

Features

- Slow blow fusing speed
- EIA 1206 (3216 metric) footprint
- AEC-Q200 compliant***
- UL 248-14 compliant
- RoHS* compliant and halogen free**

SF-1206SA-M Series - Automotive Grade Slow Blow SMD Fuses

Clearing Time Characteristics for Series

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

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Electrical Characteristics

Model	Rated Current (A)	Resistance (Ω) Typ.****	Rated Voltage	Interrupting Rating	Typical I^2t (A^2s)*****	Certifications
						cUL: E198545
SF-1206SA050M-2	0.50	1.080	65 VDC	50 A @ 65 VDC	0.006	✓
SF-1206SA075M-2	0.75	0.514			0.016	✓
SF-1206SA100M-2	1.00	0.420			0.048	✓
SF-1206SA150M-2	1.50	0.210			0.121	✓
SF-1206SA200M-2	2.00	0.140			0.333	✓
SF-1206SA250M-2	2.50	0.071			0.485	✓
SF-1206SA300M-2	3.00	0.051			0.606	✓
SF-1206SA350M-2	3.50	0.039			0.758	✓
SF-1206SA400M-2	4.00	0.032			0.909	✓
SF-1206SA450M-2	4.50	0.027			1.131	✓
SF-1206SA500M-2	5.00	0.023			1.515	✓

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

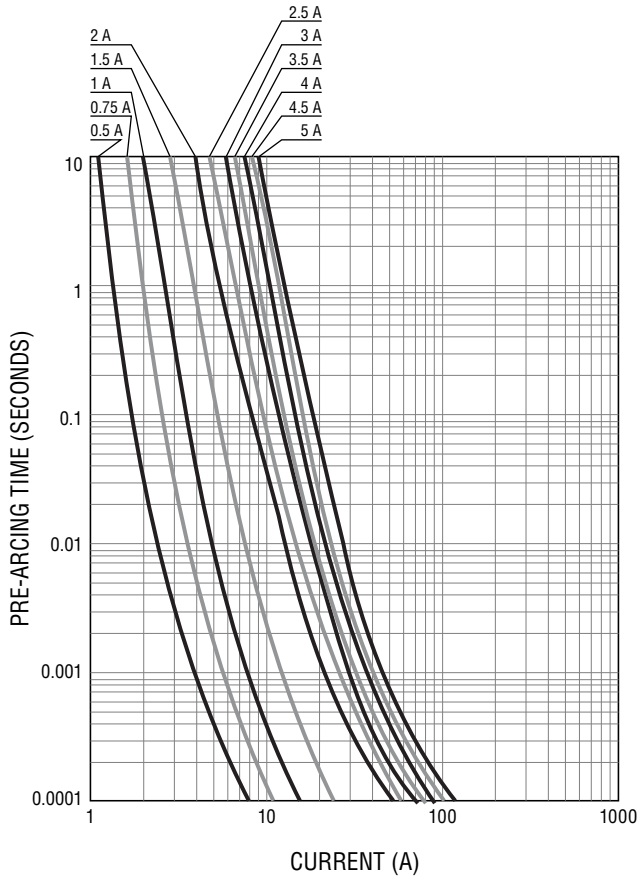
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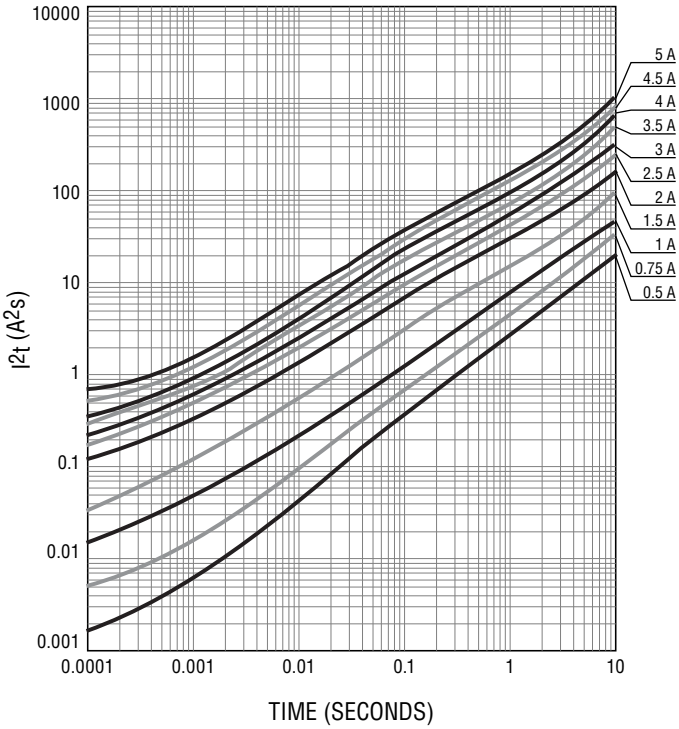
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
**Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.
***Meets Bourns internal AEC-Q200 test plan.

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Average Pre-Arcing Time vs. Current Curves



Average I^2t vs. t Curves



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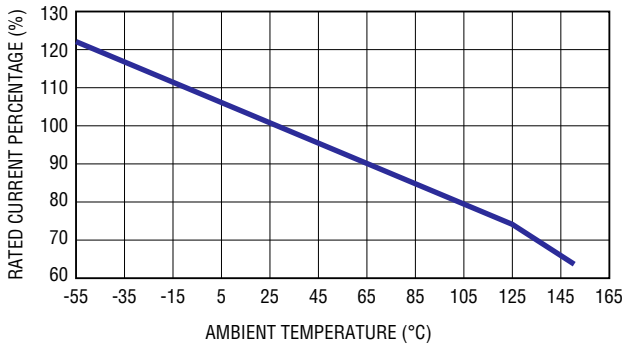
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Environmental Characteristics

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

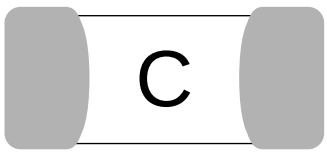
[1]per AEC-Q200-2, HBM

Current Rating Thermal Derating Curve



Typical Part Marking

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



Rated Current	Part Marking
0.5 A	C
0.75 A	D
1 A	E
1.5 A	G
2 A	I
2.5 A	J

Rated Current	Part Marking
3 A	K
3.5 A	L
4 A	M
4.5 A	T
5 A	N

How to Order

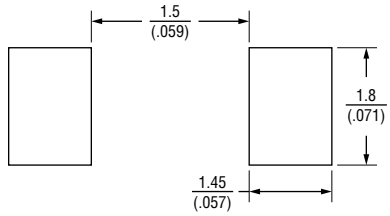
SF - 1206 S A 050 M - 2

- SinglFuse™ Product Designator
- SMD Footprint
  1206 = EIA 1206 (3216 metric)
- Fuse Blow Type
  S = Slow Blow
- Automotive Grade
- Rated Current
  050 ~ 500 = 0.5 A ~ 5 A
- Structure Type
  M = Ceramic Multilayer
- Packaging Type
  - 2 = Tape & Reel

Packaging

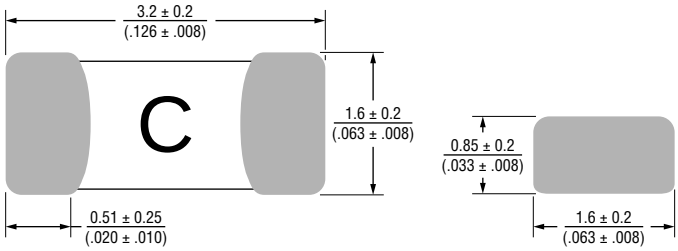
Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	3,000 pieces
Packaging Code	-2

Recommended Pad Layout



DIMENSIONS: MM / (INCHES)

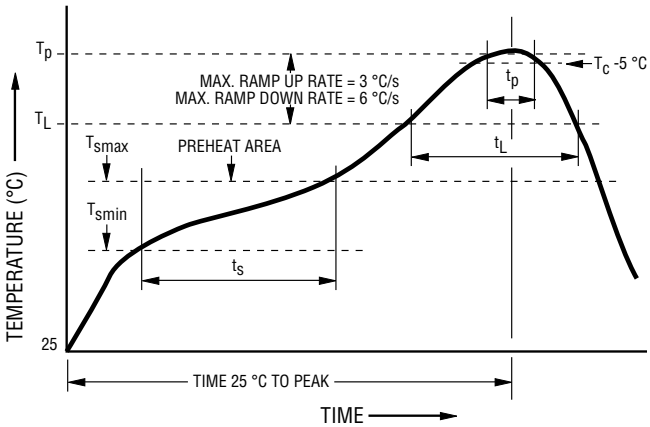
Product Dimensions



DIMENSIONS: MM / (INCHES)

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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 (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
Mechanical Shock	MIL-STD-202 Method 213
Resistance to Soldering Heat	MIL-STD-202 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
Electrical Characterization	Bourns Specification

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