

RoHS 462 Series Fuse



Description

The 462 series Nano^{2®} Surface Mount Fuse has time-lag current characteristics with interrupting ratings rated at 250V and 350V. It complies with IEC 60127-4 Universal Modular Fuse-Links.

Features

- 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 500mA to 5A

Applications

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

Agency Approvals

| AGENCY | AGENCY FILE NUMBER | AMPERE RANGE |
|--------|------------------------------|---------------------------|
| | E67006 | 500mA - 4A |
| | 40022235 40027839 | 1A, 1.6A, 3.15A, 4A 2A |
| | 5007679-1170-0040 / 88238 | 500mA - 5A |

Electrical Characteristics for Series

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

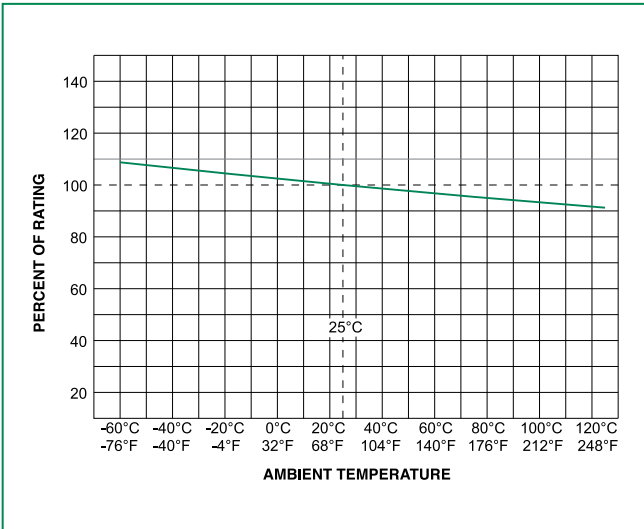
Electrical Specifications by Item

| 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 | | |
|-------------------|----------|-------------------------------------|---|---|---|-----------------------|----------------------------|-------------------------------|---|---|
| | | | | | | | | | | |
| 0.500 | 0500 | 250 | 100A @ 350VAC/VDC ⁴ 150A @ 250VAC/VDC | 0.2270 | 0.43 | 160 | 200 | X | | X |
| 0.630 | 0630 | | | 0.1570 | 0.80 | 160 | 200 | X | | X |
| 0.800 | 0800 | | | 0.1300 | 1.40 | 160 | 250 | X | | X |
| 1.00 | 1100 | | | 0.0867 | 2.70 | 140 | 250 | X | X | X |
| 1.25 | 1125 | | | 0.0602 | 5.20 | 130 | 250 | X | | X |
| 1.60 | 1160 | | | 0.0443 | 9.70 | 130 | 280 | X | X | X |
| 2.00 | 1200 | | | 0.0335 | 5.44 | 120 | 300 | X | X | P |
| 2.50 | 1250 | | | 0.0278 | 8.00 | 120 | 450 | X | | P |
| 3.15 | 1315 | | | 0.0204 | 14.00 | 110 | 600 | X | X | P |
| 4.00 | 1400 | | | 0.0158 | 21.00 | 110 | 800 | X | X | P |
| 5.00 | 1500 | | 150A @ 250VAC/VDC | 0.0124 | 40.00 | 110 | 1000 | | | P |

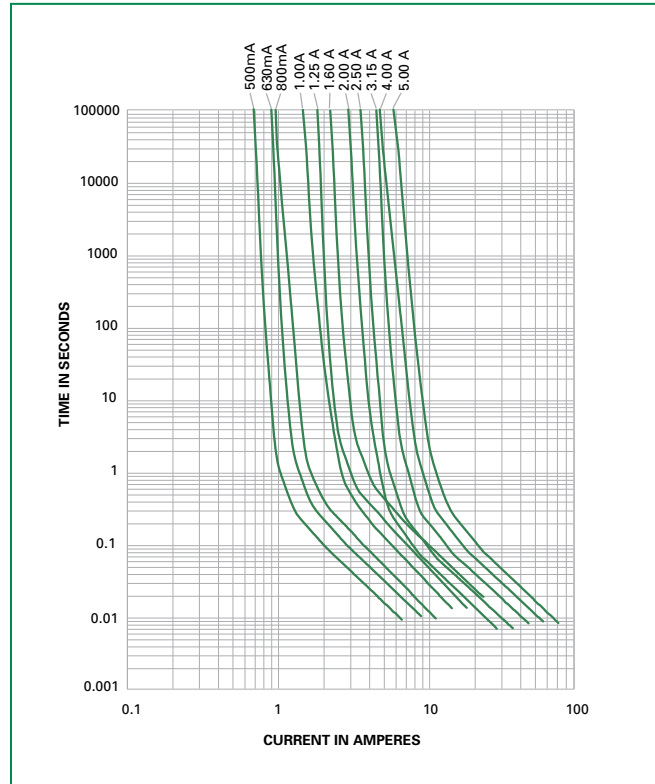
1. Cold resistance measured at less than 10% of rated current at 23°C
 2. I²t values slated for 8ms opening time
 3. Agency Approval Table Key: X = Approved or Certified, P = Pending
 4. UL Recognition - IR at 100A @ 350 VAC/VDC
 5. Rated at 350VAC/VDC per UL Recognition under UL248 (up to 4A only).
 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.

Temperature Derating Curve

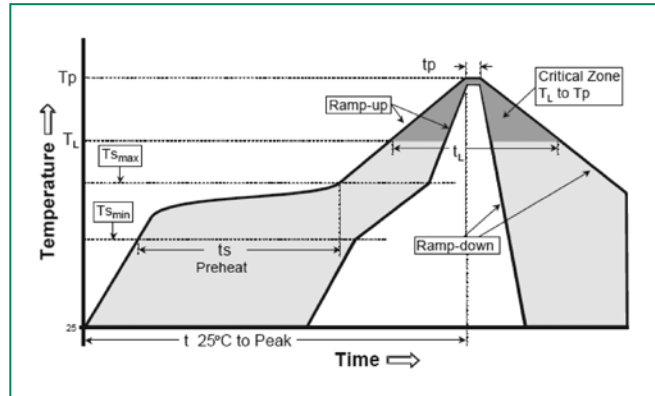


Average Time Current Curves



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 – 120 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 – 90 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. |
| Do not exceed | | 260°C |

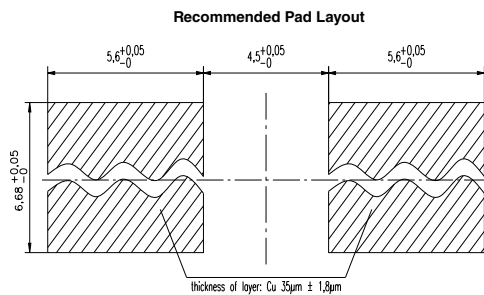
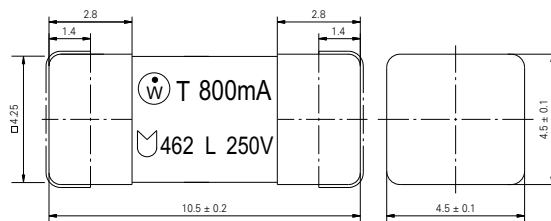


Product Characteristics

| | |
|-------------------------------------|---|
| 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 | IEC60068-1, -2-1, -2-2, -2-78 (-40°C to +85°C / 21 days) |
| Vibration | IEC60068-6 (24 cycles of 15 mins each, 1-60 Hz at 0.75mm amplitude, 60-2000 Hz at 10g acceleration) |
| Moisture Sensitivity Level | Level 1 J-STD-020C |

Dimensions



Part Numbering System

462 0 500 0 0 0 0

| | | | | | | | | | | | | | |
|---------------|-----|--------------------|---|---|-----|--------------------------|---|----------------------------|---|----------------|---|-------------|---|
| SERIES | 462 | AMP CODE | 0 | AMP RATING | 500 | RESERVE CHARACTER | 0 | PACKAGING CODE | 0 | VARIANT | 0 | KIND | 0 |
| | | 0: < 1A 1: > 1A | | 100: 1A 125: 1.25A 160: 1.6A 200: 2A 250: 2.5A 315: 3.15A 400: 4A 500: 500mA, 5A 630: 630mA 800: 800mA | | 0: Default | | 0: Tape and Reel, 1500 pcs | | 0: Standard | | 0: Standard | |

Examples:

0.5 amp (500mA) product is

462 **0 500** 0 0 0 0

5.0 amp product is

462 **1 500** 0 0 0 0

Please refer to Amp Code column of the Electrical Specifications table on the first page of this document.

Packaging

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