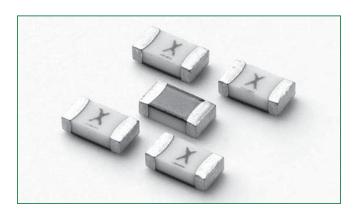


ROHS M HF 469 Series - 1206 Slo-Blo® Fuse







Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RANGE		
71 2	E10480	1A – 8A		
	LR29862 (Pending)	1A – 8A		

Electrical Characteristics for Series

% of Ampere Rating	Ampere Rating	Opening Time at 25°C	
100%	1A – 8A	4 hours, Minimum	
200%	1A – 8A	1 sec., Min.; 120 secs., Max.	
300%	1A – 8A	0.1 sec., Min.; 3 secs., Max.	
800%	1A – 8A	0.002 sec., Min.; 0.05 sec., Max.	

Description

The 469 Series is a 100% Lead-free, RoHS compliant and Halogen-free fuse series designed specifically to provide over-current protection to circuits that operate under high working ambient temperature up to 150°C.

The general design ensures excellent temperature stability and performance reliability.

The high I2t values which are typical in the Littelfuse Ceramic fuse family, ensure high inrush current withstand capability.

Features

- Operating Temperature from -55°C to +150°C
- 100% Lead-free, RoHS compliant and Halogen-
- Suitable for both leaded and lead-free reflow / wave soldering

Applications

- Automotive Electronics
- LCD Displays
- Servers
- Notebook Computers
- **Printers**
- Scanners
- Data Modems
- **Gaming Consoles**

Electrical Specifications by Item

Ampere		Max.		Nominal	al Nominal Nominal Voltage		Nominal Power	. Agency Approvals			
Rating (A)	Amp Code	Voltage Rating (V)	Interrupting Rating			Drop At Rated	Dissipation At Rated Current (W)	71/2	(
1	001.	63							pending		
1.25	1.25	63	50 A @ 63 V DC	COMING SOON				pending	pending		
1.5	01.5	63	30 A @ 03 V DC					Х	pending		
2	002.	63						Х	pending		
2.5	02.5	32						Х	pending		
3	003.	32	50 A @ 32 V DC					50 A @ 32 V DC	50 A @ 32 V DC	Х	pending
3.5	03.5	32						Х	pending		
4	004.	32	60 A @ 32 V DC	0.052	3.560	0.236	0.944	Х	pending		
5	005.	32	00 A @ 32 V DC	0.035	5.620	0.216	1.080	Х	pending		
6	006.	24	60 A @ 24 V DC	0.028	9.410	0.274	1.640	Х	pending		
7	007.	24		0.021	14.400	0.216	1.510	X	pending		
8	008.	24		0.017	23.720	0.233	1.860	Х	pending		

Notes:

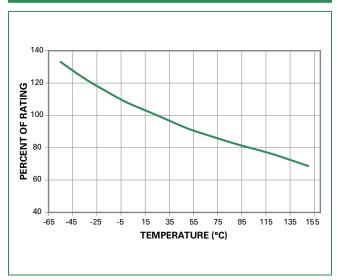
- 1. AC Interrupting Rating tested at rated voltage with unity power factor. DC Interrupting Rating tested at rated voltage with time constant < 0.8 msec.
- 2. Nominal Resistance measured with < 10% rated current.
- 3. Nominal Melting I²t measured at 1 msec opening time.
- 4. Nominal Voltage Drop measured at rated current after temperature has stabilized.

Devices designed to carry rated current for 4 hours minimum. It is recommended that devices be operated continuously at no more than 80% rated current. See "Temperature Rerating Curve" for additional rerating information.

Devices designed to be mounted with marking code facing up.



Temperature Rerating Curve



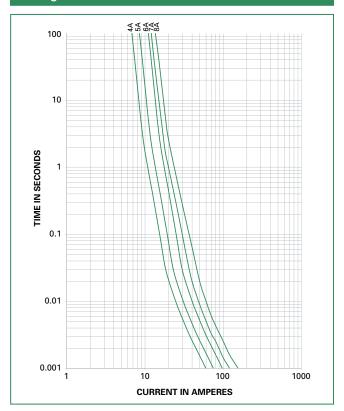
Note

 Rerating depicted in this curve is in addition to the standard rerating of 20% for continuous operation.

Example:

For continuous operation at 75 degrees celsius, the fuse should be rerated as follows: I = $\{0.80\}(0.85)I_{RAT} = \{0.68\}I_{RAT}$

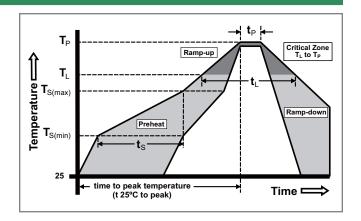
Average Time Current Curves



Soldering Parameters

Reflow Co	ndition	Pb – free assembly	
	-Temperature Min (T _{s(min)})	150°C	
Pre Heat	-Temperature Max (T _{s(max)})	200°C	
	-Time (Min to Max) (t _s)	60 – 180 seconds	
Average R (T _L) to pea	amp-up Rate (LiquidusTemp k)	3°C/second max.	
T _{S(max)} to T _L	- Ramp-up Rate	5°C/second max.	
Poflow	-Temperature (T _L) (Liquidus)	217°C	
Reflow	-Temperature (t _L)	60 – 150 seconds	
PeakTemp	erature (T _P)	260 ^{+0/-5} °C	
Time with	in 5°C of actual peak ıre (t _p)	10 - 30 seconds	
Ramp-dov	vn Rate	6°C/second max.	
Time 25°C	to peakTemperature (T _P)	8 minutes max.	
Do not exc	ceed	260°C	





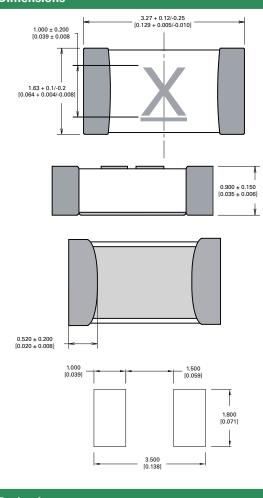


Product Characteristics

Materials	Body: Advanced Ceramic Terminations: Ag / Ni / Sn (100% Lead-free) Element Cover Coating: Lead-free Glass		
Moisture Sensitivity Level	IPC/JEDEC J-STD-020C, Level 1		
Solderability IPC/EIC/JEDEC J-STD-002B, Condition B			
Humidity Test	MIL-STD-202, Method 103B, Conditions D		
ESD Immunity	IEC 61000-4-2, 8kV Direct		
Resistance to Solder Heat	MIL-STD-202, Method 210F, Condition B		

Moisture Resistance	MIL-STD-202, Method 106G
Thermal Shock	MIL-STD-202, Method 107G, Condition B
Mechanical Shock	MIL-STD-202, Method 213B, Condition A
Vibration	MIL-STD-202, Method 201A
Vibration, High Frequency	MIL-STD-202, Method 204D, Condition D
Dissolution of Metallization	IPC/EIC/JEDEC J-STD-002B, Condition D
Terminal Strength	IEC 60127-4

Dimensions



Part Marking System

Amp Code	Marking Code
001.	<u>H</u>
1.25	<u>J</u>
01.5	<u>K</u>
002.	<u>N</u>
02.5	<u>o</u>
003.	<u>P</u>
03.5	<u>R</u>
004.	<u>s</u>
005.	Ţ
006.	<u>U</u>
007.	<u>w</u>
008.	<u>X</u>

Part Numbering System



Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
8mm Tape and Reel	EIA-481-1 (IEC 286, part 3)	3000	WR

