

Features

- Slow blow fusing speed
- EIA 0603 (1608 metric) footprint
- AEC-Q200 compliant***
- UL 248-14 compliant
- RoHS* compliant and halogen free**

SF-0603SA-M Series - Automotive Grade Slow Blow SMD Fuses

Clearing Time Characteristics for Series

9/ of Current Boting	Clearing Ti	me at 25 °C
% of Current Rating	Min.	Max.
100 %	4 hours	_
250 %	_	5 seconds

Additional Information

Click these links for more information:











Electrical Characteristics

Model	Rated Current I	Resistance	Rated Interrupting Voltage Rating		Typical	Certifications		
Wodei	(A)	(Ω) Typ.***			I²t (òs)*****	cUL: <u>E198545</u>		
SF-0603SA050M-2	0.50	0.827			0.0040	✓		
SF-0603SA075M-2	0.75	0.374	65 VDC	65 VDC		0.0121	✓	
SF-0603SA100M-2	1.00	0.238			50 A @ 65 VDC	0.0303	✓	
SF-0603SA125M-2	1.25	0.154				0.0657	✓	
SF-0603SA150M-2	1.50	0.116					0.101	✓
SF-0603SA200M-2	2.00	0.067	35 VDC	35 VDC			0.182	✓
SF-0603SA250M-2	2.50	0.039				0.222	✓	
SF-0603SA300M-2	3.00	0.030			35 VDC		0.343	✓
SF-0603SA350M-2	3.50	0.024				50 A @ 35 VDC	0.394	✓
SF-0603SA400M-2	4.00	0.020					0.535	✓
SF-0603SA500M-2	5.00	0.012				0.889	✓	
SF-0603SA600M-2	6.00	0.011				1.101	✓	
SF-0603SA700M-2	7.00	0.008	24 VDC	04.1/D0	04.VDC	80 A @ 24 VDC	1.879	✓
SF-0603SA800M-2	8.00	0.007		00 A @ 24 VDC	2.727	1		

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

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

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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^{*****}Melting I²t calculated at 0.001 second pre-arcing time.

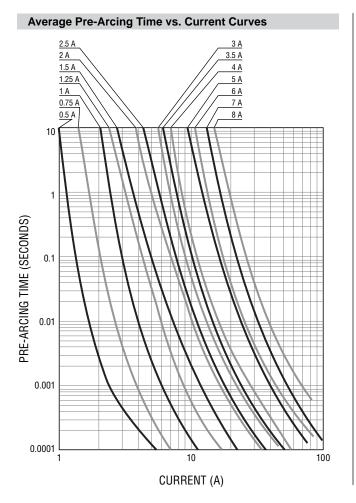
^{*}RoHS Directive 2015/863, Mar 31, 2015 and Annex.

^{**}Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (CI) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (CI) content is 1500 ppm or less.

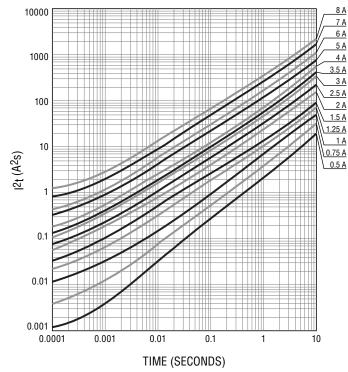
^{***}Meets Bourns internal AEC-Q200 test plan.

[&]quot;SinglFuse" is a trademark of Bourns, Inc.

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Average I2t vs. t Curves

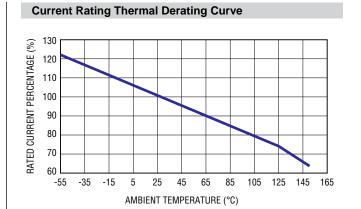


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Environmental Characteristics

Operating Temperature	-55 °C to +150 °C
Storage Conditions	
Temperature	+5 °C to +35 °C
Humidity	40 % to 75 %
Moisture Sensitivity Level	1
ESD Classification¹	Class 6

¹per AEC-Q200-2, HBM



Typical Part Marking

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



Rated Current	Part Marking
0.5 A	С
0.75 A	D
1 A	Е
1.25 A	F
1.5 A	G
2 A	I
2.5 A	J

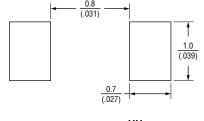
Rated Current	Part Marking
3 A	K
3.5 A	L
4 A	М
5 A	N
6 A	0
7 A	Р
8 A	R

How to Order						
SF - 06	03 \$	S A	٠ 05	50 N	/I - 2	<u>,</u>
SinglFuse™ ——— Product Designator						
SMD Footprint ————————————————————————————————————]					
Fuse Blow Type S = Slow Blow		J				
Automotive Grade ———						
Rated Current — 050 ~ 800 = 0.5 A ~ 8 A						
Structure Type — M = Ceramic Multilayer						
Packaging Type ————— - 2 = Tape & Reel						

Packaging

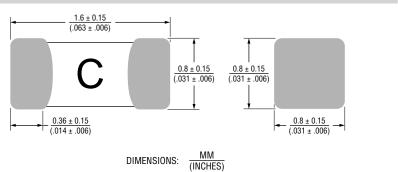
Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	4,000 pieces
Packaging Code	-2

Recommended Pad Layout



DIMENSIONS: (INCHES)

Product Dimensions



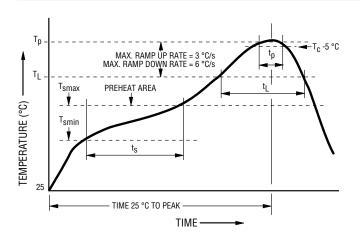
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Solder Reflow Recommendations



Profile Feature	Pb-Free Assembly
Preheat / Soak:	
Temperature Min. (T _{smin})	150 °C
Temperature Max. (T _{smax})	200 °C
Time (t _s) from (T _{smin} to T _{smax})	60~120 seconds
Ramp Up Rate (T _L to T _p)	3 °C / second max.
Liquidous Temperature (T _L)	217 °C
Time (t _L) maintained above T _L	60~150 seconds
Peak Package Body Temperature (T _p)	260 °C
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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 (Tp) is defined as a supplier minimum and a user maximum.

Reliability Tests

Test Items	Reference Standard
Visual Inspection	MIL-STD-883
	Method 2009
High Temperature Storage	MIL-STD-202
	Method 108
Low Temperature Storage	IEC 60068-2-1
Temperature Cycling	JESD22
	Method JA-104
Biased Humidity	MIL-STD-202
	Method 103
High Temperature Operating Life	MIL-STD-202
	Method 108
Physical Dimension	JESD22 Method JB-100
Mechanical Vibration	MIL-STD-202 Method 204
March and all Ohard	
Mechanical Shock	MIL-STD-202 Method 213
Desistance to Coldering Heat	
Resistance to Soldering Heat	MIL-STD-202 Method 210
Salt Spray	MII -STD-202
Salt Spray	Method 101
Solderability	MIL-STD-202
Concrability	Method 208
Terminal Strength	AEC-Q200-006
Board Flex	AEC-Q200-005
Electrical Characterization	Bourns Specification

REV. 04/21

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