Littelfuse
Expertise Applied | Answers Delivered

Surface Mount Fuses

NANO^{2}® > 500 VDC Rated Fuse > 885 Series

885 Series Fuse

Description

The 885 Nano^{2}® Surface Mount Fuses are high voltage rated fuses with high interrupting current ratings at 450VDC/500VDC and 350VAC.

Features

- Heat resistant plastic body that meets flammability rating of V-0 to UL 94.
- Meets Littelfuse's Automotive qualifications*
- 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

* Largely based on Littelfuse internal AEC-Q200 test plan

Agency Approvals

Agency	Agency File Number	Ampere Range
c UL us	E10480	1A–5A
	R50395911	1A–5A

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

Additional Information

Datasheet | Resources | Samples

Electrical Specifications by Item

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms) [1]	Nominal Melting I²t (A²sec)	Nominal Voltage Drop (mV)	Nom Power Dissipation (mW)	Agency Approvals	
								c UL us	
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 100A @ 350VAC 150A @ 250VAC	0.0630	1.25	105	131	X	X
1.60	01.6			0.0473	2.30	98	157	X	X
2.00	002.			0.0322	4.70	91	182	X	X
2.50	02.5		1500A @ 125VDC 100A @ 500VDC 100A @ 350VAC 150A @ 250VAC	0.0267	6.90	88	220	X	X
3.15	3.15			0.0196	13.35	79	249	X	X
4.00	004.	450	1500A @ 125VDC 100A @ 450VDC 100A @ 350VAC 150A @ 250VAC	0.0152	21.30	79	316	X	X
5.00	005.			0.0119	35.00	79	395	X	X

Notes:
1. Cold resistance measured at less than 10% of rated current at 23°C.
2. I²t 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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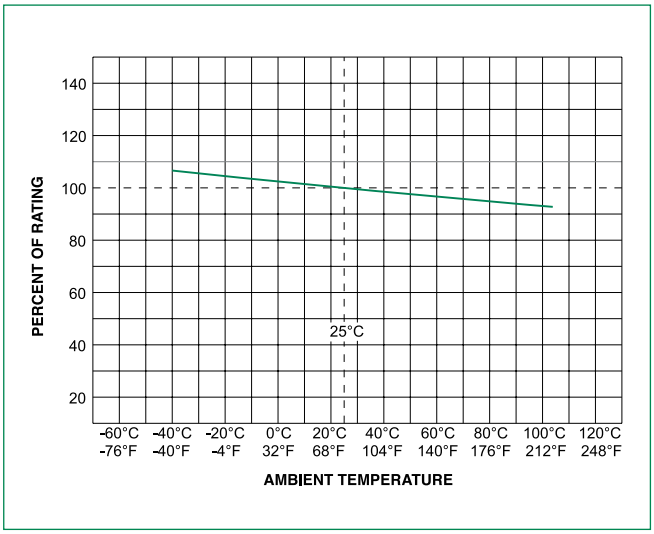
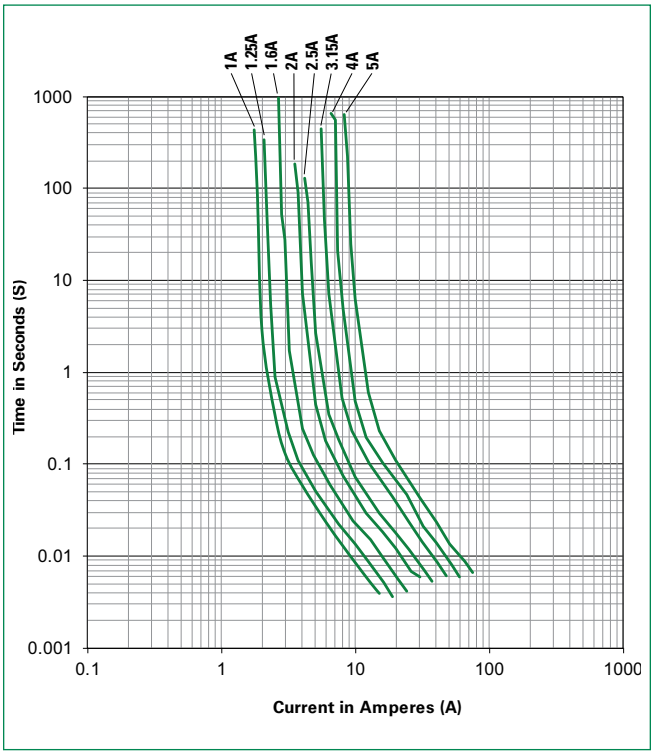
Temperature Re-rating Curve



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

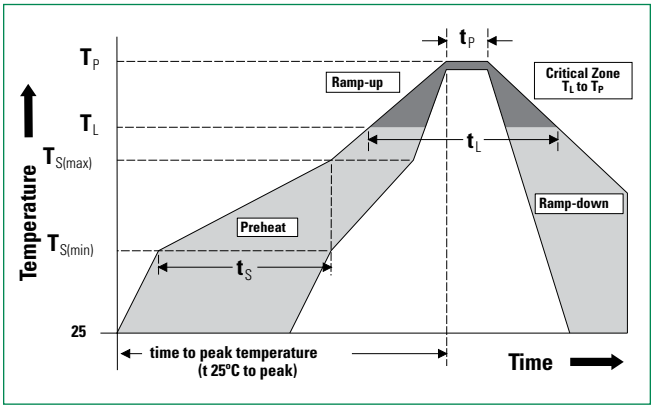
Average Time Current Curves



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 secs
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 secs
Peak Temperature (T_P)		$260^{+0/-5}$ °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

Wave Soldering Parameters	260°C Peak Temperature, 3 seconds max.



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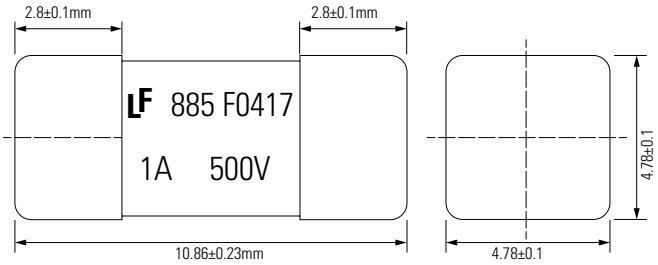
Product Characteristics

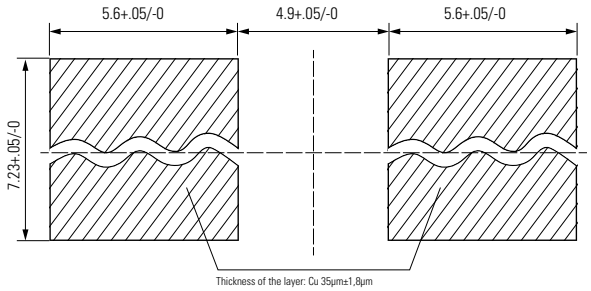
Materials	Body: Plastic UL 94 V-0 Cap: Tin Plated Brass
Product Marking	Body: Brand Logo, Current Rating, Voltage Rating, Series, Date Code
Solderability	JESD22-B102E Method 1
Resistance to Soldering Heat	MIL-STD-202 Method 210 Test Condition K

Operating Temperature	-40°C to +105°C with proper derating
Climatic Category	IEC 60068-1, -2-1, -2-2, -2-78 (–40°C to +85°C/21 days)
Vibration	MIL-STD-202 Method 201 and 204
Moisture Sensitivity Level	J-STD-020, Level 1

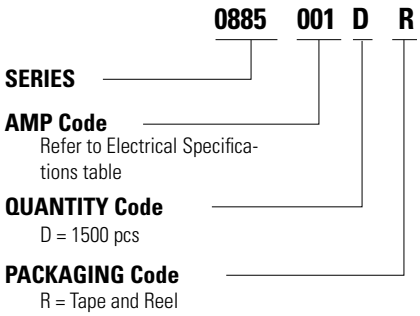
Dimensions



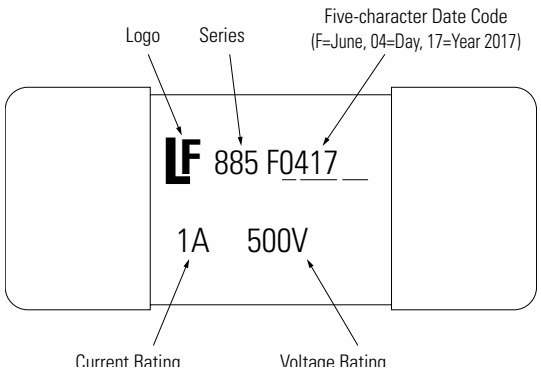
Recommended Pad Layout



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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