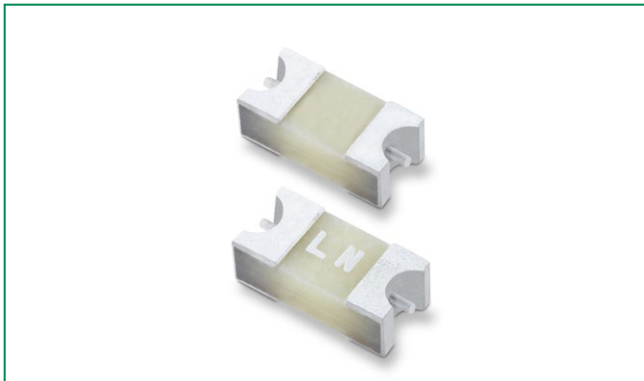


470 Series Fuse



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
	E10480	0.500 - 2A

Electrical Characteristics for Series

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

Applications

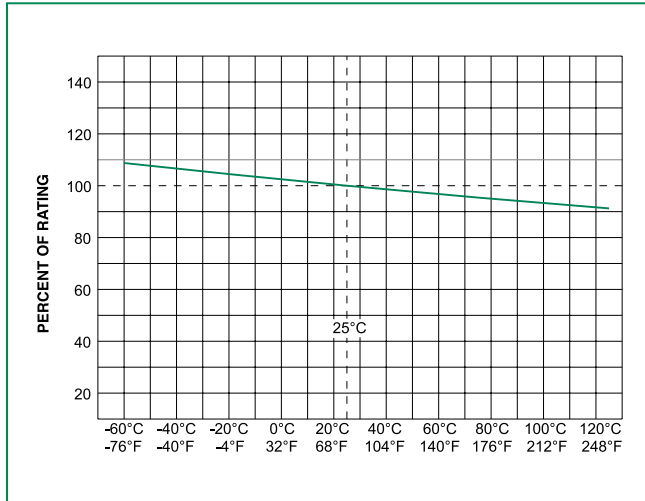
- LED Lighting
- LCD/LED TVs
- Notebooks/PCs
- Gaming Consoles
- Battery Charging Circuit Protection
- Power Supply Units
- Telecom Systems
- White Goods

Electrical Characteristic

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² sec.)	Agency Approvals
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

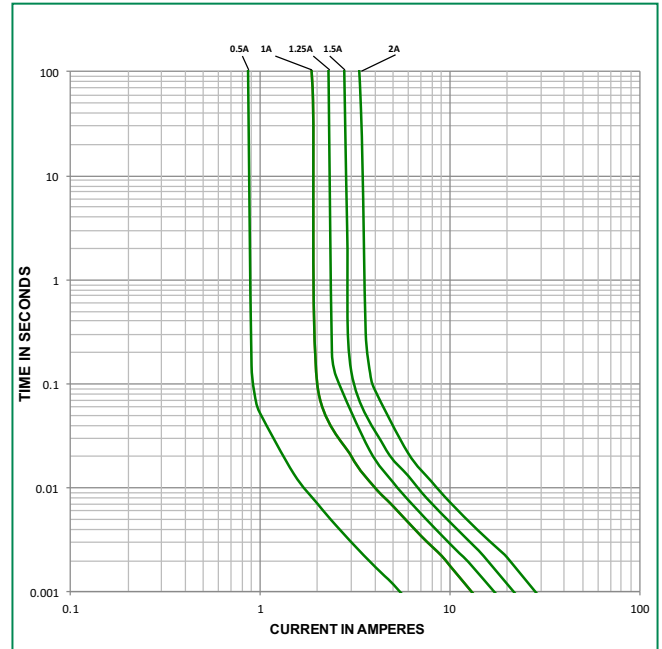
Note: I²t values stated for 8msec opening time.

Temperature Derating Curve



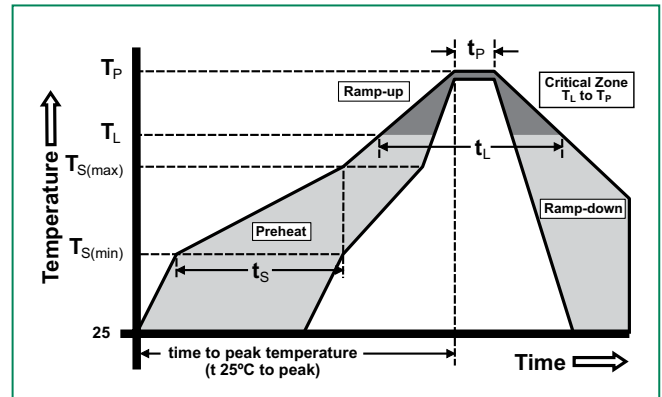
NOTE: Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

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

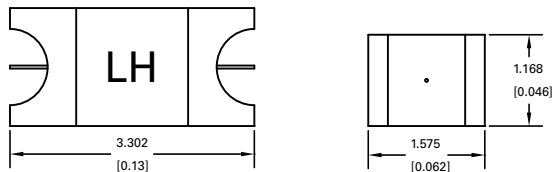


Product Characteristics

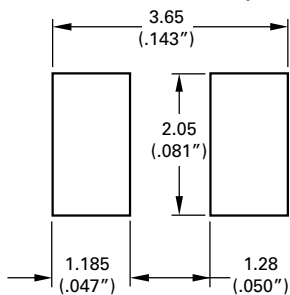
Materials	Body: Epoxy Resin Terminations: Cu/Ni/Sn (100% Pb-free)
Product Marking	Body: Current Rating
Operating Temperature	-55°C to +125°C
Solderability	MIL-STD-202
Insulation Resistance (after opening)	IEC 60127-4 (0.1Mohm Min)

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



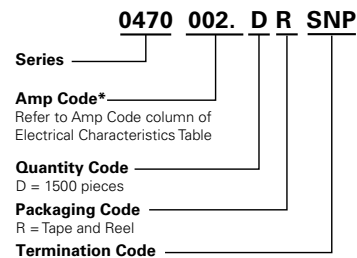
Recommended Pad Layout



Part Marking System

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

Part Numbering System



Packaging

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

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