SingIFuse™ SF-1206S-M Series Features

- Single blow fuse for overcurrent protection
- 3216 (EIA 1206) miniature footprint
- Slow blow fuse (Fusing time ≤5 seconds at 250 % rated current)
- UL 248-14 compliant
- Surface mount packaging for automated assembly
- Multilayer SMD design
- RoHS compliant* and halogen free**

SF-1206S-M Series - Slow Blow Multilayer Surface Mount Fuses

Clearing Time Characteristics for Series

% of Current Rating	Clearing Time at 25 °C	
	Min.	Max.
100 %	4 hours	—
250 %	—	5 seconds
400 %	—	0.05 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 (Ω)	Typical I^2t (A^2s)****	Certifications cUL: E198545
SF-1206S050M-2	0.50	0.726	63 VDC	50 A @ 63 VDC	0.0020	✓
SF-1206S075M-2	0.75	0.510			0.0051	✓
SF-1206S100M-2	1.00	0.2189			0.0112	✓
SF-1206S150M-2	1.50	0.1194			0.024	✓
SF-1206S175M-2	1.75	0.0995			0.0455	✓
SF-1206S200M-2	2.00	0.0498			0.0758	✓
SF-1206S250M-2	2.50	0.0348	32 VDC	50 A @ 32 VDC	0.111	✓
SF-1206S300M-2	3.00	0.0308			0.21	✓
SF-1206S400M-2	4.00	0.0219		45 A @ 32 VDC	0.354	✓
SF-1206S500M-2	5.00	0.0149			0.61	✓
SF-1206S600M-2	6.00	0.0129			1.01	✓
SF-1206S700M-2	7.00	0.0109			1.62	✓
SF-1206S800M-2	8.00	0.0080			2.32	✓

*** Resistance value measured with ≤10 % rated current at 25 °C ambient. Tolerance ±30 %.
****Melting I^2t calculated at 0.001 second pre-arcing time.

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

*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.

SingIFuse™ SF-1206S-M 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-1206S-M Series – Slow Blow Multilayer Surface Mount Fuses

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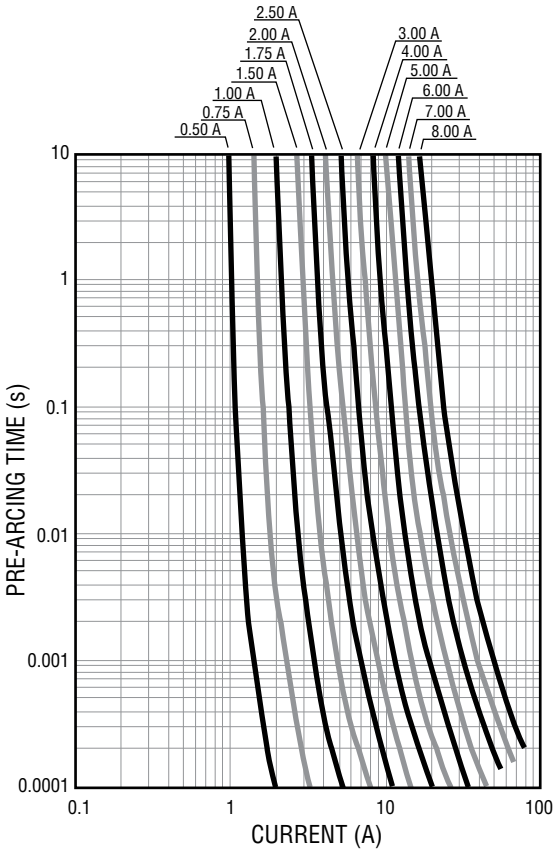
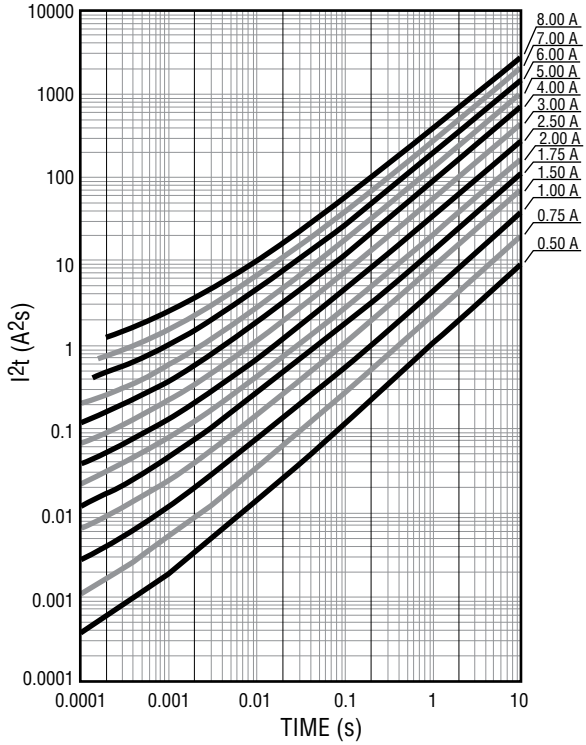
Average Pre-Arcing Time vs. Current Curves



Average I^2t vs. t Curves



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

Typical Part Marking

Represents total content. Layout may vary.

RATED CURRENT (A)

C = 0.50	K = 3.00
D = 0.75	M = 4.00
E = 1.00	N = 5.00
G = 1.50	+ = 6.00
H = 1.75	– = 7.00
I = 2.00	= = 8.00
J = 2.50	

How to Order

SF - 1206 S 100 M - 2

SinglFuse™ Product Designator

SMD Footprint
1206 = 3216 (EIA 1206) size

Fuse Blow Type
S = Slow blow

Rated Current
050 ~ 800 (0.50 A - 8.00 A)

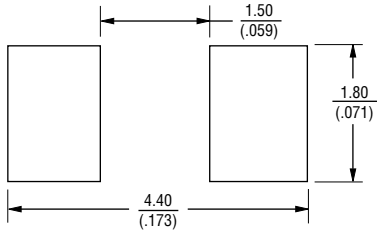
Structure Type
M = Multilayer

Packaging Type
- 2 = Tape & Reel

Packaging

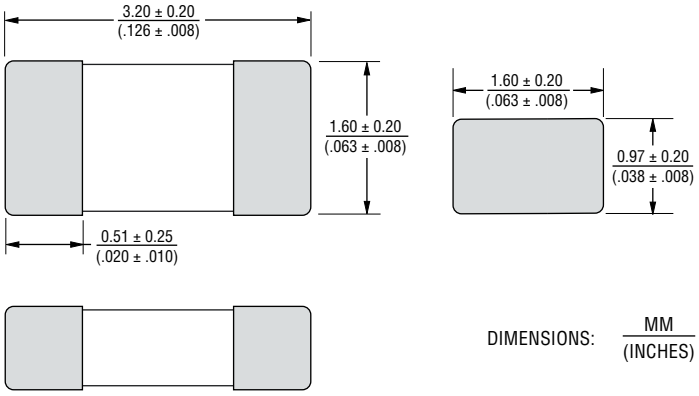
Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	3,000 pieces
Packaging Code	-2

Recommended Pad Layout



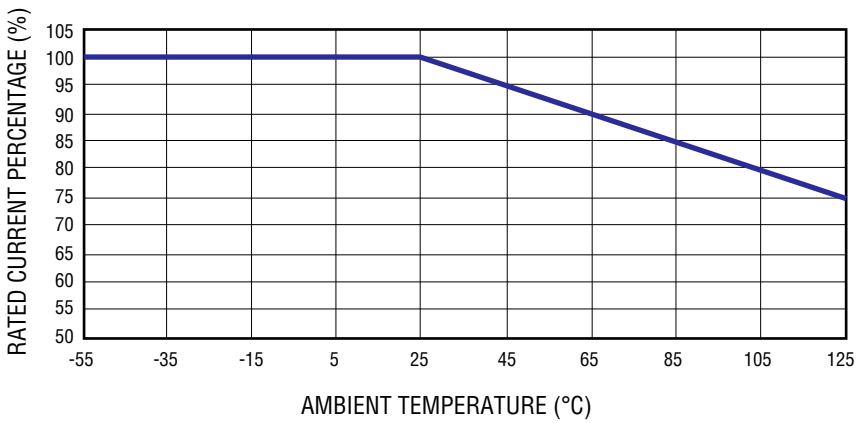
DIMENSIONS: MM / (INCHES)

Product Dimensions

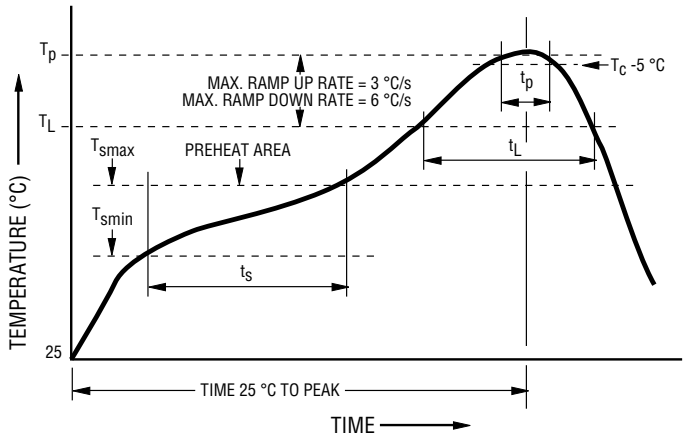


DIMENSIONS: MM / (INCHES)

Current Rating Thermal Derating Curve



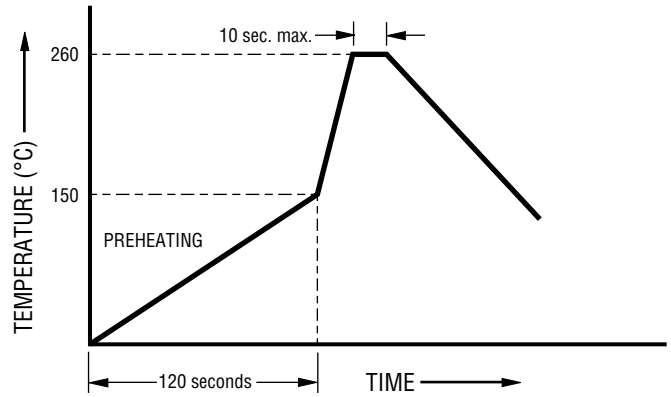
Solder Reflow Recommendations



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 1206 size models.

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

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