

# 885 Series Fuse

## NANO2® > 500 VDC Rated Fuse



### Description

The 885 Nano2® Surface Mount Fuses are high voltage rated AEC-Q200 Qualified fuses with high interrupting current ratings at 450VDC/500VDC and 350VAC.

### Features & Benefits

- Heat resistant plastic body that meets flammability rating of V-0 to UL 94.
- Low voltage drop
- High Reliability Solderless Fuse
- High pulse resistance
- Lead-free – compatible with lead-free solders and higher temperature profiles
- Halogen-free and RoHS compliant
- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14
- Evaluated to EN 60127-1 and EN 60127-7
- AEC-Q200 Qualified

### Additional Information



Resources



Accessories



Samples

### Applications

- Li-ion battery packs used in electric vehicles
- Battery Management Systems (BMS)
- Sense lines
- HV DC/DC converter

### Electrical Characteristics for Series

% of Ampere Rating	Opening Time
125%	1 hour, Minimum
200%	2 minutes, Maximum
1000%	1 second, Maximum

### Agency Approvals

Agency	Agency File Number	Ampere Range
	E10480	1A–5A
	R50395911	1A–5A

### Electrical Specifications by Item

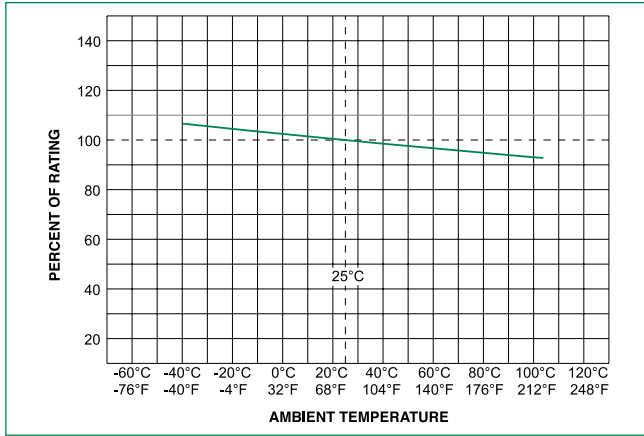
Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms) <sup>1</sup>	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Nominal Voltage Drop (mV)	Nom Power Dissipation (mW)	Agency Approvals	
1.00	001.	500	1500A @ 350VDC 100A @ 500VDC 50A @ 600VDC 100A @ 350VAC 150A @ 250VAC	0.0780	0.80	105	105	X	X
1.25	1.25		1500A @ 350VDC 100A @ 500VDC	0.0630	1.25	105	131	X	X
1.60	01.6		100A @ 350VAC	0.0473	2.30	98	157	X	X
2.00	002.		150A @ 250VAC	0.0322	4.70	91	182	X	X
2.50	02.5		1500A @ 125VDC 100A @ 500VDC	0.0267	6.90	88	220	X	X
3.15	3.15	450	100A @ 350VAC 150A @ 250VAC	0.0196	13.35	79	249	X	X
4.00	004.		1500A @ 125VDC 100A @ 450VDC	0.0152	21.30	79	316	X	X
5.00	005.		100A @ 350VAC 150A @ 250VAC	0.0119	35.00	79	395	X	X

**Notes:**  
 1. Cold resistance measured at less than 10% of rated current at 23°C.  
 2. I<sup>2</sup>t values slated for 10xIn opening time  
 3. If you have special electrical characteristic needs, please contact Littelfuse to discuss application specific options.

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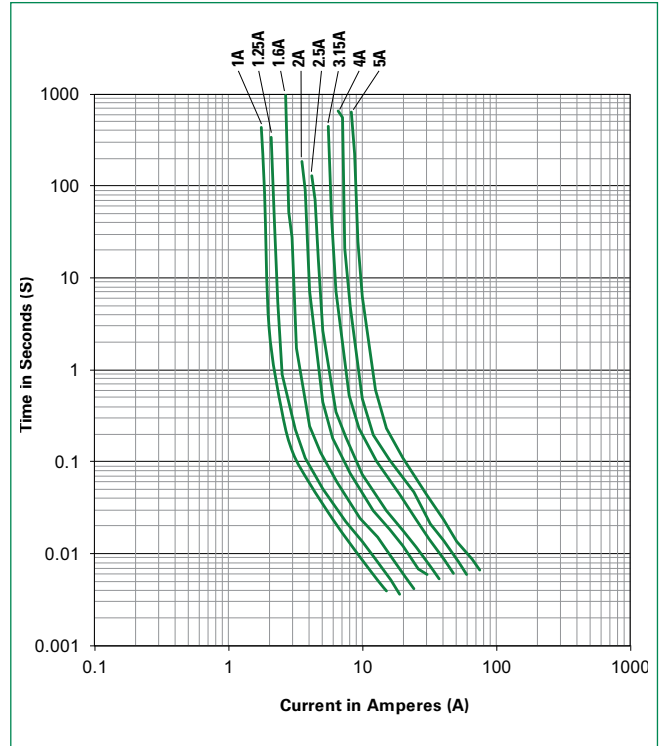
## NANO2® > 500 VDC Rated Fuse

**Temperature Re-rating Curve**



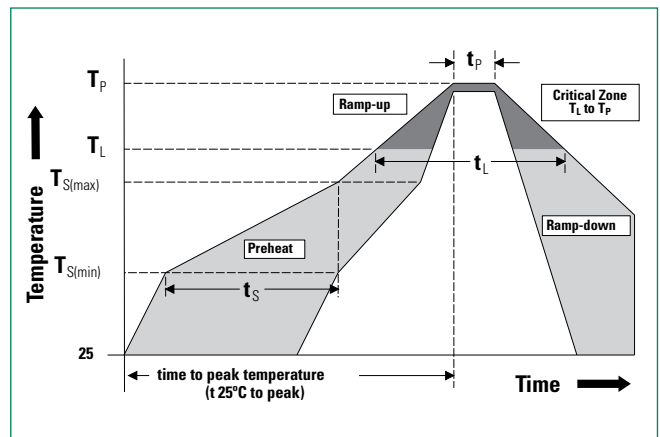
**Note:**  
1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

**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 secs
<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 secs
<b>Peak Temperature (<math>T_p</math>)</b>		260 <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.
<b>Do not exceed</b>		260°C
<b>Wave Soldering Parameters</b>		260°C Peak Temperature, 3 seconds max.



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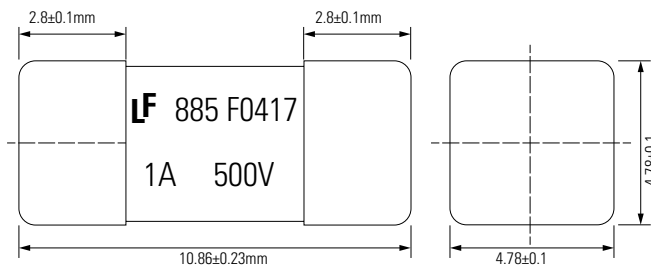
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### Product Characteristics

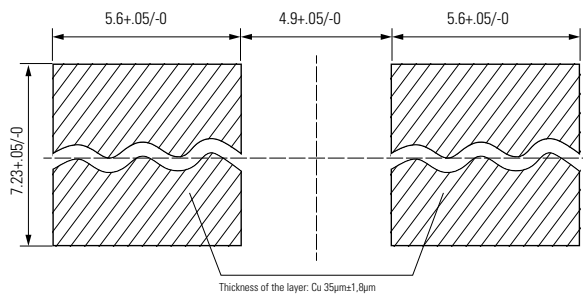
<b>Materials</b>	Body: Plastic UL 94 V-0 Cap: Tin Plated Brass
<b>Product Marking</b>	Body: Brand Logo, Current Rating, Voltage Rating, Series, Date Code
<b>Solderability</b>	JESD22-B102E Method 1
<b>Resistance to Soldering Heat</b>	MIL-STD-202 Method 210 Test Condition K

<b>Operating Temperature</b>	-40°C to +105°C with proper derating
<b>Vibration</b>	MIL-STD-202 Method 201 and 204
<b>Moisture Sensitivity Level</b>	J-STD-020, Level 1

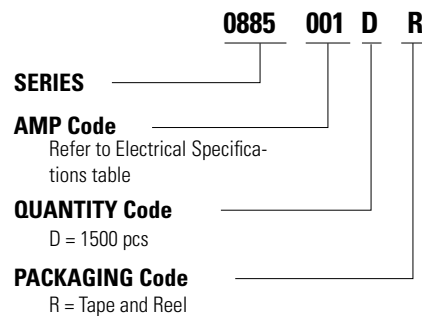
### Dimensions



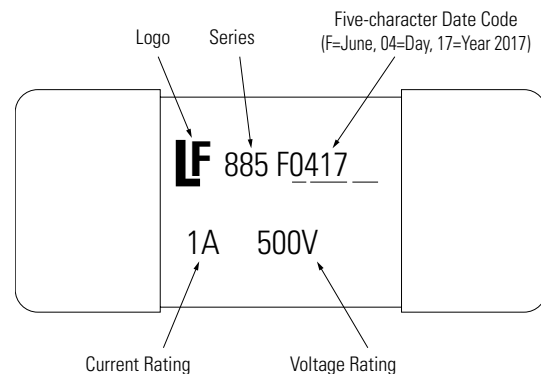
### Recommended Pad Layout



### Part Numbering System



### Date Code Information



### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
Tape and Reel	EIA-481-D	1500	D

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