

462 Series

250V/350V VAC/VDC Time Lag Fuse



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

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

- 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

Agency Approvals

Agency	Agency File/Certificate Number	Ampere Range
cULus	E67006	0.5A - 5A
VDE	40022235	1A, 1.6A, 2A, 3.15A, 4A
PS E	NBK250416-JP1021	1A - 1.6A
	NBK010721-JP1021	2A - 5A
CEC	CQC14012115883	1.6A
ERC	RU C-DE.HB26.B01385/21	0.5A - 5A
UL M	E242325	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					
								cULus	VDE	UL M	CEC	ERC	PS E
0.5	0500	250	100A @ 350VAC/VDC ⁴ 150A @ 250VAC/VDC	0.227	0.43	160	200	X	-	X	-	X	-
0.63	0630			0.157	0.8	160	200	X	-	X	-	X	-
0.8	0800			0.13	1.4	160	250	X	-	X	-	X	-
1.0	1100			0.0867	2.7	140	250	X	X	X	-	X	X
1.25	1125			0.0602	5.2	130	250	X	-	X	-	X	X
1.6	1160			0.0443	9.7	130	280	X	X	X	X	X	X
2.0	1200			0.0335	5.44	120	300	X	X	X	-	X	X
2.5	1250			0.0278	8.0	120	450	X	-	X	-	X	X
3.15	1315			0.0204	14.0	110	600	X	X	X	-	X	X
4.0	1400			0.0158	21.0	110	800	X	X	X	-	X	X
5.0	1500		150A @ 250VAC/VDC	0.0124	40.0	110	1000	X	-	X	-	X	X

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

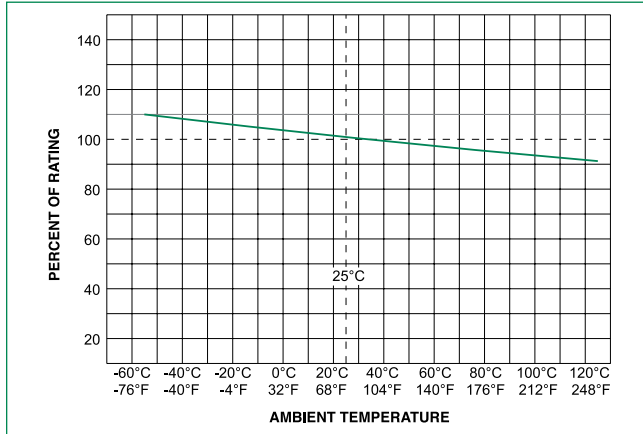
5. Rated at 350VAC/VDC per UL Recognition under UL248 (up to 4A only). Rated at 250VAC/VDC per VDE under IEC standard 60127-4.

Note: If you have special electrical characteristic needs, please contact Littelfuse to discuss application specific options.

462 Series

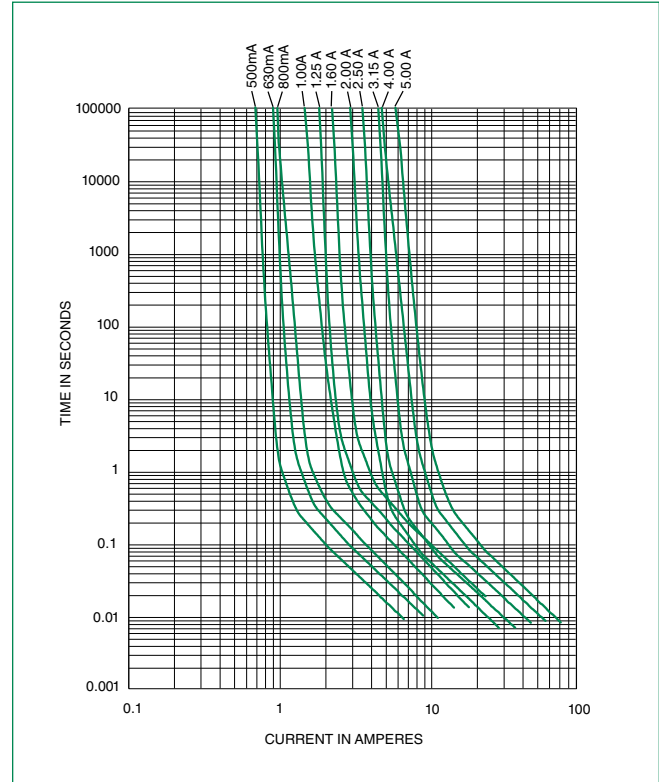
250V/350V VAC/VDC Time Lag Fuse

Temperature Re-rating Curve

**Note:**

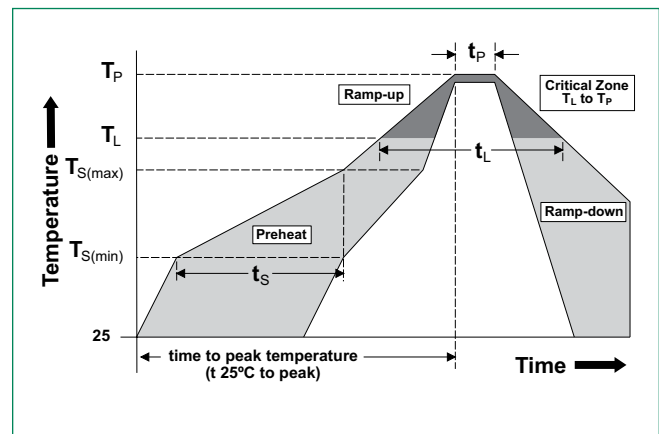
1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

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.



462 Series

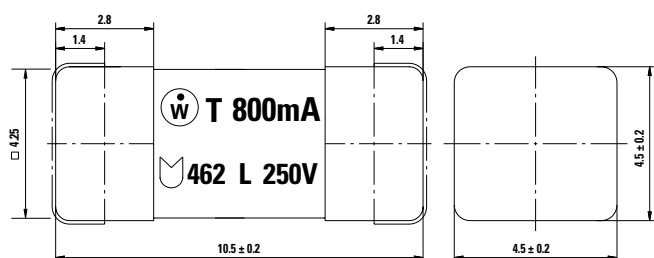
250V/350V VAC/VDC Time Lag Fuse

Product Characteristics

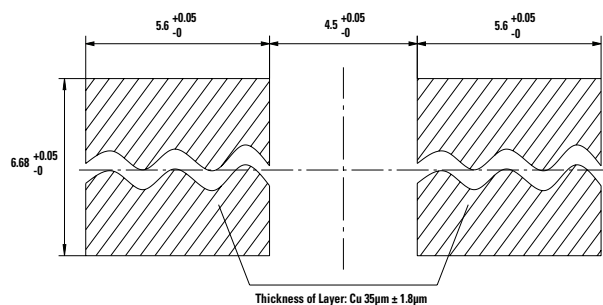
Materials	Body: Plastic UL 94 V-0 Cap: Tin-plated brass
Product Marking	Body: Brand Logo, "T" for Time-Lag, Current Rating, L Voltage Rating, UMF logo
Solderability	IEC 60068-2-58
Resistance to Soldering Heat	IEC 60068-2-58

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

462	0	500	0	0	0	0
Series	AMP Code	AMP Rating	Reserve Character	Packaging Code	Variant	Kind
0: < 1A 1: > 1A	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

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