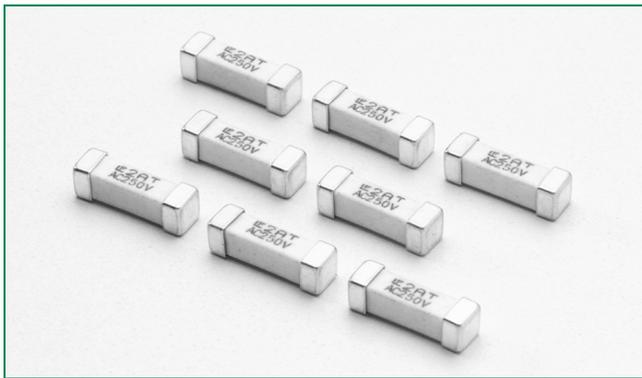


### 443 Series Fuse



#### Description

The 250V Nano<sup>2</sup> Fuse is a small square surface mount fuse that is designed to enable compliance with the RoHS directive. This product is fully compatible with lead-free solder alloy and higher temperature profiles associated with lead-free assembly.

#### Features

- 250 VAC voltage rating
- Time-Lag
- Available 0.50A – 5.00A
- RoHS Compliant
- Fully compatible with lead-free solder alloys and higher temperature profiles associated with lead-free assembly

#### Applications

- AC/DC power adaptor
- Telecom equipment system power
- Portable system built-in AC/DC converter
- High voltage DC/DC converter
- Lighting System
- LED Lighting

#### Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RANGE
	E10480	0.500A - 5.00A

#### Electrical Characteristics for Series

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
250%	120 seconds, Maximum

#### Additional Information



Datasheet



Resources



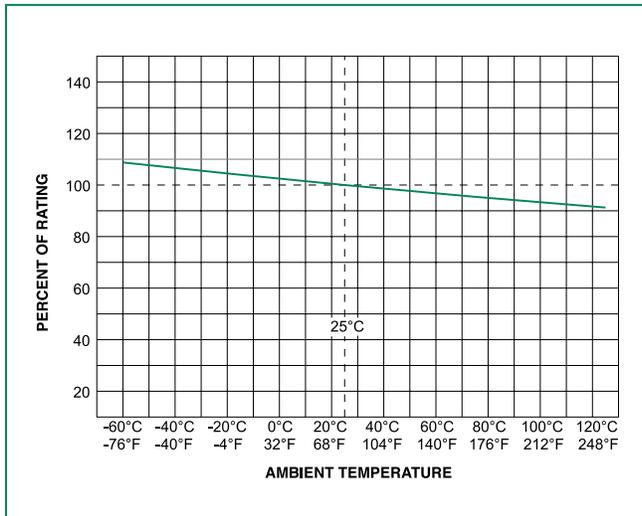
Samples

#### Electrical Specifications by Item

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)	Nominal Voltage Drop (mV)	Agency Approvals
							
0.50	.500	250	50A @250VAC	0.600	1.61	448	x
0.75	.750	250		0.275	1.00	285	x
1	001.	250		0.180	10.17	234	x
1.50	01.5	250		0.100	14.72	196	x
2	002.	250		0.052	18.06	154	x
2.50	02.5	250		0.035	18.13	139	x
3	003.	250		0.028	51.44	113	x
3.50	03.5	250		0.019	53.14	98	x
4	004.	250		0.016	70.56	81	x
5	005.	250		0.0115	127.79	80	x

- Notes:
1. Cold resistance measured at less than 10% of rated current at 23°C.
  2. Agency Approval Table Key: X=Approved or Certified, P=Pending and Blank=Not Approved
  3. Have special electrical characteristic needs? Contact Littelfuse to learn more about application specific options.

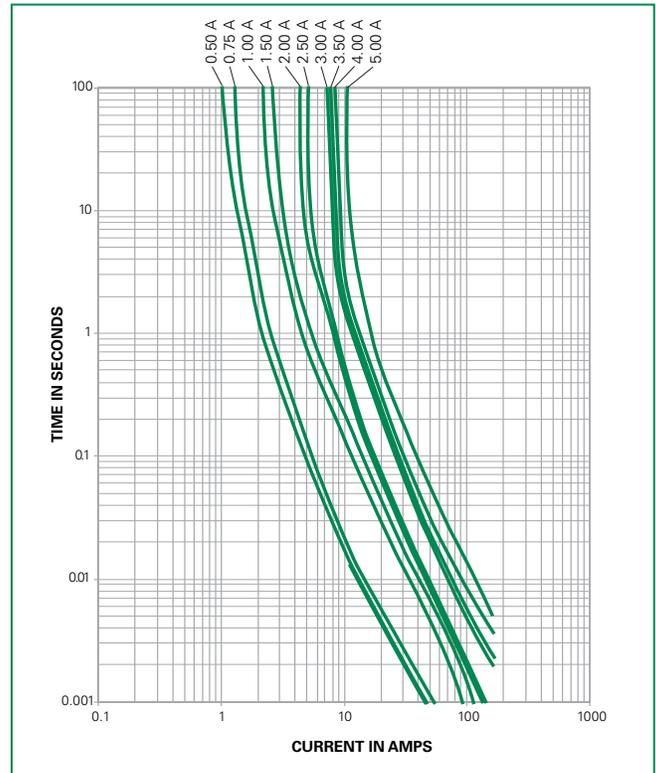
## Temperature Derating Curve



Note:

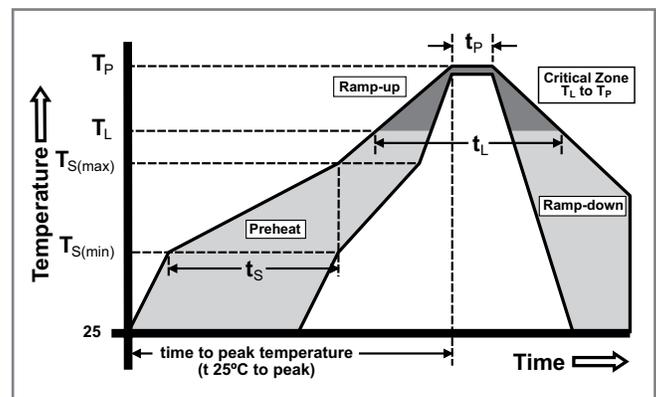
- Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

## 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 – 120 secs
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 ( $T_p$ )		260 <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 ( $T_p$ )		8 minutes max.
Do not exceed		260°C
Wave Soldering Parameters		260°C Peak Temperature, 3 seconds max.

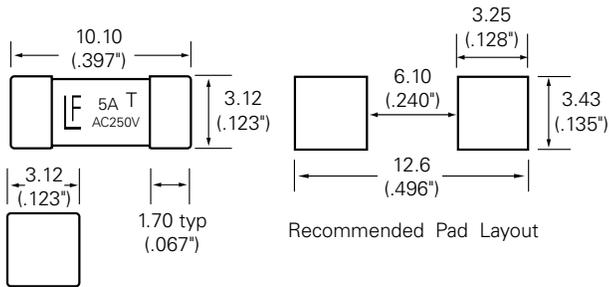


### Product Characteristics

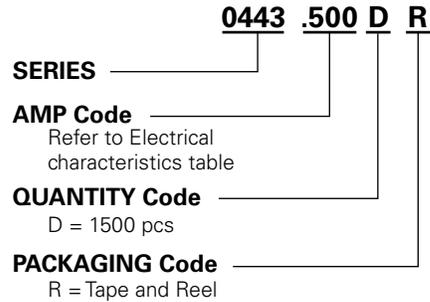
<b>Materials</b>	Body: Ceramic Cap: Silver Plated Brass
<b>Product Marking</b>	Body: Brand Logo, Current Rating Rated Voltage, T - C Characteristic "T"
<b>Insulation Resistance</b> (after Opening)	MIL-STD-202, Method 302, Test Condition A (10,000 ohms, Minimum)
<b>Solderability</b>	MIL-STD-202, Method 208
<b>Resistance to Soldering Heat</b>	MIL-STD-202, Method 210, Test Condition B (10 sec at 260°C)
<b>Moisture Sensitivity Level</b>	Level 1 J-STD-020C
<b>PCB Recommendation for Thermal Management</b>	Min. copper layer thickness = 100um Min. copper trace width = 10mm Alternate methods of thermal management may be used. In such cases, under normal operations, the maximum temperature of the fuse body should not exceed 80°C in a 25°C ambient environment.

<b>Operating Temperature</b>	-55°C to 125°C with proper derating
<b>Thermal Shock</b>	MIL-STD-202F, Method 107G, Test Condition B (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202F, Method 201A (10-55 Hz)
<b>Moisture Resistance</b>	MIL-STD-202, Method 106, High Humidity (90-98%RH), Heat (65°C)
<b>Salt Spray</b>	MIL-STD-202F, Method 101, Test Condition B
<b>Mechanical Shock</b>	MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds)

### Dimensions



### Part Numbering System



**Example:**  
1.5 amp product is  
0443 **01.5** D R (0.5 amp  
product shown above).

### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
24mm Tape and Reel	EIA-RS 481-2 (IEC 286, part 3)	1500	DR