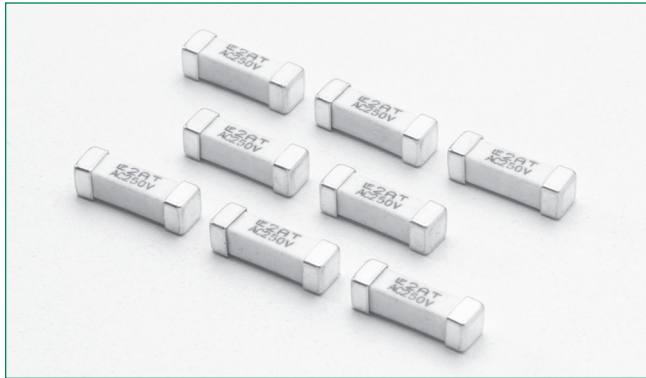


443 Series Fuse







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

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 |

Applications

- AC/DC power adaptor
- Telecom equipment system power
- Portable system built-in AC/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

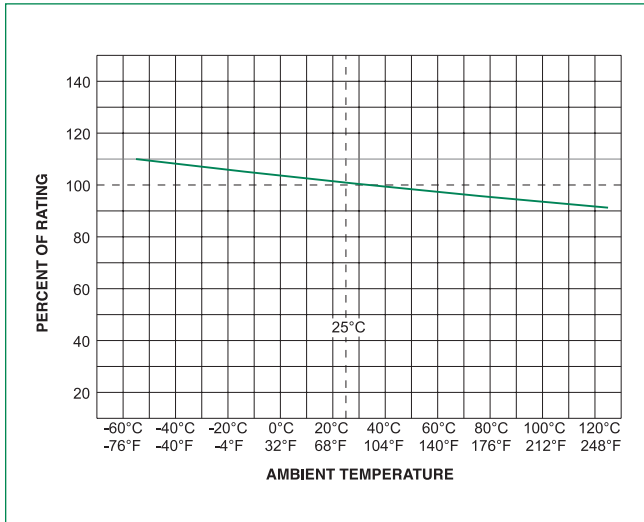
Electrical Specifications by Item

| Ampere Rating (A) | Amp Code | Max Voltage Rating (V) | Interrupting Rating ⁴ | Nominal Cold Resistance (Ohms) | Nominal Melting I ² t (A ² sec) | Nominal Voltage Drop (mV) | Agency Approvals | | | |
|-------------------|----------|------------------------|----------------------------------|--------------------------------|---|---------------------------|---|---|---|---|
| | | | | | | |  |  |  |  |
| 0.50 | .500 | 250 | 50A @ 250VAC 100A @ 125VDC | 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:

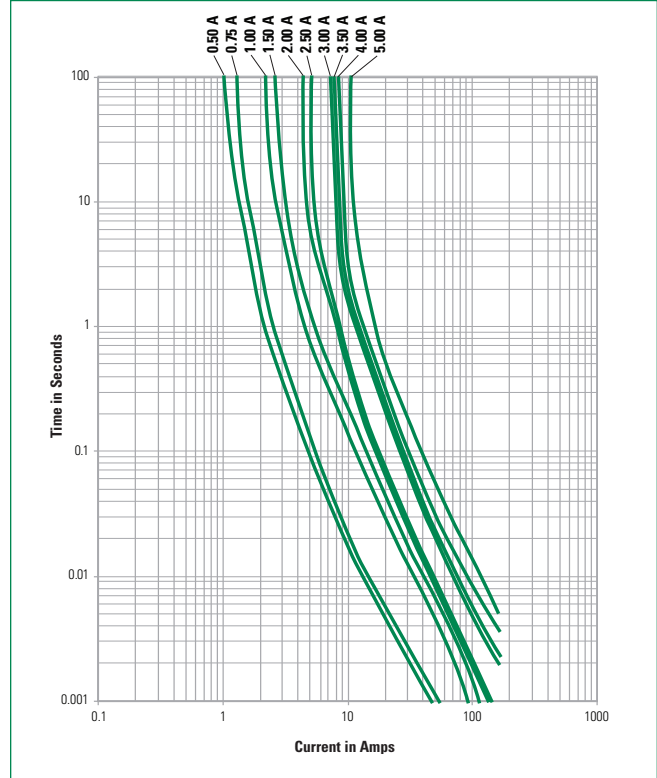
1. Cold resistance measured at less than 10% of rated current at 23°C.
2. Agency Approval Table Key: X=Approved or Certified, P=Pending and Blank=Not Approved
3. Have special electrical characteristic needs? Contact Littelfuse to learn more about application specific options.
4. Interrupting Rating may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

Temperature Re-rating Curve



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

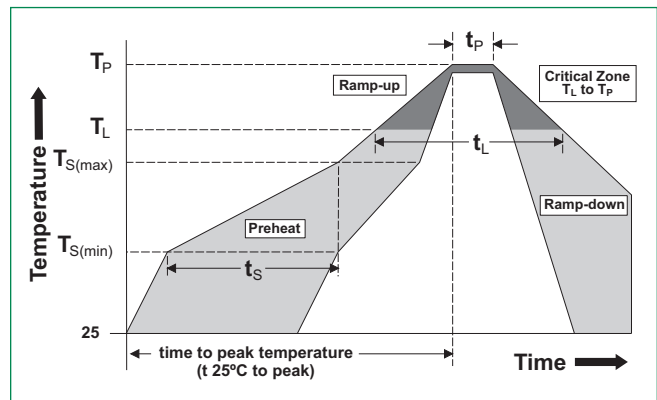
Average Time Current Curves



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.

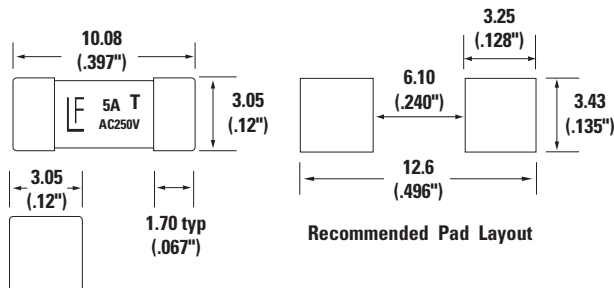


Product Characteristics

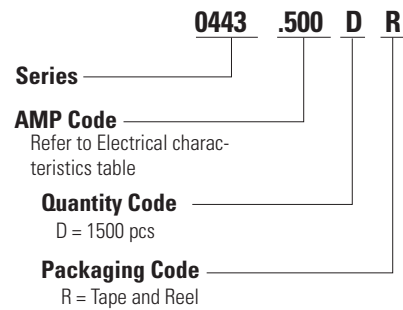
| | |
|--|--|
| Materials | Body: Ceramic Cap: Silver Plated Brass |
| Product Marking | Body: Brand Logo, Current Rating Rated Voltage, and T - Characteristic "T" |
| Insulation Resistance (after Opening) | MIL-STD-202, Method 302, Test Condition A (10,000 ohms, Minimum) |
| Solderability | MIL-STD-202, 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 |

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