

# 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

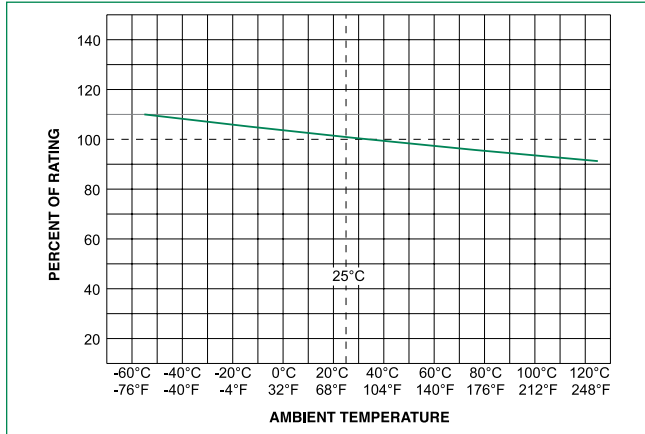
Ampere Rating (A)	Amp Code	Max Voltage Rating (V) <sup>5</sup>	Interrupting Rating	Nominal Cold Resistance (Ohms) <sup>1</sup>	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Nom Voltage Drop (mV)	Nom Power Dissipation (mW)	Agency Approvals <sup>3</sup>							
0.5	0500	250	100A @ 350VAC/VDC <sup>4</sup> 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. I<sup>2</sup>t 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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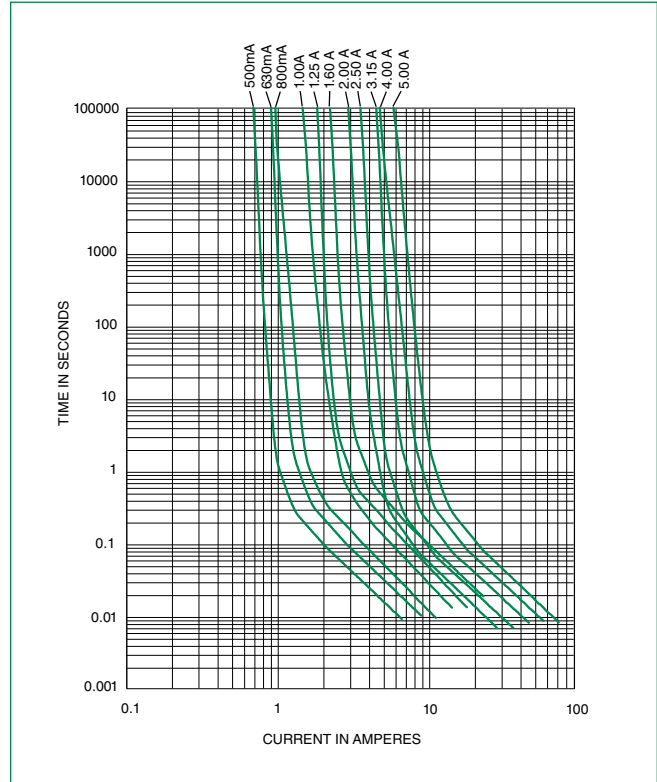
## 250V/350V VAC/VDC Time Lag Fuse

Temperature Re-rating Curve



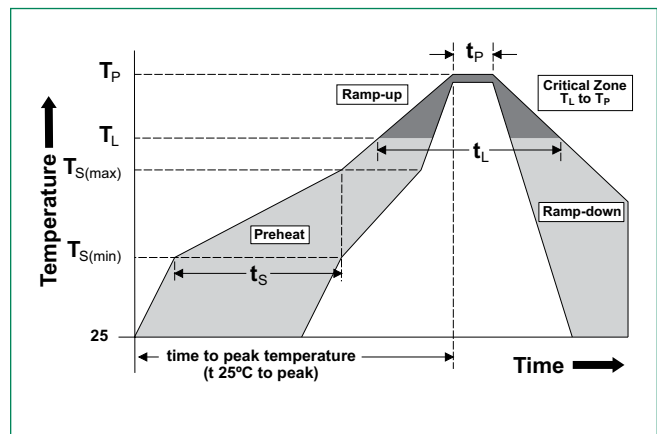
**Note:**  
1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters

<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 seconds
<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>		250 <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.



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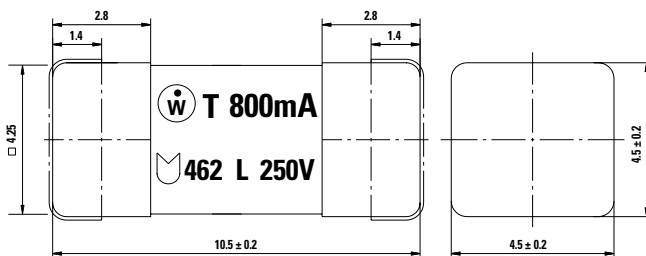
## 250V/350V VAC/VDC Time Lag Fuse

### Product Characteristics

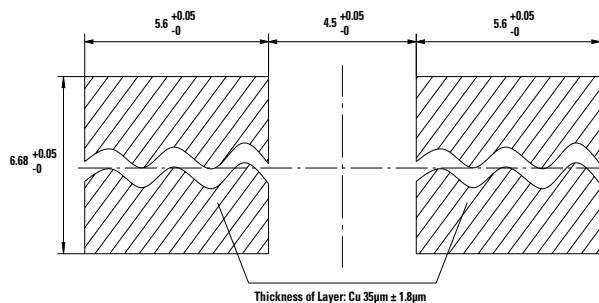
<b>Materials</b>	<b>Body:</b> Plastic UL 94 V-0 <b>Cap:</b> Tin-plated brass
<b>Product Marking</b>	<b>Body:</b> Brand Logo, "T" for Time-Lag, Current Rating, L Voltage Rating, UMF logo
<b>Solderability</b>	IEC 60068-2-58
<b>Resistance to Soldering Heat</b>	IEC 60068-2-58

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

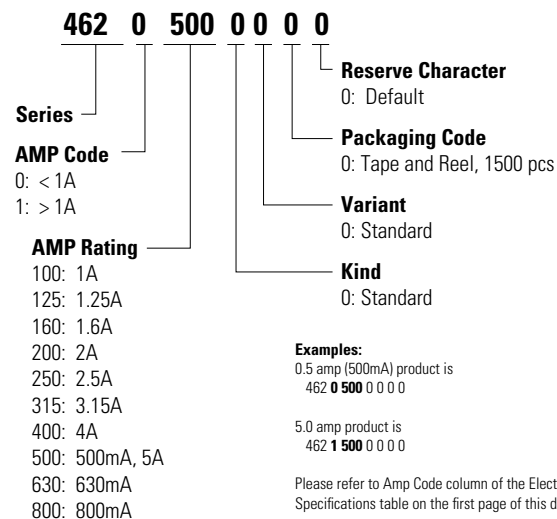
### Dimensions



### 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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