

SingIFuse™ 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:

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Electrical Characteristics

Model	Rated Current (A)	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I^2t (A^2s) ****	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 I^2t 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

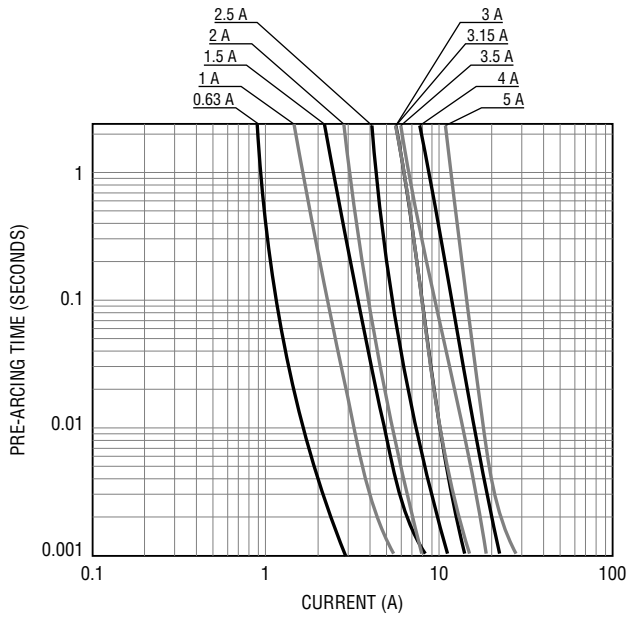
CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant.
See www.P65Warnings.ca.gov

*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.

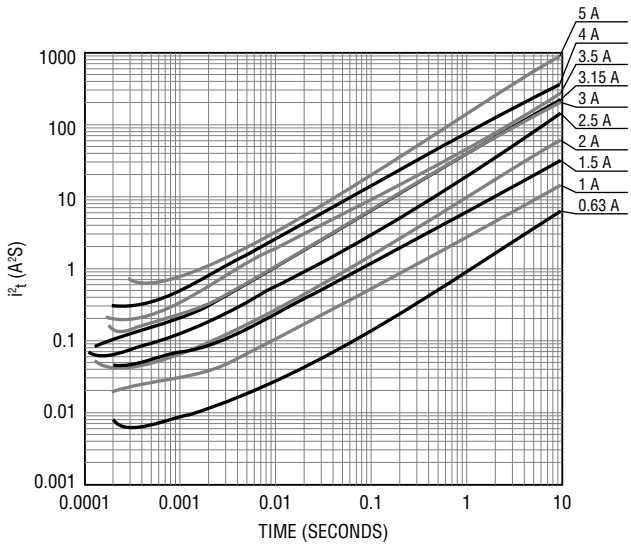
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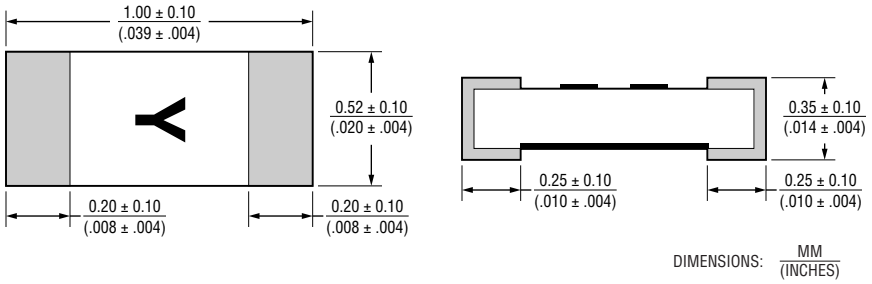
Average Pre-Arcing Time vs. Current Curves



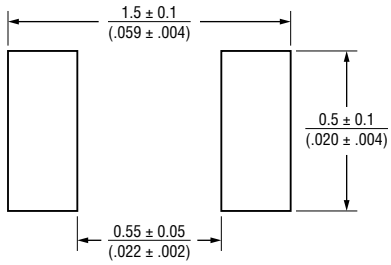
Average I^2t vs. t Curves



Product Dimensions



Recommended Pad Layout



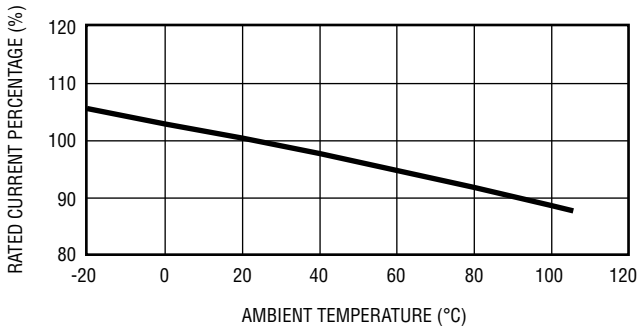
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Current Rating Thermal Derating Curve



How to Order

SF - 0402 FR 100 - 2

SingIFuse™ 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

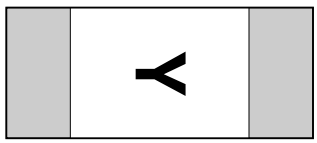
Packaging Type
- 2 = Tape & Reel (10,000 pcs./reel)

Packaging

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

Typical Part Marking

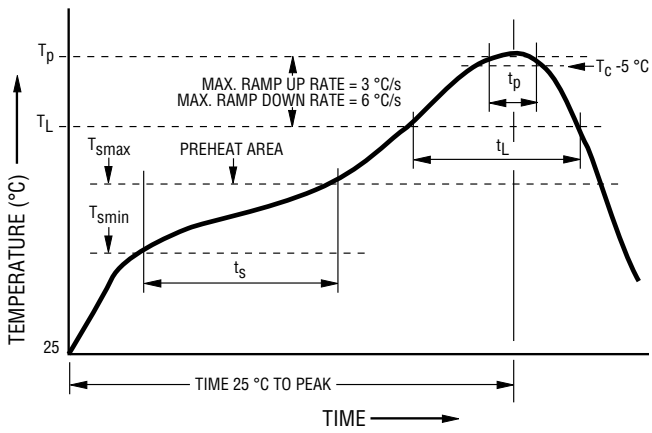
Represents total content. Layout may vary. Markings in red color.



Rated Current	Part Marking
0.63 A	I
1.0 A	L
1.5 A	P
2.0 A	S
2.5 A	T

Rated Current	Part Marking
3.0 A	3
3.15 A	U
3.5 A	H
4.0 A	W
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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