

Features

- High-inrush current withstand capability
- EIA 0603 (1608 metric) footprint
- AEC-Q200 compliant*
- UL 248-14 listed
- RoHS compliant** and halogen free***

SF-0603HIA-M Series - Automotive Grade High-Inrush SMD Fuses

Clearing Time Characteristics for Series

% of Current	Clearing Time @ 25 °C		
Rating	Min.	Max.	
100 %	4 hours	_	
200 %	1 second	60 seconds	

Additional Information

Click these links for more information:









ODUCT

LIBRA

INVENT

SAMPLE

Electrical Characteristics

Model	Rated Current (A)	Resistance (Ω) Typ.*****	Rated Voltage	Interrupting Rating	Typical I ² t (A ² s) ******	Certifications cUL: E198545
SF-0603HIA100M-2	1.0	0.24			0.082	✓
SF-0603HIA150M-2	1.5	0.115			0.112	✓
SF-0603HIA200M-2	2.0	0.06			0.245	✓
SF-0603HIA300M-2	3.0	0.032	00.1/00	50 A @ 00 VDO	0.74	✓
SF-0603HIA350M-2	3.5	0.022	32 VDC	50 A @ 32 VDC	1.12	1
SF-0603HIA400M-2	4.0	0.018			2.1	1
SF-0603HIA450M-2	4.5	0.015			2.68	1
SF-0603HIA500M-2	5.0	0.013			3.3	1

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

Environmental Characteristics

Operating Temperature	-55 °C to + 125 °C
Storage Conditions	
Temperature	+5 °C to +35 °C
Humidity	40 % to 75 %

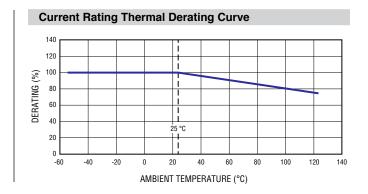
Humidity

40 % to 75 %

Moisture Sensitivity Level

ESD Classification¹

Class 6





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

- * Meets Bourns' internal AEC-Q200 equivalent test plan.
- * 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.

^{******} Melting I²t calculated at 1000 % of current rating.

¹per AEC-Q200-2, HBM

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Typical Part Marking

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



Rated Current	Part Marking
1 A	E
1.5 A	G
2 A	I
3 A	K

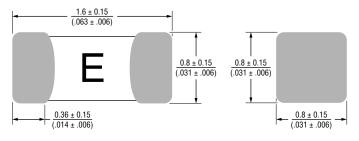
Rated Current	Part Marking
3.5 A	L
4 A	М
4.5 A	Т
5 A	N

How to Order
SF - 0603 HI A 100 M - 2
SinglFuse™ ————————————————————————————————————
Fuse Blow Type HI = High Inrush Current Withstand
Automotive Grade ————
Rated Current ————————————————————————————————————
Structure Type — M = Ceramic Multilayer
Packaging Type ————————————————————————————————————

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

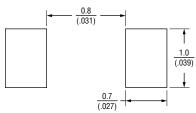
Packaging Code

Product Dimensions



MM DIMENSIONS: (INCHES)

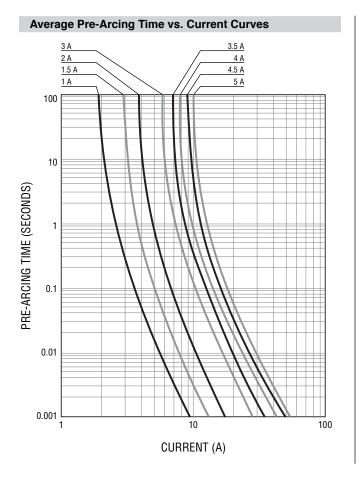
Recommended Pad Layout

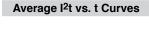


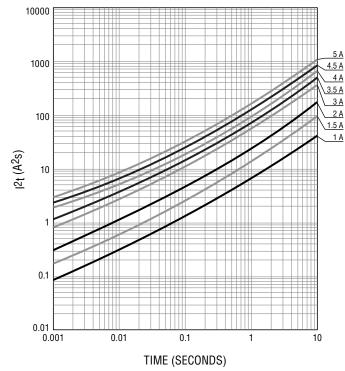
MM DIMENSIONS: (INCHES)

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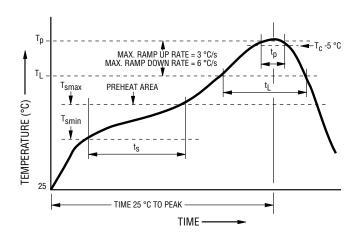
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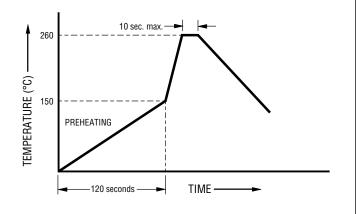
Solder Reflow Recommendations



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 _I)	217 °C
Time (t _L) maintained above T _L	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 (Tp) is defined as a supplier minimum and a user maximum.

Solder Wave Recommendations



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
100	
Mechanical Vibration	MIL-STD-202 Method 204
Mechanical Shock	MIL-STD-202
Wechanical Shock	Method 213
Resistance to Soldering Heat	MIL-STD-202
riedistance to coldening rieat	Method 210
Salt Spray	MIL-STD-202
	Method 101
Solderability	MIL-STD-202
•	Method 208
Terminal Strength	AEC-Q200-006
Board Flex	AEC-Q200-005
Pull Test	MIL-STD-202
	Method 211
Electrical Characterization	Bourns Specification

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