

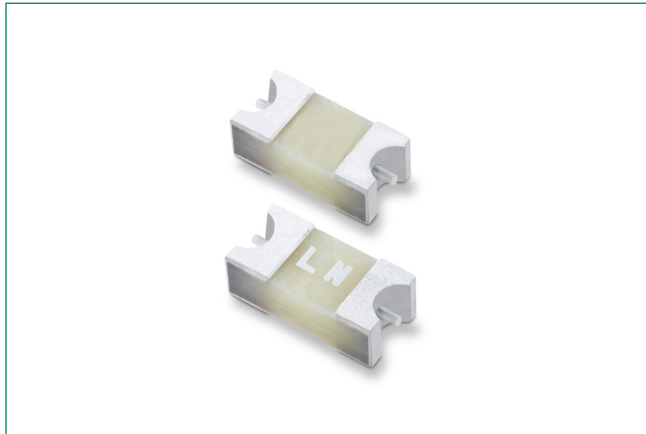


**THE DATASHEET OF**  
**0470002.DRSNP**



# 470 Series

## 1206 Fast Acting



### Agency Approvals

Agency	Agency File Number	Ampere Range
	E10480	0.500A - 2A

### Electrical Characteristics for Series

% of Ampere Rating	Opening Time
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
- ENERGY STAR® Surge Immunity test compliant (100kHz Ring Wave, 2.5kV, 7 strikes common and differential modes) - 1.5A and above ampere rating only

### Applications

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

### Electrical Characteristic

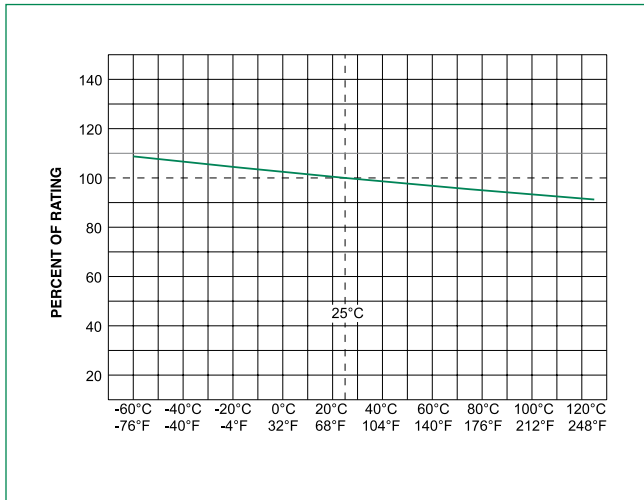
Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec.)	Agency Approvals
0.500	.500	125V	50A @ 125VDC 50A @ 125VAC 300A @ 32VDC	0.5455	0.02874	x
1.00	001.	125V		0.2242	0.14785	x
1.25	1.25	125V		0.1637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

Note: I<sup>2</sup>t values stated for 8msec opening time.

# 470 Series

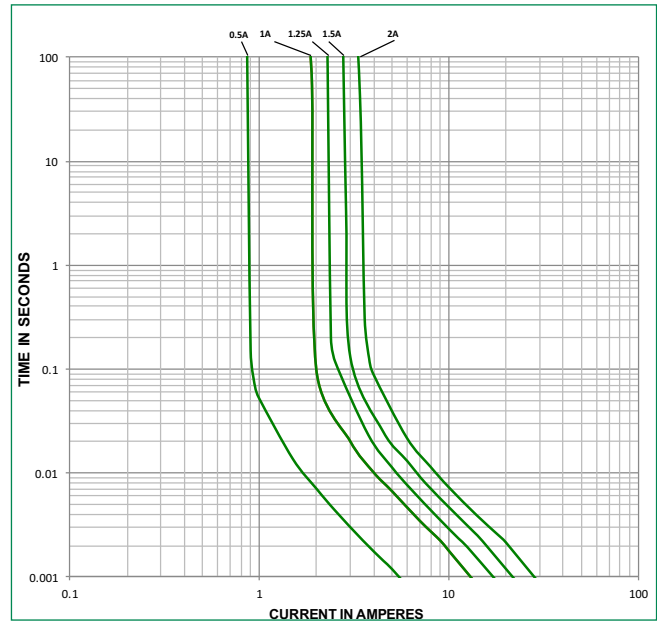
## 1206 Fast Acting

Temperature Derating Curve



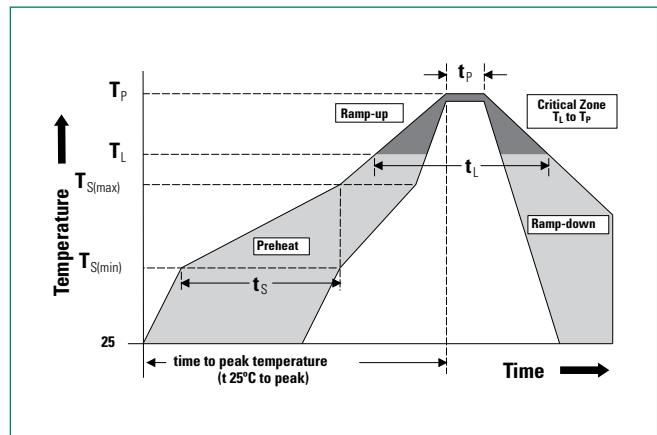
Note: Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters

<b>Reflow Condition</b>		Pb – free assembly
<b>Pre Heat</b>	- Temperature Min ( $T_{s(min)}$ )	150°C
	- Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (Min to Max) ( $t_s$ )	60 – 180 seconds
<b>Average Ramp-up Rate (Liquidus Temp (<math>T_L</math>) to peak)</b>		5°C/second max.
<b><math>T_{s(max)}</math> to <math>T_L</math> - Ramp-up Rate</b>		5°C/second max.
<b>Reflow</b>	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Temperature ( $t_t$ )	60 – 90 seconds
<b>Peak Temperature (<math>T_p</math>)</b>		250 <sup>+0/-5</sup> °C
<b>Time within 5°C of actual peak Temperature (<math>t_p</math>)</b>		20 – 40 seconds
<b>Ramp-down Rate</b>		5°C/second max.
<b>Time 25°C to peak Temperature (<math>T_p</math>)</b>		8 minutes max.
<b>Do not exceed</b>		260°C



# 470 Series

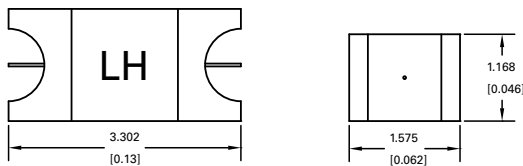
## 1206 Fast Acting

### Product Characteristics

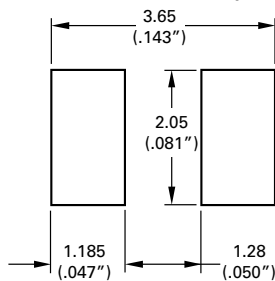
<b>Materials</b>	Body: Epoxy Resin Terminations: Cu/Ni/Sn (100% Pb-free)
<b>Product Marking</b>	Body: Current Rating
<b>Operating Temperature</b>	-55°C to +125°C
<b>Solderability</b>	MIL-STD-202
<b>Insulation Resistance (after opening)</b>	IEC 60127-4 (0.1Mohm Min)

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

### Dimensions



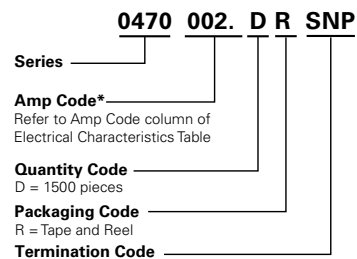
### Recommended Pad Layout



### 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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