Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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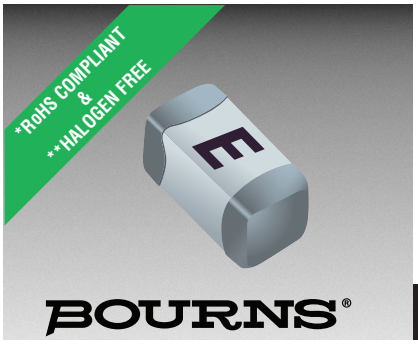

SingIFuse™ SF-0603SxxxM Series Features

- Single blow fuse for overcurrent protection
- 1608 (EIA 0603) miniature footprint
- Slow blow fuse (Fusing time ≤5 seconds at 250 % rated current)
- UL 248-14 listed
- Surface mount packaging for automated assembly
- Multilayer SMD design
- RoHS compliant* and halogen free**

SF-0603SxxxM Series - Slow Blow Multilayer Surface Mount Fuses

Electrical Characteristics

Model	Rated Current (Amps)	Fusing Time	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I^2t (A^2s) ****
SF-0603S050M-2	0.50	Open within 5 sec. at 250 % rated current	0.485	DC 63 V	DC 63 V 35 A	0.003
SF-0603S075M-2	0.75		0.254			0.006
SF-0603S100M-2	1.00		0.147			0.013
SF-0603S150M-2	1.50		0.059			0.030
SF-0603S200M-2	2.00		0.044	DC 32 V	DC 32 V 35 A	0.060
SF-0603S250M-2	2.50		0.032			0.100
SF-0603S300M-2	3.00		0.025			0.180
SF-0603S350M-2	3.50		0.024			0.300
SF-0603S400M-2	4.00		0.018			0.500
SF-0603S500M-2	5.00		0.013			0.800
SF-0603S600M-2	6.00		0.010	DC 24 V	DC 24 V 35 A	1.100

*** Resistance value measured with ≤10 % rated current at 25 °C ambient.
****Melting I^2t calculated at 0.001 second pre-arcing time.

Reliability Testing

No.	Test	Requirement	Test Condition	Test Reference
1	Soldering heat resistance	DCR change ≤ ±10 % No mechanical damage	One dip at 260 °C for 60 seconds	MIL-STD-202 Method 210
2	Solderability	Minimum 95 % coverage	One dip at 245 °C for 5 seconds	MIL-STD-202 Method 208
3	Thermal shock	DCR change ≤ ±10 % No mechanical damage	100 cycles between -65 °C and +125 °C	MIL-STD-202 Method 107
4	Moisture resistance	DCR change ≤ ±15 % No excessive corrosion	10 cycles	MIL-STD-202 Method 106
5	Salt spray	DCR change ≤ ±10 % No excessive corrosion	48 hour exposure, 5 % salt solution	MIL-STD-202 Method 101
6	Mechanical vibration	DCR change ≤ ±10 % No mechanical damage	0.4 inch D.A. or 30 G between 5-3000 Hz	MIL-STD-202 Method 204
7	Mechanical shock	DCR change ≤ ±10 % No mechanical damage	1500 G, 0.5 ms, half-sine shocks	MIL-STD-202 Method 213
8	Life	No electrical "opens" during testing. Voltage drop change shall be less than ±20 % of initial value.	80 % rated current (75 % for ≤1 A fuses) for 2000 hours at ambient temperature +20 °C ~ +30 °C	Refer to STP document
9	Terminal strength	No mechanical damage	0.5 Kg pushing force	Refer to STP document

Environmental Characteristics

Operating Temperature..... -55 °C to +125 °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

* 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.

Agency Recognition

UL File Number E198545

http://www.ul.com/ Follow link to Online Certificates Directory, then enter UL File No. E198545, or click here

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SingIFuse™ SF-0603SxxxM Series Applications

- Portable memory
- LCD monitors
- Disk drives
- PDAs
- Digital cameras
- MP3 players
- Cell phones
- Rechargeable battery packs
- Battery chargers
- Set-top boxes
- Industrial controllers
- Battery Management Systems (BMS)
- LED lighting
- Power tools

SF-0603SxxxM Series - Slow Blow Multilayer Surface Mount Fuses

Typical Part Marking

Represents total content. Layout may vary.

RATED CURRENT (A)

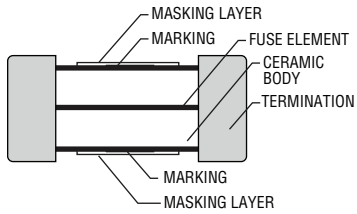
C = 0.50	K = 3.00
D = 0.75	L = 3.50
E = 1.00	M = 4.00
G = 1.50	N = 5.00
I = 2.00	O = 6.00
J = 2.50	

How to Order

SF - 0603 S 100 M - 2

- SingIFuse™ Product Designator
- SMD Footprint
  0603 = 1608 (EIA 0603) size
- Fuse Blow Type
  S = Slow blow
- Rated Current
  050-600 (0.50 A - 6.00 A)
- Structure
  M = Multilayer
- Packaging Type
  - 2 = Tape & Reel

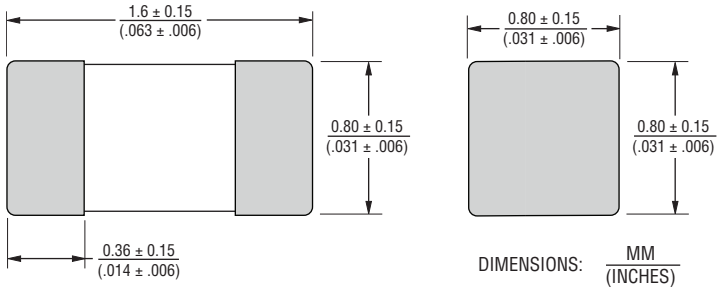
Construction



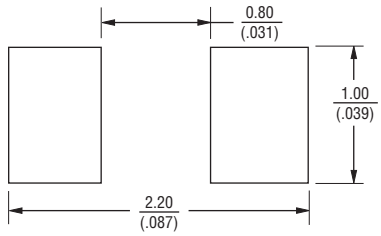
Packaging Quantity

.....4,000 pieces per 7 inch reel

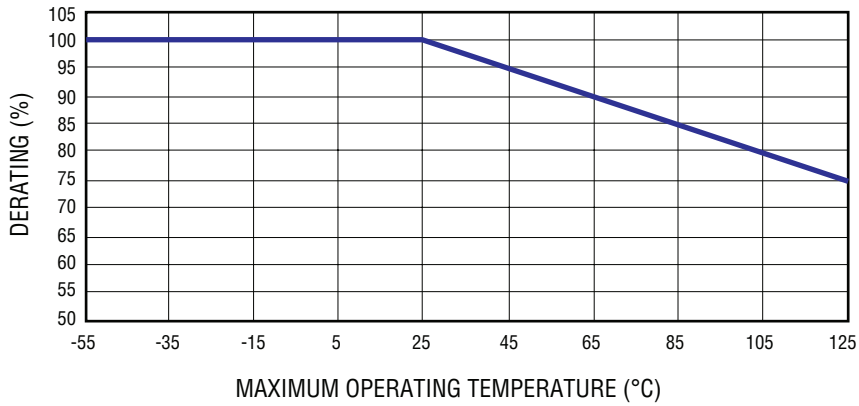
Product Dimensions



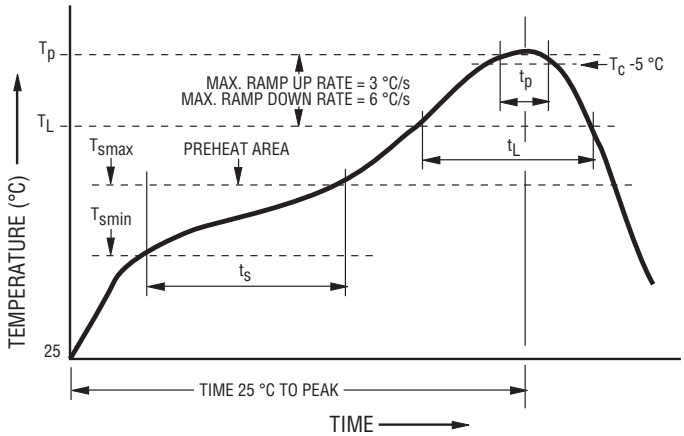
Recommended Pad Layout



Current Rating Thermal Derating Curve



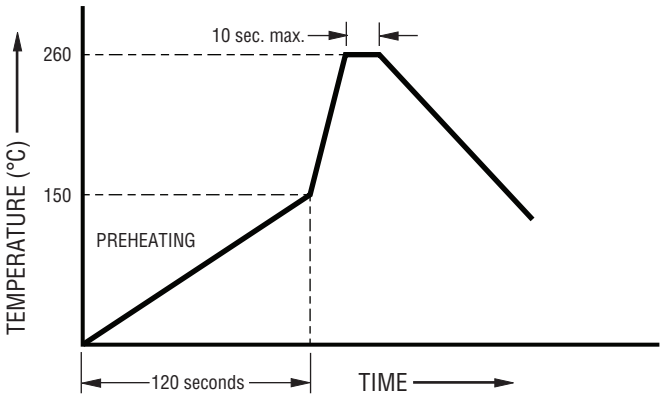
Solder Reflow Recommendations



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.

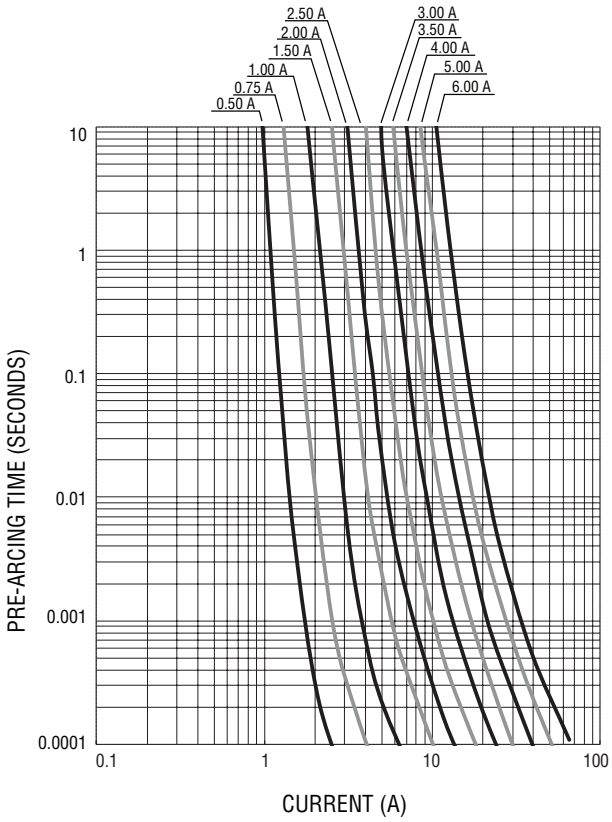
**Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.*

Recommended Temperature Profile for Wave Soldering

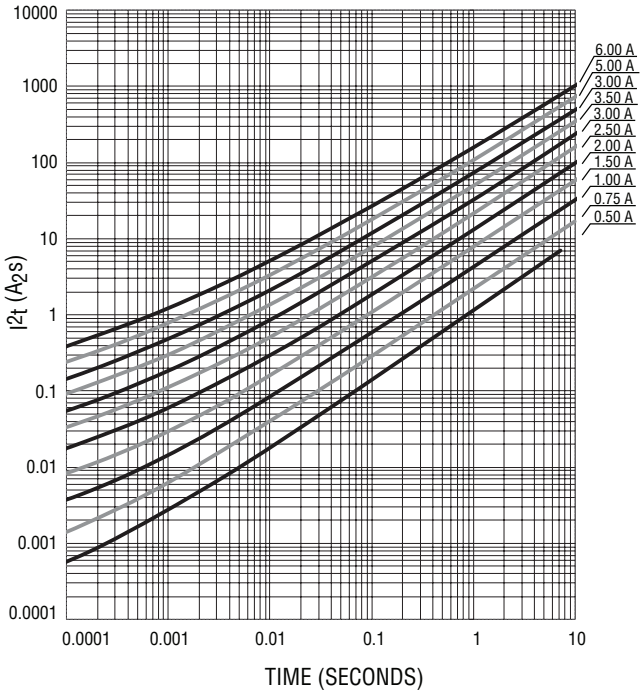


Wave soldering is suitable for 0603 size models.

Average Pre-Arcing Time Curves



Average I^2t vs. t Curves



SF-0603SxxxM Series Tape and Reel Specifications

BOURNS®

Tape Dimensions	SF-0603SxxxM Series per EIA 481-2
W	8.00 ± 0.10 (.315 ± .004)
P_0	4.0 ± 0.10 (.157 ± .004)
P_1	2.0 ± 0.05 (.079 ± .002)
P_2	2.0 ± 0.05 (.079 ± .002)
A_0	1.00 ± 0.10 (.039 ± .004)
B_0	1.80 ± 0.10 (.071 ± .004)
F	3.5 ± 0.05 (.138 ± .002)
E_1	1.75 ± 0.10 (.069 ± .004)
D_0	1.50 + 0.10 (.059 + .004)
T	0.95 ± 0.08 (.037 ± .003)

DIMENSIONS: MM / (INCHES)

PACKAGING: Paper tape, 4,000 pcs. per reel