

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	SF-0603S125-2
Manufacturer:	Bourns Inc.
Package:	Tape & Reel (TR), Cut Tape (CT), Digi-Reel®
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/bourns-inc/sf-0603s125-2.html>

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Contact Information

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Website: <https://antrexco.com>

Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.



SinglFuse™ SF-0603S Series Features

- Slow blow thin film chip fuse for overcurrent protection
- 1608 (EIA 0603) miniature footprint
- Surface mount packaging for automated assembly
- UL 248-14 compliant
- RoHS compliant* and halogen free**

SF-0603S Series - Slow Blow Surface Mount Fuses

Clearing Time Characteristics for Series

% of Current Rating	Clearing Time at 25 °C	
	Min.	Max.
100 %	4 hours	—
250 %	—	5 seconds

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Electrical Characteristics

Model	Rated Current (A)	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I ² t (A ² s) ****	Certifications
						cUL: E198545
SF-0603S040-2	0.40	0.35	50 VDC	50 A @ 35 VAC 50 A @ 50 VDC	0.004	✓
SF-0603S050-2	0.50	0.232			0.009	✓
SF-0603S063-2	0.63	0.15	32 VDC	50 A @ 35 VAC 50 A @ 32 VDC	0.017	✓
SF-0603S070-2	0.70	0.148			0.023	✓
SF-0603S080-2	0.80	0.113			0.024	✓
SF-0603S100-2	1.00	0.067			0.026	✓
SF-0603S125-2	1.25	0.05			0.057	✓
SF-0603S150-2	1.50	0.042			0.081	✓
SF-0603S160-2	1.60	0.04			0.086	✓
SF-0603S200-2	2.00	0.027			0.115	✓
SF-0603S250-2	2.50	0.0195			0.200	✓
SF-0603S300-2	3.00	0.016			0.210	✓
SF-0603S315-2	3.15	0.015			0.279	✓
SF-0603S400-2	4.00	0.011			0.326	✓
SF-0603S500-2	5.00	0.008			0.622	✓
SF-0603S600-2	6.00	0.006			2.700	✓

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

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

*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. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.



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

SinglFuse™ SF-0603S Series Applications

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

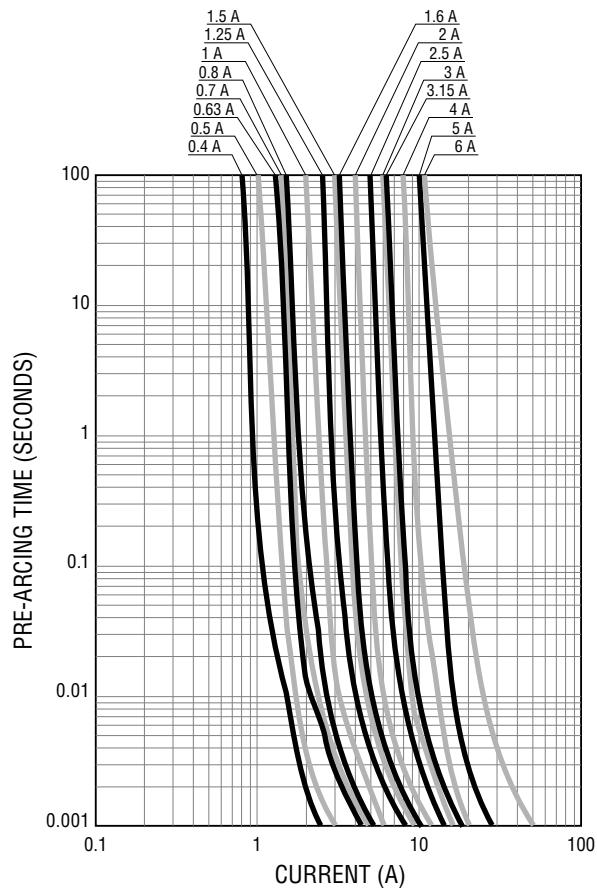
SF-0603S Series - Slow Blow Surface Mount Fuses

BOURNS®

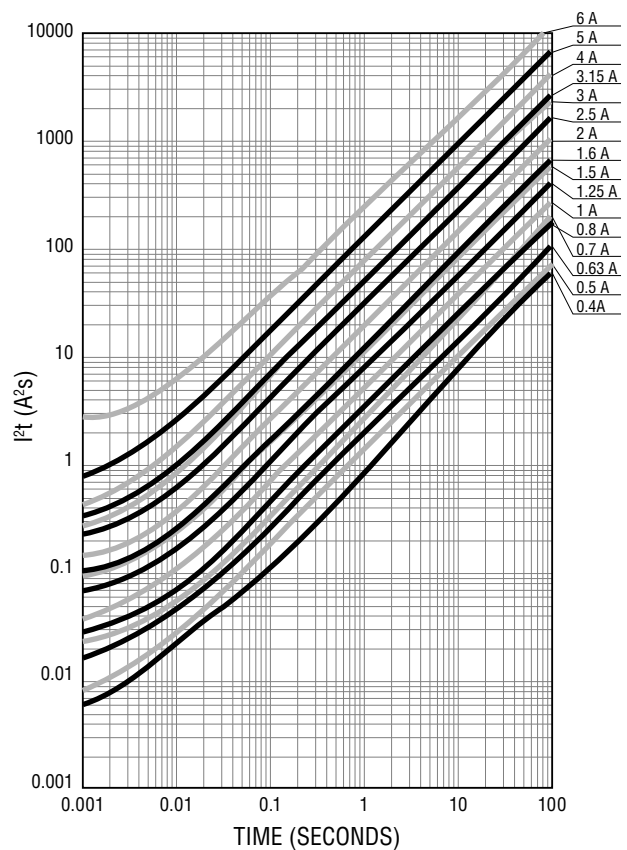
Environmental Characteristics

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

Average Pre-Arcing Time vs. Current Curves



Average I^2t vs. t Curves



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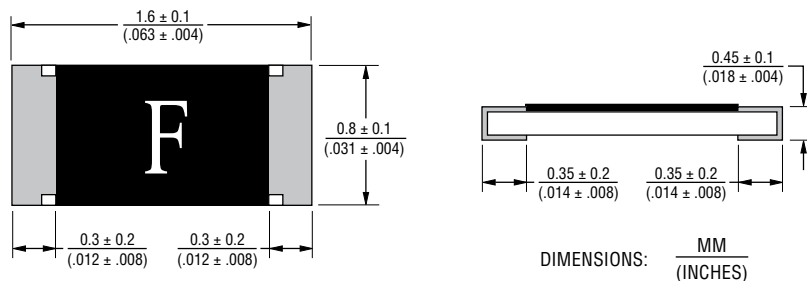
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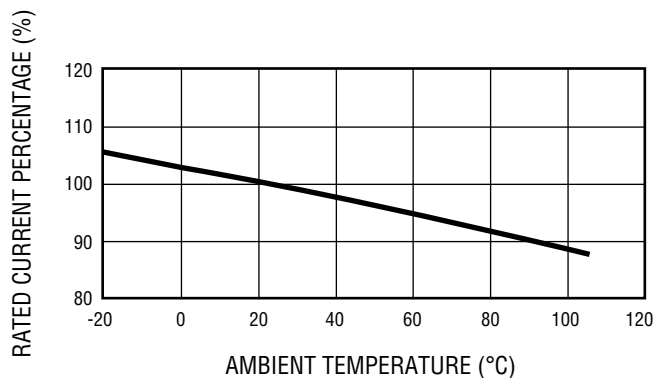
SF-0603S Series - Slow Blow Surface Mount Fuses

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Product Dimensions



Thermal Derating Curve

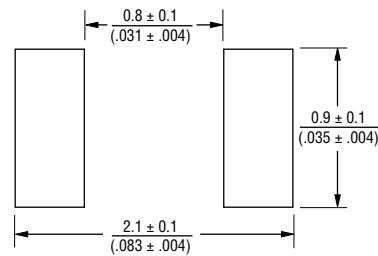


How to Order

SF - 0603 S 040 - 2

SinglFuse™
 Product Designator _____
 SMD Footprint _____
 1608 (EIA 0603) size
 Fuse Blow Type _____
 S = Slow blow
 Rated Current _____
 040-600 (400 mA - 6.00 A)
 Packaging Type _____
 - 2 = Tape & Reel (5,000 pcs./reel)

Recommended Pad Layout



Packaging

Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	5,000 pieces
Packaging Code	-2

Typical Part Marking

Represents total content. Layout may vary.



RATED CURRENT (A)	
E = 0.40	N = 1.60
F = 0.50	S = 2.00
I = 0.63	T = 2.50
J = 0.70	3 = 3.00
K = 0.80	U = 3.15
L = 1.00	W = 4.00
M = 1.25	Y = 5.00
P = 1.50	<u>6</u> = 6.00

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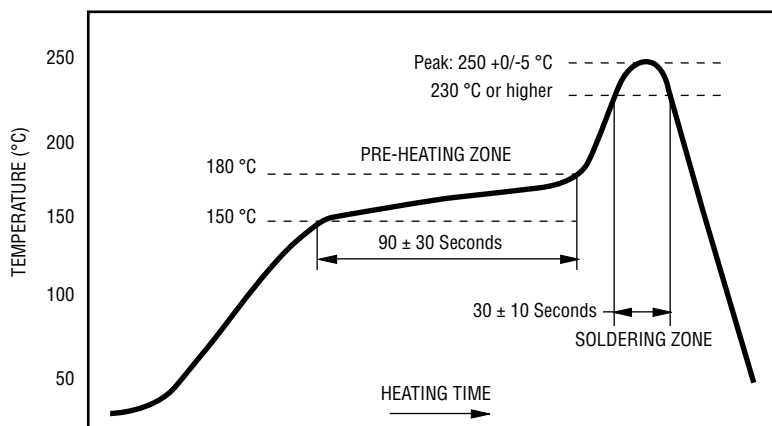
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SF-0603S Series - Slow Blow Surface Mount Fuses

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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

Reliability Testing

No.	Test	Requirement	Test Condition
1	Carrying Capacity	No fusing	Rated current, 4 hours
2	Fusing Time	Within 5 seconds	250 % 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, 1 time, 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 °C	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

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