

462 Series

250V/350V VAC/VDC Time Lag Fuse



Description

The 462 series Nano2® Surface Mount Fuse has time-lag current characteristics with 250V and 350V interrupting ratings. It complies with IEC 60127-4 Universal Modular Fuse-Links (UMF).

Features & Benefits

- Heat resistant plastic housing, UL 94 V-0
- Designed for line or low voltage applications
- Low voltage drop
- Internationally approved
- High pulse resistance
- Lead-free – compatible with lead-free solders and higher temperature profiles
- Available in ratings of 0.5A to 5A
- Halogen-free and RoHS compliant.

Applications

- Lighting ballast
- AC/DC adaptor primary protection
- Transformerless AC/DC converter circuit
- High DC voltage power distribution system

Additional Information



Resources



Accessories



Samples

Electrical Characteristics for Series

| % of Amp Rating | Opening Time |
|-----------------|---|
| 125% | 1 hour, Minimum |
| 200% | 2 minutes, Maximum |
| 1000% | 10 milliseconds, Minimum 100 milliseconds, Maximum |

Agency Approvals

| Agency | Agency File/Certificate Number | Ampere Range |
|--------|--------------------------------|-------------------------|
| c US | E67006 | 0.5A - 5A |
| | 40022235 | 1A, 1.6A, 2A, 3.15A, 4A |
| | NBK250416-JP1021 | 1A - 1.6A |
| | NBK010721-JP1021 | 2A - 5A |
| | CQC14012115883 | 1.6A |
| | RU C-DE.HB26.B01385/21 | 0.5A - 5A |
| | E242325 | 0.5A - 5A |
| | NA | 0.5A - 5A |
| | NA | 0.5A - 5A |

Electrical Specifications by Item

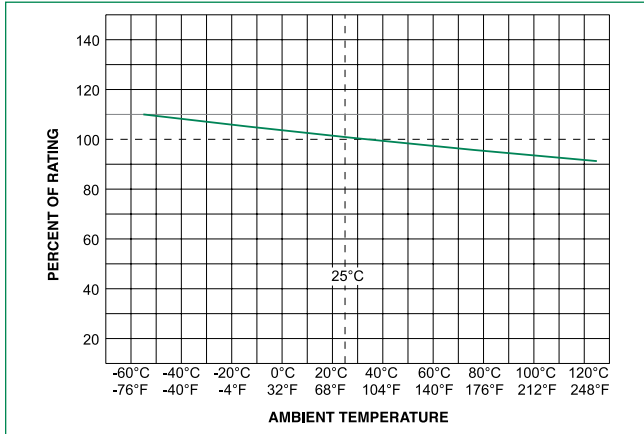
| Ampere Rating (A) | Amp Code | Max Voltage Rating (V) ⁵ | Interrupting Rating | Nominal Cold Resistance (Ohms) ¹ | Nominal Melting I ² t (A ² sec) | Nom Voltage Drop (mV) | Nom Power Dissipation (mW) | Agency Approvals ³ | | | | | | | |
|-------------------|----------|-------------------------------------|---|---|---|-----------------------|----------------------------|-------------------------------|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |
| 0.5 | 0500 | 250 | 100A @ 350VAC/VDC ⁴ 150A @ 250VAC/VDC | 0.227 | 0.43 | 160 | 200 | x | x | x | - | x | - | x | - |
| 0.63 | 0630 | | | 0.157 | 0.8 | 160 | 200 | x | x | x | - | x | - | x | - |
| 0.8 | 0800 | | | 0.13 | 1.4 | 160 | 250 | x | x | x | - | x | - | x | - |
| 1.0 | 1100 | | | 0.0867 | 2.7 | 140 | 250 | x | x | x | x | x | - | x | x |
| 1.25 | 1125 | | | 0.0602 | 5.2 | 130 | 250 | x | x | x | - | x | - | x | x |
| 1.6 | 1160 | | | 0.0443 | 9.7 | 130 | 280 | x | x | x | x | x | x | x | x |
| 2.0 | 1200 | | | 0.0335 | 5.44 | 120 | 300 | x | x | x | x | x | - | x | x |
| 2.5 | 1250 | | | 0.0278 | 8.0 | 120 | 450 | x | x | x | - | x | - | x | x |
| 3.15 | 1315 | | | 0.0204 | 14.0 | 110 | 600 | x | x | x | x | x | - | x | x |
| 4.0 | 1400 | | | 0.0158 | 21.0 | 110 | 800 | x | x | x | x | x | - | x | x |
| 5.0 | 1500 | | | 0.0124 | 40.0 | 110 | 1000 | x | x | x | - | x | - | x | x |

Notes:
 1. Cold resistance measured at less than 10% of rated current at 23°C
 2. I²t values are measured at 8ms opening time
 3. Agency Approval Table Key: X = Approved or Certified, P = Pending
 4. UL Recognition - IR at 100A @ 350 VAC/VDC
 5. Rated at 350VAC/VDC per UL Recognition under UL248 (up to 4A only). Rated at 250VAC/VDC per VDE under IEC standard 60127-4.
 If you have special electrical characteristic needs, please contact Littelfuse to discuss application specific options.

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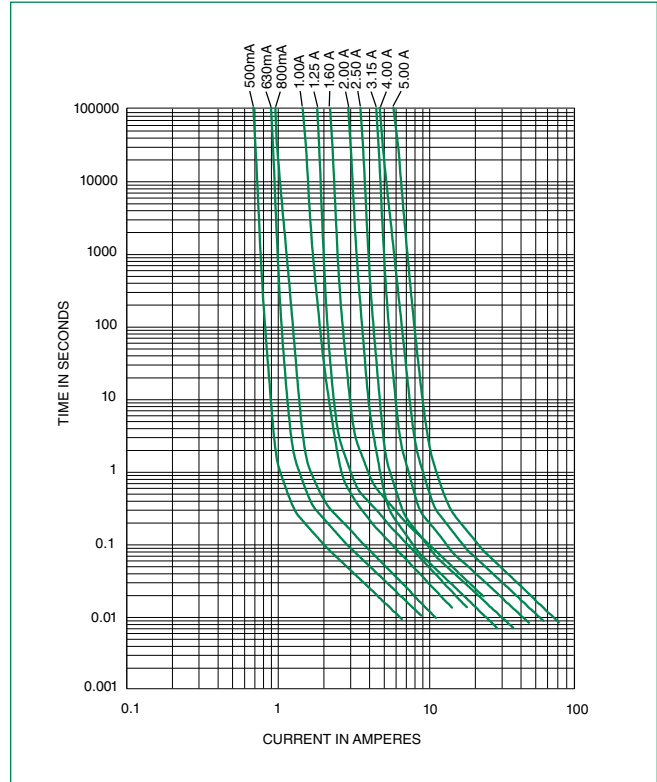
250V/350V VAC/VDC Time Lag Fuse

Temperature Re-rating Curve



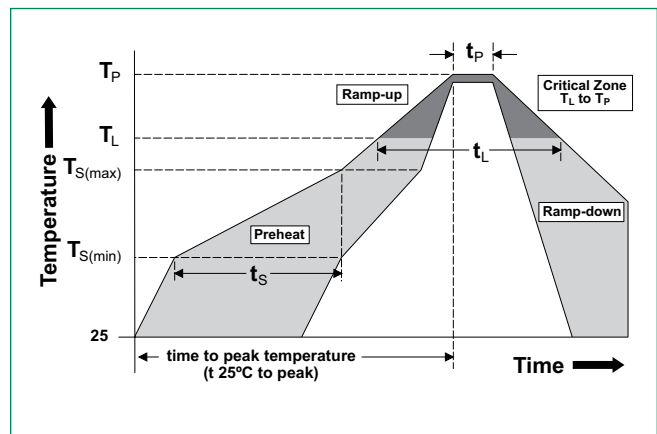
Note:
1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

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 seconds |
| 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) | | 250 ^{+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. |



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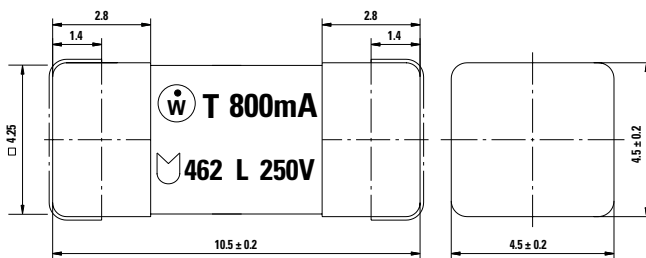
250V/350V VAC/VDC Time Lag Fuse

Product Characteristics

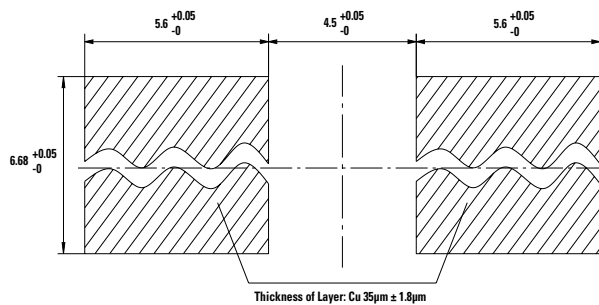
| | |
|-------------------------------------|---|
| Materials | Body: Plastic UL 94 V-0 Cap: Tin-plated brass |
| Product Marking | Body: Brand Logo, "T" for Time-Lag, Current Rating, L Voltage Rating, UMF logo |
| Solderability | IEC 60068-2-58 |
| Resistance to Soldering Heat | IEC 60068-2-58 |

| | |
|-----------------------------------|--|
| Operating Temperature | -40°C to +85°C with proper derating |
| Climatic Category | IEC 60068-1, -2-1, -2-2, -2-78 (-40°C to +85°C / 21 days) |
| Vibration | IEC 60068-6 (24 cycles of 15 mins each, 1-60 Hz at 0.75mm amplitude, 60-2000 Hz at 10g acceleration) |
| Moisture Sensitivity Level | J-STD-020, Level 1 |

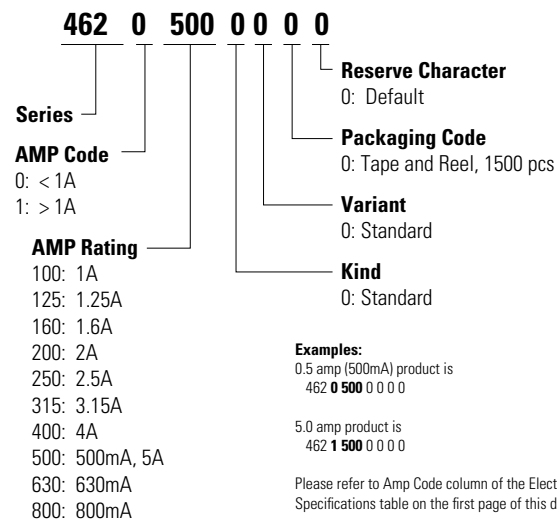
Dimensions



Recommended Pad Layout



Part Numbering System



Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code |
|--------------------|-------------------------|----------|---------------------------|
| 16mm Tape and Reel | IEC 60286, part 3 | 1500 | 0 |

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