



#### **Agency Approvals**

Agency	Agency File Number	Ampere Range	
c UL us	E10480	0.500A - 2A	

#### **Electrical Characteristics for Series**

% of Ampere Rating	<b>Opening Time</b>
100%	4 Hours, Minimum
200%	5 Seconds, Maximum

## Description

The 470 series is a family of 125V rated high energy SMD fuses, perfect for space constrained applications. It offers the standard Nano Fuse circuit protection capability with a very small 1206 foot print.

This product is RoHS compliant, halogen-free and 100% lead-free with guaranteed operating temperature of up to 125°C.

#### **Features**

- Very Small 1206 Footprint
- 125V Voltage Rating
- Fast-Acting
- RoHS compliant, lead-free and halogen free
- Wide Operating temperature range of -55°C to 125°C

### Applications

- LED Lighting
- LCD/LED TVs
- Notebooks/PCs
- Gaming Consoles
- Battery Charging Circuit Protection

- ENERGY STAR® Surge Immunity test compliant (100kHz Ring Wave, 2.5kV, 7 strikes common and differential modes) - 1.5A and above ampere rating only
  - Power Supply Units
- Telecom Systems
- White Goods

#### **Electrical Characteristic**

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I²t (A² sec.)	Agency Approvals
0.500	.500	125V	50A @ 125VDC 50A @ 125VAC 300A @ 32VDC	0.5455	0.02874	х
1.00	001.	125V		0.2242	0.14785	х
1.25	1.25	125V		0.1637	0.30269	х
1.50	01.5	125V		0.1263	0.45970	х
2.00	002	125V		0.1004	0.75625	х

Note: I2t values stated for 8msec opening time.

#### Fuse Datasheet

#### Temperature Rerating Curve



 $\ensuremath{\textbf{Note}}$ : Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.



#### Average Time Current Curves

Reflow Condition		Pb – free assembly	
Pre Heat	- Temperature Min (T <sub>s(min)</sub> )	150°C	
	- Temperature Max (T <sub>s(max)</sub> )	200°C	
	-Time (Min to Max) (t <sub>s</sub> )	60 – 180 seconds	
Average Ramp-up Rate (Liquidus Temp ( $\mathbf{T}_{\mathrm{L}})$ to peak)		5°C/second max.	
$T_{S(max)}$ to $T_{L}$ - Ramp-up Rate		5°C/second max.	
Reflow	- Temperature (T <sub>L</sub> ) (Liquidus)	217°C	
	- Temperature (t <sub>L</sub> )	60 – 90 seconds	
Peak Temperature (T <sub>P</sub> )		250 <sup>+0/-5</sup> °C	
Time within 5°C of actual peak Temperature $(t_{_p})$		20 – 40 seconds	
Ramp-down Rate		5°C/second max.	
Time 25°C to peak Temperature (T <sub>P</sub> )		8 minutes max.	
Do not exceed		260°C	

#### **Soldering Parameters**



# **1** Littelfuse

#### Fuse Datasheet

#### **Product Characteristics**

Materials	Body: Epoxy Resin Terminations: Cu/Ni/Sn (100% Pb-free)		
Product Marking	Body: Current Rating		
Operating Temperature	-55°C to +125°C		
Solderability	MIL-STD-202		
Insulation Resistance (after opening)	IEC 60127-4 (0.1Mohm Min)		

Thermal Shock	MIL-STD-202, Method 107, Test Condition B, 5 cycles, -65°C to 125°C, 15 minutes @ each extreme
Mechanical Shock	MIL-STD-202, Method 213B, Test Condition I: De-energized. 100G's peak amplitude, sawtooth wave 6ms duration, 3 cycles XYZ+xyz = 18 shocks
Vibration	MIL-STD-202, Method 201: 0.03" amplitude, 10-55 Hz in 1 min. 2 hrs. each XYZ = 6hrs (10- 55 Hz)
Moisture Resistance	MIL-STD-202, Method 106, 10 cycles Condition A
Salt Spray	MIL-STD-202, Method 101, Test Condition B (48 hrs)
Resistance to Soldering Heat	Method 210, Test Condition B (10 sec at 260°C)

#### **Dimensions**



# Amp CodeMarking Code.500LF.001LH

Part Marking System

001.	LH
1.25	LJ
01.5	LK
002.	LN



#### **Part Numbering System**



#### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Reel Size
8mm Tape and Reel	EIA-RS-481-1	1500	DR	N/A

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at <u>www.littelfuse.com/disclaimer-electronics</u>.

