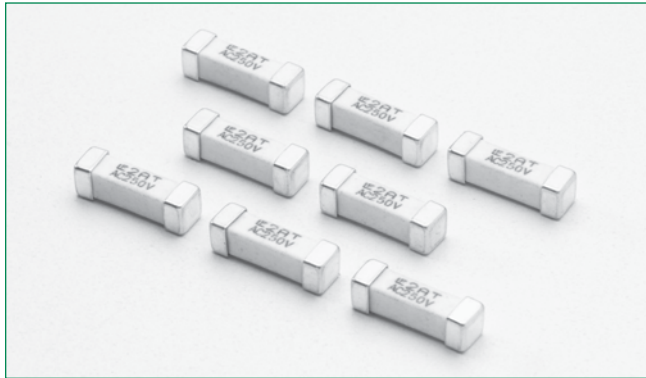


443 Series Fuse



Description

The 250V Nano²® 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
- Slo-Blo[®] Fuse
- Available 0.50A – 5.00A
- Halogen-free and RoHS Compliant
- Fully compatible with lead-free solder alloys and higher temperature profiles associated with lead-free assembly
- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14
- Conforms to K60127-1 and K60127-7
- Conforms to DENAN's Appendix 3
- Conforms to IEC/EN 60127-1 and IEC/EN 60127-7

Applications

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

Agency Approvals

Agency	Agency File Number	Ampere Range
	E10480	0.500A - 5.00A
	SU05024 -14004 SU05024 -14003 SU05024 -14002	0.500A - 0.750A 1.00A - 2.50A 3.00A - 5.00A
	NBK290416-JP1021	1.00A – 5.00A
	R50310551	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

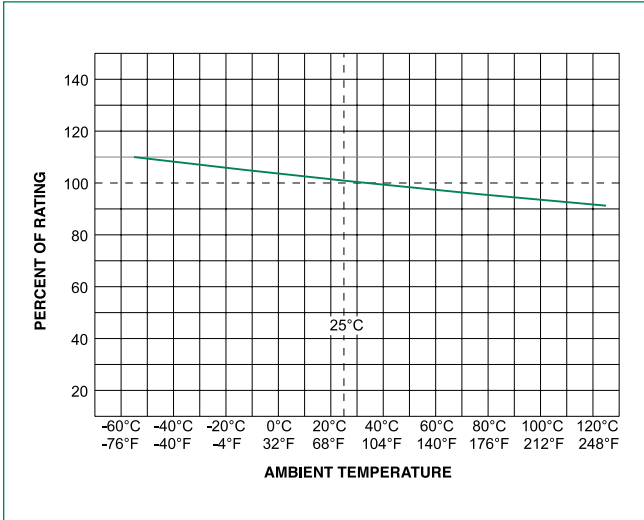
Electrical Specifications by Item

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting P _t (A ² sec)	Nominal Voltage Drop (mV)	Agency Approvals			
										
0.50	.500	250	50A @250VAC	0.600	1.61	448	x	x		x
0.75	.750	250		0.275	3.025	285	x	x		x
1	001.	250		0.180	10.17	234	x	x	x	x
1.50	01.5	250		0.100	14.72	196	x	x	x	x
2	002.	250		0.052	18.06	154	x	x	x	x
2.50	02.5	250		0.035	18.13	139	x	x	x	x
3	003.	250		0.028	51.44	113	x	x	x	x
3.50	03.5	250		0.019	53.14	98	x	x	x	x
4	004.	250		0.016	122.5	81	x	x	x	x
5	005.	250		0.0115	180.6	80	x	x	x	x

Notes:

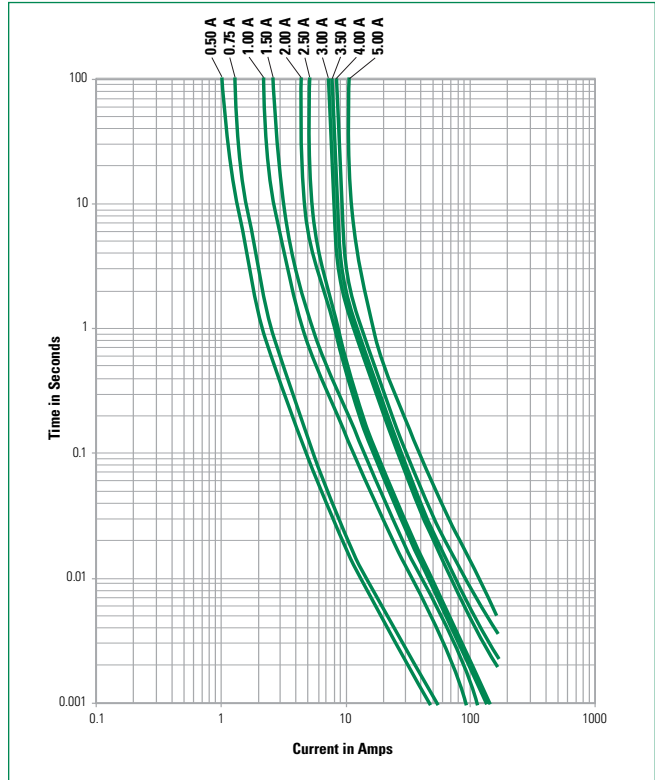
1. Cold resistance measured at less than 10% of rated current at 23°C.
2. Agency Approval Table Key: X=Approved or Certified, P=Pending and Blank=Not Approved
3. Have special electrical characteristic needs? Contact Littelfuse to learn more about application specific options.

Temperature Re-rating Curve



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

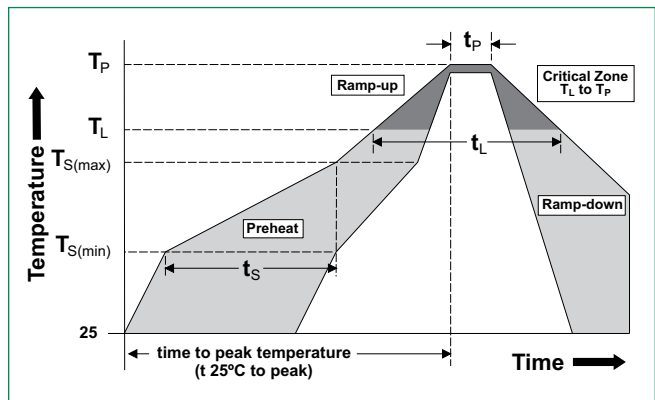
Average Time Current Curves



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 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 - 150 seconds
Peak Temperature (T_p)	260 ^{+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	

Wave Soldering Parameters 260°C Peak Temperature, 3 seconds max.

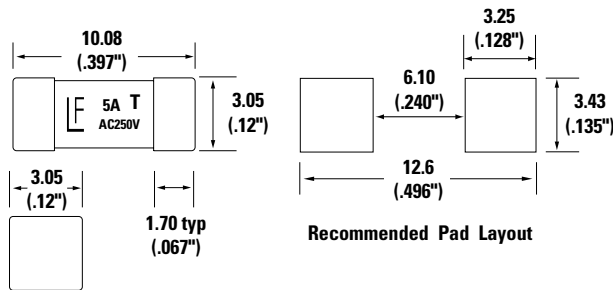


Product Characteristics

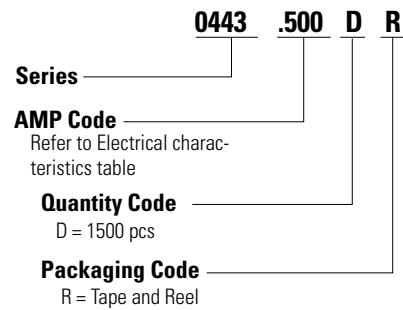
Materials	Body: Ceramic Cap: Silver Plated Brass
Product Marking	Body: Brand Logo, Current Rating Rated Voltage, and T - Characteristic "T"
Insulation Resistance (after Opening)	MIL-STD-202, Method 302, Test Condition A (10,000 ohms, Minimum)
Solderability	MIL-STD-202, Method 208
Resistance to Soldering Heat	MIL-STD-202, Method 210, Test Condition B (10 sec at 260°C)
Moisture Sensitivity Level	Level 1 J-STD-020
PCB Recommendation for Thermal Management	Min. copper layer thickness = 100µm 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.

Operating Temperature	-55°C to 125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B (5 cycles -65°C to +125°C)
Vibration	MIL-STD-202, Method 201 (10-55 Hz)
Moisture Resistance	MIL-STD-202, Method 106, High Humidity (90-98%RH), Heat (65°C)
Salt Spray	MIL-STD-202, Method 101, Test Condition B
Mechanical Shock	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

Disclaimer Notice - Littelfuse products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable Littelfuse product documentation. Warranties granted by Littelfuse shall be deemed void for products used for any purpose not expressly set forth in applicable Littelfuse documentation. Littelfuse shall not be liable for any claims or damages arising out of products used in applications not expressly intended by Littelfuse as set forth in applicable Littelfuse documentation. The sale and use of Littelfuse products is subject to Littelfuse Terms and Conditions of Sale, unless otherwise agreed by Littelfuse. Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.