

### 443LC Series Fuse




#### Description

The 443LC Series 280V 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

- 280VAC voltage rating
- Slo-Blo® Fuse
- Available 0.50A – 5.00A
- RoHS Compliant and halogen-free
- Fully compatible with lead-free solder alloys and higher temperature profiles associated with lead-free assembly
- UL Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14

#### Agency Approvals

Agency	Agency File Number	Ampere Range
	E10480	0.500A - 5.00A

#### 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

#### Electrical Characteristics for Series

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

#### Additional Information



**Datasheet**




**Resources**



**Samples**

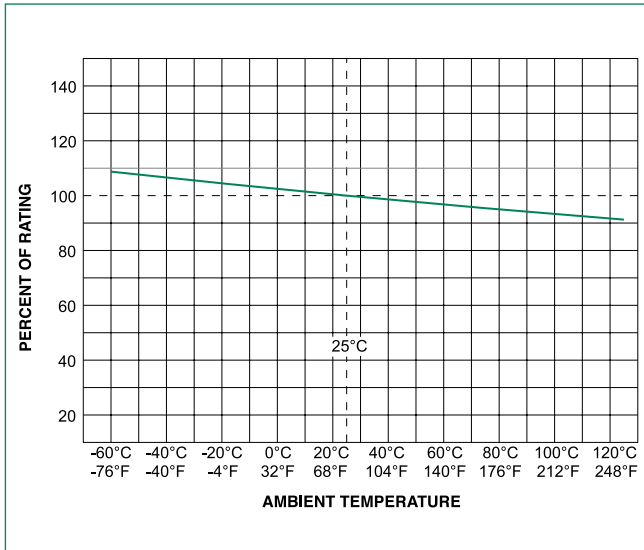
#### Electrical Specifications by Item

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	280	50A @280VAC	0.600	1.61	448	x
0.75	.750	280		0.275	3.025	285	x
1	001.	280		0.180	10.17	234	x
1.50	01.5	280		0.100	14.72	196	x
2	002.	280		0.052	18.06	154	x
2.50	02.5	280		0.035	18.13	139	x
3	003.	280		0.028	51.44	113	x
3.50	03.5	280		0.019	53.14	98	x
4	004.	280		0.016	122.50	81	x
5	005.	280		0.0115	180.60	80	x

**Notes:**

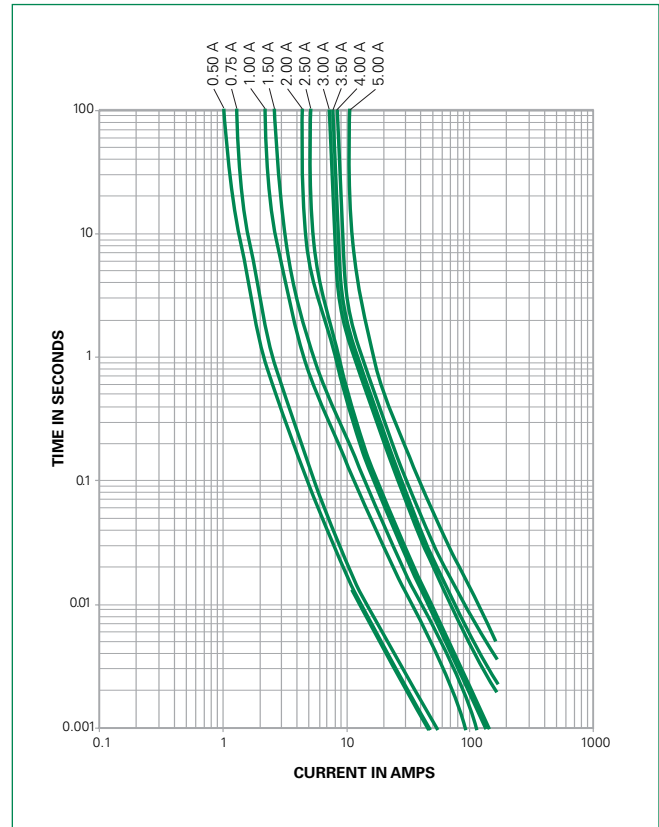
1. Cold resistance measured at less than 10% of rated current at 23°C.
2. Agency Approval Table Key: X=Approved or Certified, P=Pending and Blank=Not Approved
3. Have special electrical characteristic needs? Contact Littelfuse to learn more about application specific options.

**Temperature Re-rating Curve**



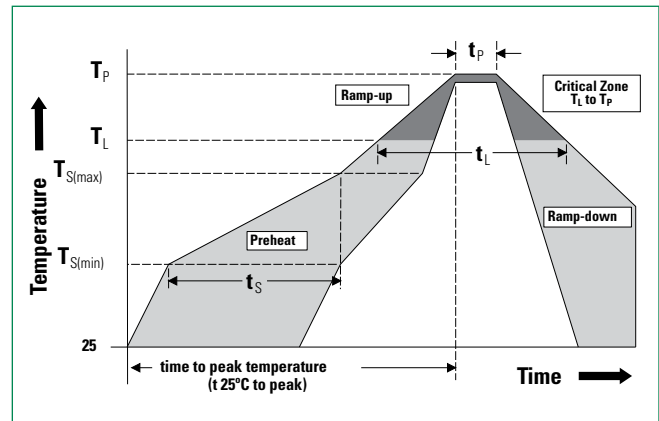
Note:  
1. Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

**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 secs
<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 ( $t_L$ )	60 – 150 seconds
<b>Peak Temperature (<math>T_p</math>)</b>		260 <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
<b>Wave Soldering Parameters</b>	260°C Peak Temperature, 3 seconds max.	

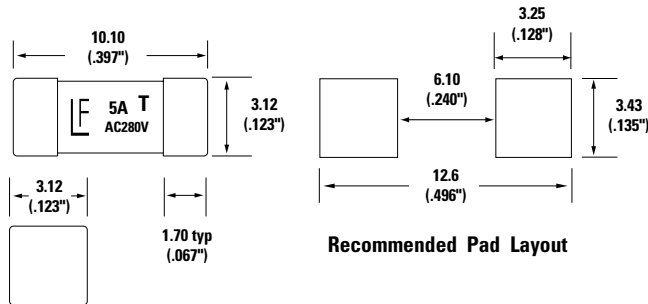


### Product Characteristics

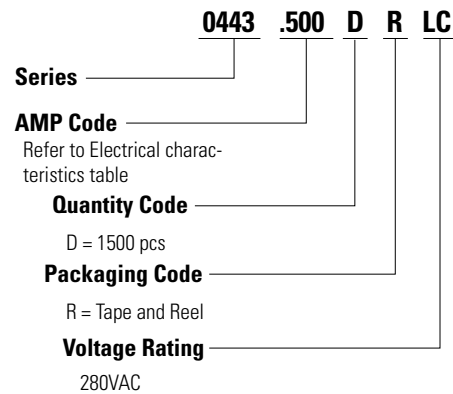
<b>Materials</b>	Body: Ceramic Cap: Silver Plated Brass
<b>Product Marking</b>	Body: Brand Logo, Current Rating Rated Voltage, T - C Characteristic "T"
<b>Insulation Resistance</b> (after Opening)	MIL-STD-202, Method 302, Test Condition A (10,000 ohms, Minimum)
<b>Solderability</b>	MIL-STD-202, Method 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-020
<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-202, Method 107, Test Condition B (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202, Method 201 (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-202, 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:**  
1.5amp product is 0443 01.5 D R LC (0.5amp 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