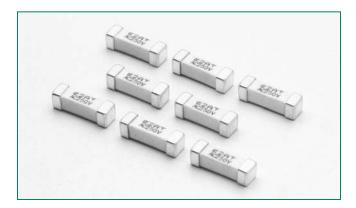
# Surface Mount Fuses NANO<sup>2®</sup> > 250V > Time Lag > 443 Series

# **ROHS** 443 Series Fuse





#### **Agency Approvals**

AGENCY	AGENCY FILE NUMBER	AMPERE RANGE
<b>.</b> 8	E10480	0.500A - 5.00A

#### **Electrical Characteristics for Series**

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

#### **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 leadfree assembly

## **Applications**

- AC/DC power adaptor
- Telecom equipment system power
- Portable system builtin AC/DC converter
- High voltage DC/DC converter
- Lighting System

### **Electrical Specifications by Item**

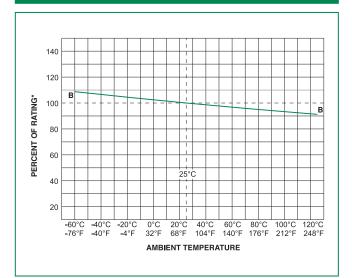
Ampere	ere Max		Intonucation	Nominal Cold Nominal	Nom	Agency Approvals	
Rating (A)	Amp Code	Voltage Rating (V)	Interrupting Rating	Resistance (Ohms)	Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Voltage Drop (mV)	. <b>%</b>
0.50	.500	250		0.600	1.61	448	X
0.75	.750	250	50A @250VAC	0.275	1.00	285	Х
1	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	Х
4	004.	250		0.016	70.56	81	X
5	005.	250		0.0115	127.79	80	×

#### Notes:

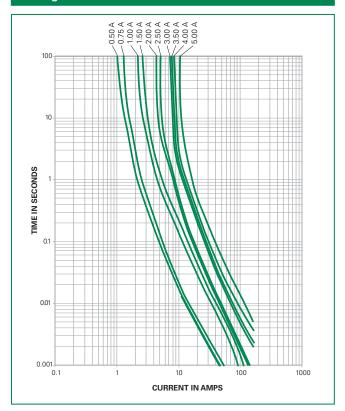
- 1. Cold resistance measured at less than 10% of rated current at 23°C.
- 2. Agency Approval Table Key: X=Approved or Certified, P=Pending and Blank=Not Approved
- ${\it 3. Have special electrical characteristic needs? Contact Littlefuse to learn more about application specific options.}$



## **Temperature Rerating Curve**

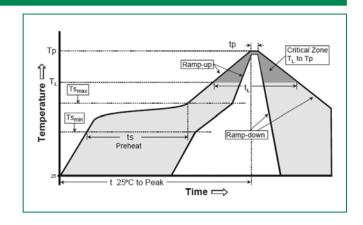


## **Average Time Current Curves**



# **Soldering Parameters**

Reflow Condition		Pb – Free assembly	
	-Temperature Min (T <sub>s(min)</sub> )	150°C	
Pre Heat	-Temperature Max (T <sub>s(max)</sub> )	200°C	
	-Time (Min to Max) (t <sub>s</sub> )	60 – 120 secs	
Average ra	amp up rate (Liquidus Temp k	5°C/second max	
T <sub>S(max)</sub> to T <sub>L</sub> - Ramp-up Rate		5°C/second max	
Reflow	-Temperature (T <sub>L</sub> ) (Liquidus)	217°C	
nellow	-Temperature (t <sub>L</sub> )	60 - 90 seconds	
PeakTemp	erature (T <sub>P</sub> )	250 <sup>+0/-5</sup> °C	
Time within 5°C of actual peak Temperature (t <sub>p</sub> )		20 – 40 seconds	
Ramp-down Rate		5°C/second max	
Time 25°C to peakTemperature (T <sub>P</sub> )		8 minutes Max.	
Do not exceed		260°C	



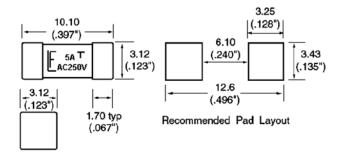
# Surface Mount Fuses NANO<sup>2®</sup> > 250V > Time Lag > 443 Series

## **Product Characteristics**

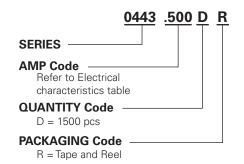
Materials	Body: Ceramic Cap: Silver Plated Brass		
Product Marking	Body: Brand Logo, Current Rating Rated Voltage, T - C Characteristic "T"		
Insulation Resistance (after Opening)	MIL-STD-202, Method 302, Test Condition A (10,000 ohms, Minimum)		
Solderability	MIL-STD-202, Method 208		
Resistance to Soldering Heat	MIL-STD-202, Method 210, Test Condition B (10 sec at 260°C)		
Moisture Sensitivity Level	Level 1 J-STD-020C		
	Min. copper layer thickness = 100um Min. copper trace width = 10mm		
PCB Recommendation for Thermal Management	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 with proper derating		
Thermal Shock	MIL-STD-202F, Method 107G, Test Condition B3 (5 cycles -65°C to +125°C)		
Vibration	MIL-STD-202F, Method 201A (10-55 Hz)		
Moisture Resistance	MIL-STD-202, Method 106, High Humidity (90-98%RH), Heat (65°C)		
Salt Spray	MIL-STD-202F, 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 <u>01.5</u> D R (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