



SinglFuse™ SF-0402FR Series Features

- EIA 0402 (1005 metric) footprint
- Small chip size with high current rating up to 5 A
- High interrupting capability up to 100 A @ 32 VDC
- UL 248-14 compliant
- RoHS compliant* and halogen free**

SF-0402FR Series - SMD Fuses

Clearing Time Characteristics for Series

% of Current Rating	Clearing Time at 25 °C	
	Min.	Max.
100 %	4 hours	—
200 %	—	5 seconds

Additional Information

Click these links for more information:



Electrical Characteristics

Model	Rated Current (A)	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I ² t (A ² s) ****	Agency Recognition
						cUL: E198545
SF-0402FR063-2	0.63	0.450	32 VDC	100 A @ 32 VDC	0.0079	✓
SF-0402FR100-2	1.0	0.150			0.0197	✓
SF-0402FR150-2	1.5	0.120			0.0443	✓
SF-0402FR200-2	2.0	0.052			0.0518	✓
SF-0402FR250-2	2.5	0.040			0.0688	✓
SF-0402FR300-2	3.0	0.033			0.1616	✓
SF-0402FR315-2	3.15	0.030			0.1273	✓
SF-0402FR350-2	3.5	0.025			0.2083	✓
SF-0402FR400-2	4.0	0.020			0.3072	✓
SF-0402FR500-2	5.0	0.016			0.7218	✓

*** Resistance value measured with ≤10 % rated current at 25 °C ambient. Tolerance ± 25 %.

**** Melting I²t calculated at 10 times rated current.

Environmental Characteristics

Operating Temperature.....	-20 °C to +105 °C
Storage Conditions	
Temperature	+5 °C to +35 °C
Humidity.....	40 % to 75 %
Moisture Sensitivity Level.....	1
ESD Classification (HBM).....	Class 6



CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant.
See www.P65Warnings.ca.gov

*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.

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Specifications are subject to change without notice.

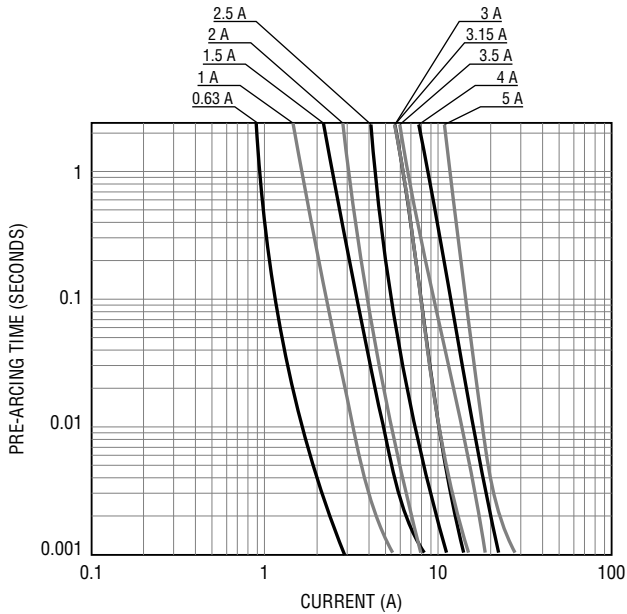
Users should verify actual device performance in their specific applications.

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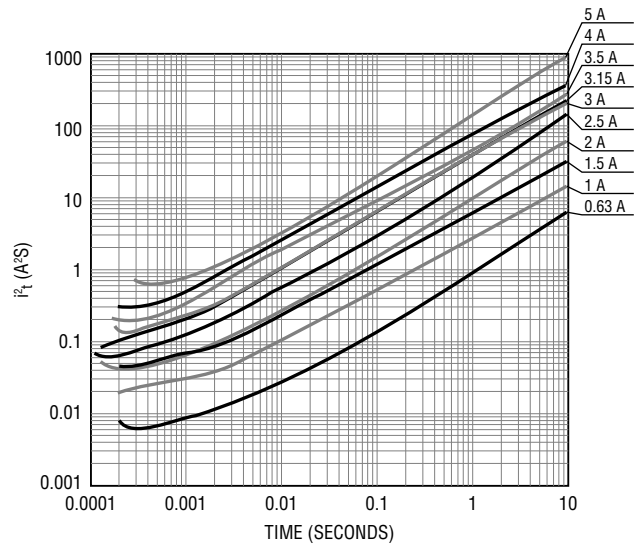
SF-0402FR Series – SMD Fuses



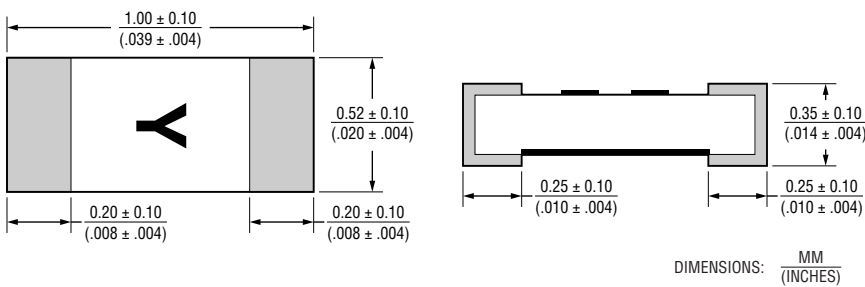
Average Pre-Arcing Time vs. Current Curves



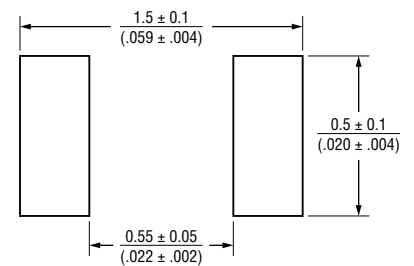
Average I^2t vs. t Curves



Product Dimensions



Recommended Pad Layout



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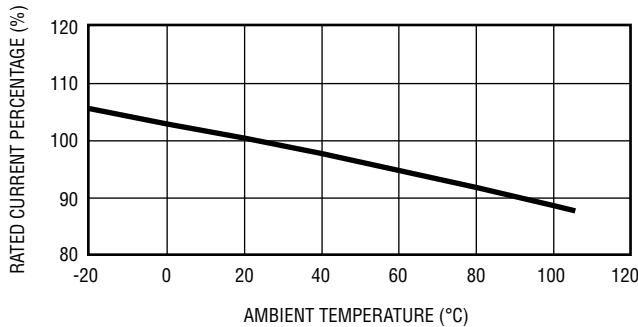
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SF-0402FR Series – SMD Fuses



Current Rating Thermal Derating Curve



How to Order

SF - 0402 FR 100 - 2

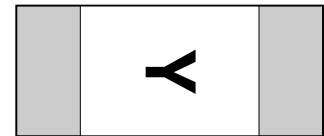
SinglFuse™ _____
 Product Designator _____
 SMD Footprint _____
 0402 = EIA 0402 (1005 metric) size _____
 Fusing Characteristic _____
 FR = 5 sec. max. @ 200 % I_n _____
 Rated Current _____
 063 ~ 500 = 0.63 A ~ 5 A _____
 Packaging Type _____
 - 2 = Tape & Reel (10,000 pcs./reel) _____

Packaging

Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	10,000 pieces
Packaging Code	-2

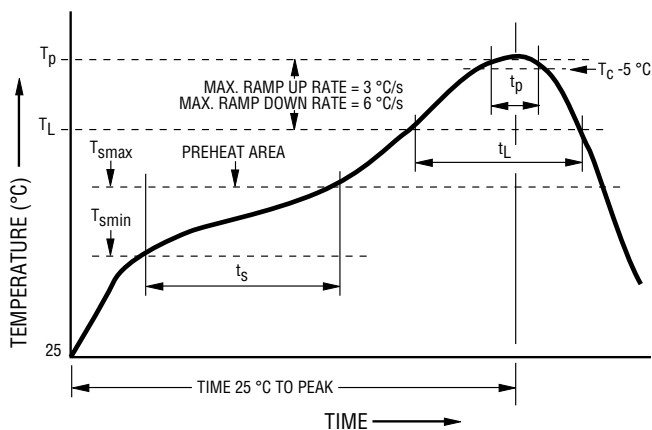
Typical Part Marking

Represents total content. Layout may vary. Markings in red color.



Rated Current	Part Marking	Rated Current	Part Marking
0.63 A	I	3.0 A	3
1.0 A	L	3.15 A	U
1.5 A	P	3.5 A	H
2.0 A	S	4.0 A	W
2.5 A	T	5.0 A	Y

Solder Reflow Recommendations



Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. (T _{smin}) Temperature Max. (T _{smax}) Time (t _s) from (T _{smin} to T _{smax})	150 °C 200 °C 60~120 seconds
Ramp Up Rate (T _L to T _p)	3 °C / second max.
Liquidous Temperature (T _L) Time (t _L) maintained above T _L	217 °C 60~150 seconds
Peak Package Body Temperature (T _p)	260 °C
Time (t _p)* within 5 °C of the specified classification temperature (T _c)	30 seconds*
Ramp Down Rate (T _p to T _L)	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

REV. 10/25

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