}$
В	$\frac{1.2 \pm 0.05}{(.047 \pm .002)}$
F	$\frac{3.5 \pm 0.05}{(.138 \pm .002)}$
E	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$
D ₀	1.5 + 0.1 (.059 + .004)
Т	$\frac{0.45 \pm 0.01}{(.018 \pm .004)}$
Reel Dimensions	
A	180 +0/-3.0 (7.087 +0/118)
B Min.	<u>60.0</u> (2.362)
С	$\frac{13.0 \pm 1.0}{(.512 \pm .039)}$
W	$\frac{9.0 \pm 1.0}{(.354 \pm .039)}$
Т	$\frac{11.4 \pm 2.0}{(.449 \pm .079)}$



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        SF-0402S125-2
        SF-0402S160-2
        SF-0402F300-2
        SF-0402F050-2
        SF-0402F160-2
        SF-0402S080-2

        SF-0402F315-2
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