

# 443 Series

## Slo-Blo® Fuse



### Additional Information



Resources



Accessories



Samples

### 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     | 0.500A - 0.750A |
|        | SU05024 -14003     | 1.00A - 2.50A   |
|        | SU05024 -14002     | 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 |

### Electrical Specifications by Item

| Ampere Rating (A) | Amp Code | Max Voltage Rating (V) | Interrupting Rating <sup>4</sup> | 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<br>100A @ 125VDC    | 0.600                          | 1.61                                                  | 448                       |                  |   |   |   |
| 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 |

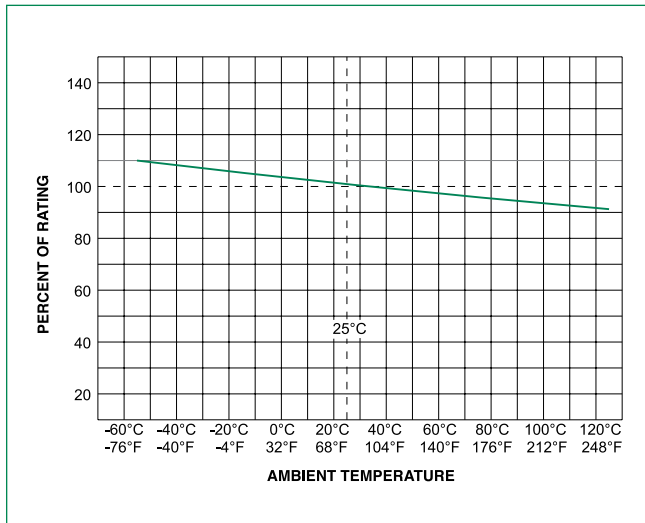
#### Notes:

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.
4. Interrupting Rating may differ based on Agency Approval. See Agency Approval certificate for more details.

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## Slo-Blo® Fuse

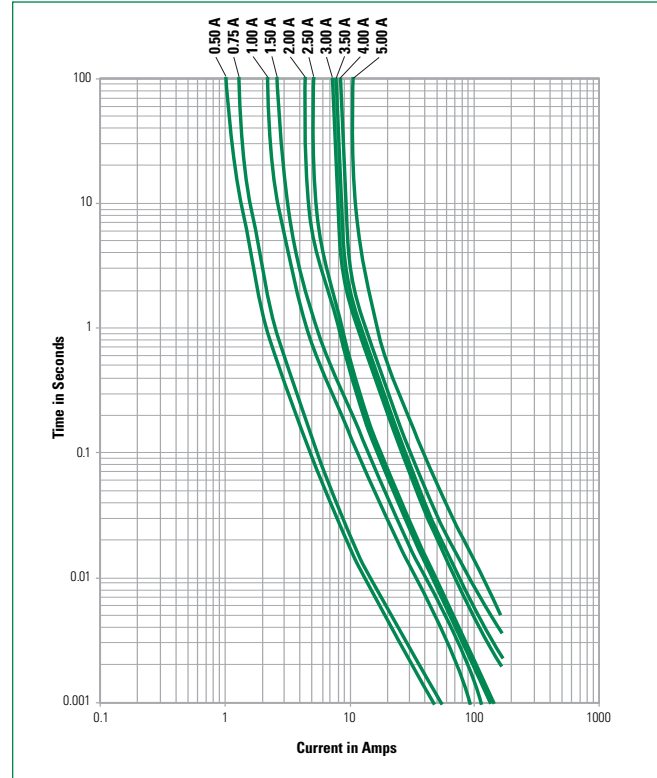
### Temperature Re-rating Curve



#### Note:

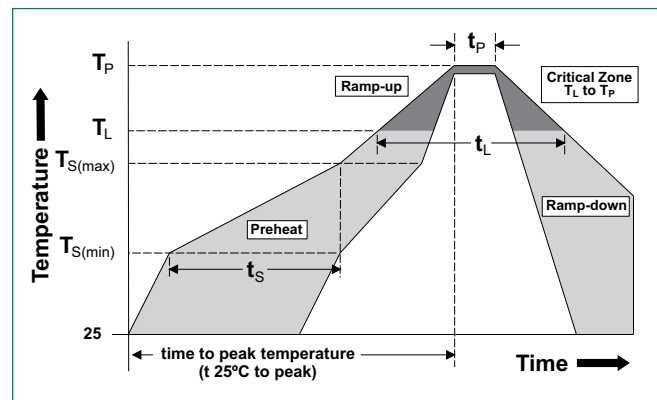
1. Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

### 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. |



# 443 Series

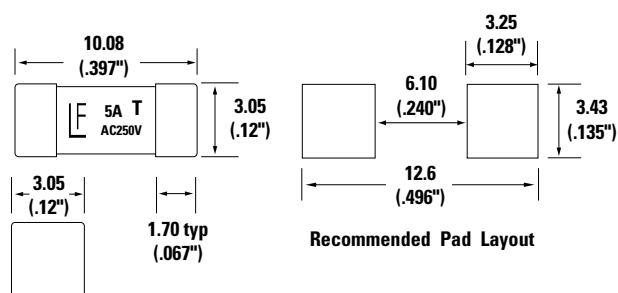
## Slo-Blo® Fuse

### Product Characteristics

|                                                 |                                                                                  |
|-------------------------------------------------|----------------------------------------------------------------------------------|
| <b>Materials</b>                                | Body: Ceramic<br>Cap: Silver Plated Brass                                        |
| <b>Product Marking</b>                          | Body: Brand Logo, Current Rating<br>Rated Voltage, and<br>T - Characteristic "T" |
| <b>Insulation Resistance</b><br>(after Opening) | MIL-STD-202, Method 302,<br>Test Condition A (10,000 ohms,<br>Minimum)           |
| <b>Solderability</b>                            | MIL-STD-202, Method 208                                                          |
| <b>Resistance to Soldering<br/>Heat</b>         | MIL-STD-202, Method 210,<br>Test Condition B (10 sec at 260°C)                   |
| <b>Moisture Sensitivity<br/>Level</b>           | Level 1 J-STD-020                                                                |

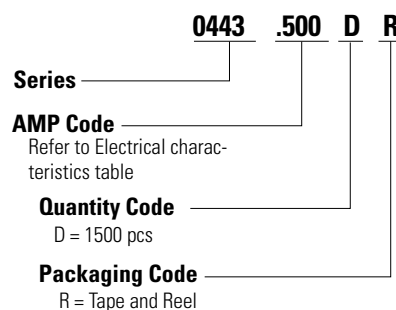
|                              |                                                                                |
|------------------------------|--------------------------------------------------------------------------------|
| <b>Operating Temperature</b> | -55°C to 125°C                                                                 |
| <b>Thermal Shock</b>         | MIL-STD-202, Method 107, Test Condition B<br>(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,<br>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<br>(100 G's peak for 6 milliseconds) |

### Dimensions



**Note:** Dimensions in mm(inches)

### 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                        |

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