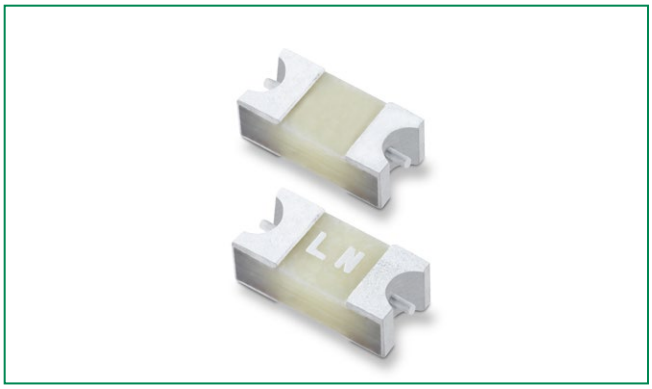
Surface Mount Fuses

Thin Film® Fuse > 470 Series >1206 Fast Acting

470 Series Fuse



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% Pb-Free with guaranteed operating temperature of up to 125°C.

Features

- Very Small 1206 Footprint
- 125V Voltage Rating
- Fast-Acting
- Pb-Free, RoHS Compliant and Halogen-Free
- Wide Operating temperature range of -55°C to 125°C
- ENERGY STAR® Surge Immunity test compliant (100kHz Ring Wave, 2.5kV, 7 strikes common and differential modes) - 1.5A and above ampere rating only

Agency Approvals

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

Applications

- LED Lighting
- LCD/LED TVs
- Notebooks/PCs
- Gaming Consoles
- Battery Charging Circuit Protection
- Power Supply Units
- Telecom Systems
- White Goods

Electrical Characteristics for Series

% of Ampere Rating	Opening Time
100%	4 Hours, Minimum
200%	5 Seconds, Maximum

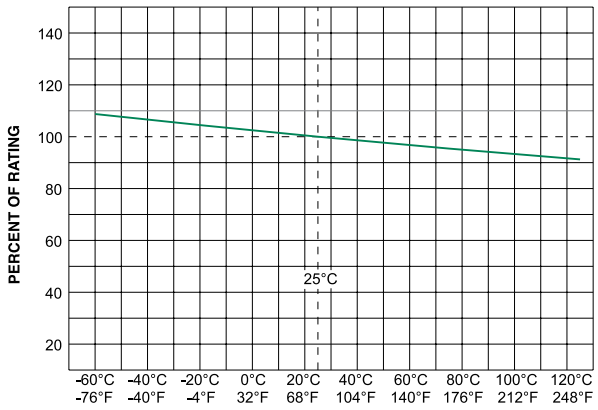
Electrical Characteristic

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I^2t (A^2 sec.)	Agency Approvals c UL us
0.500	.500	125V	50A @ 125VDC 50A @ 125VAC 300A @ 32VDC	0.5455	0.02874	x
1.00	001.	125V		0.2242	0.14785	x
1.25	1.25	125V		0.1637	0.30269	x
1.50	01.5	125V		0.1263	0.45970	x
2.00	002	125V		0.1004	0.75625	x

Note: I^2t values stated for 8msec opening time.

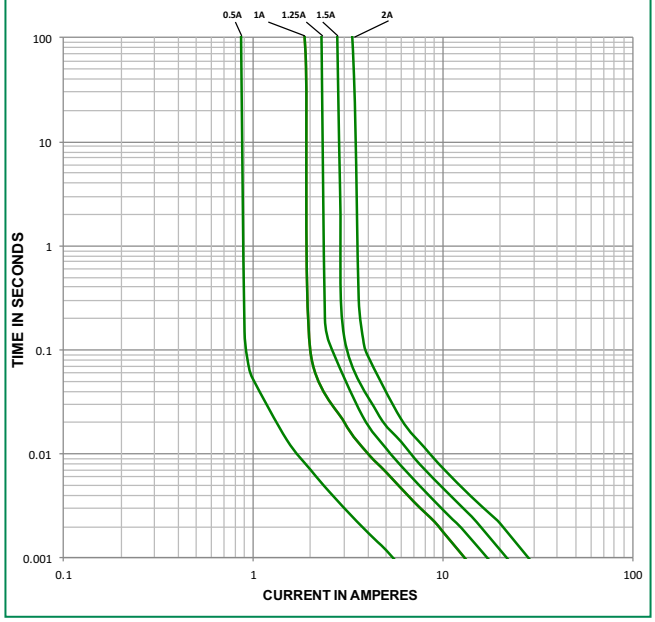
Revised: 06/29/18

Temperature Rerating Curve



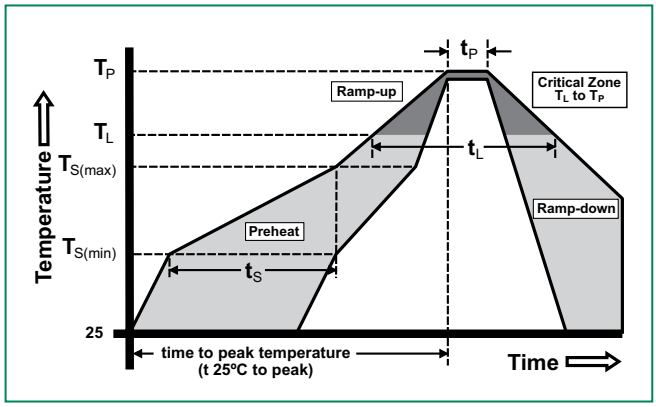
NOTE: Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters

Reflow Condition		Pb – free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	-Time (Min to Max) (t_s)	60 – 180 seconds
Average Ramp-up Rate (Liquidus Temp (T_L) to peak)		5°C/second max.
$T_{S(max)}$ to T_L - Ramp-up Rate		5°C/second max.
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Temperature (t_L)	60 – 90 seconds
Peak Temperature (T_P)		$250^{+0/-5}$ °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_P)		8 minutes max.
Do not exceed		260°C



Revised: 06/29/18

Littelfuse
Expertise Applied | Answers Delivered

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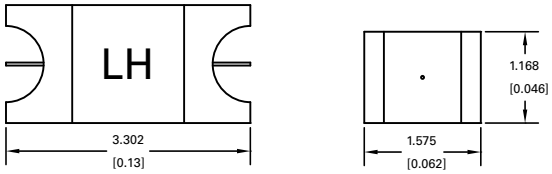
Product Characteristics

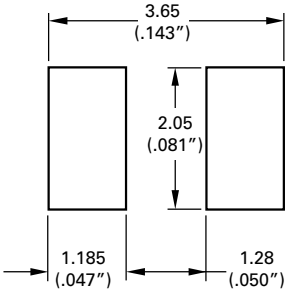
Materials	**Body:** Epoxy Resin **Terminations:** Cu/Ni/Sn (100% Pb-free)
Product Marking	**Body:** Current Rating
Operating Temperature	–55°C to +125°C
Solderability	MIL-STD-202
Insulation Resistance (after opening)	IEC 60127-4 (0.1Mohm Min)

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



Recommended Pad Layout



Part Marking System

Amp Code	Marking Code
.500	**LF**
001.	**LH**
1.25	**LJ**
01.5	**LK**
002.	**LN**

Part Numbering System

0470 002. D R SNP

Series

Amp Code*
Refer to Amp Code column of Electrical Characteristics Table

Quantity Code
D = 1500 pieces

Packaging Code
R = Tape and Reel

Termination Code

Packaging

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

Revised: 06/29/18

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Littelfuse:

0470001.DR 047001.6DR 04701.25DR 0470.500DR 0470002.DR 047001.5DR 0470.500DRSNP 0470001.DRSNP 0470002.DRSNP 047001.5DRSNP 047001.6DRSNP 04701.25DRSNP