881 Series High-Current SMD Fuse

RoHS Pb HF cULus

Description

This high-current SMD fuse is a small, square, surface mount fuse that is designed as supplemental overcurrent protection for high-current circuits in various applications.

Features

- Surface mount package: 12.5mm x 10.0mm
- Suitable for reflow soldering
- 60A to 100A ratings
- Lead-free and RoHS compliant

Applications

- Blade Servers
- Routers
- High-power Battery Systems
- Power Factor Correction (PFC) in high wattage power supplies
- Power Distribution Units (PDUs)

Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RANGE
cULus	E71611	60A – 100A

Electrical Characteristics for Series

% of Ampere Rating	Opening Time
100%	1 Hour, Min.
200%	60 Seconds, Max.

Electrical Specifications by Item

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (mOhms)	Nominal Voltage Drop * (mV)	Nominal Melting ** I^2t (A^2sec)	Agency Approvals cULus
60	060.	75Vdc	1500A @75Vdc	0.81	75	1050	X
70	070.			0.74	85	1250	X
80	080.			0.56	80	3300	X
90	090.			0.54	85	4300	X
100	100.			0.45	80	6900	X

* Nominal Voltage Drop measured at 100% rated Current. ** Nominal Melting I^2t measured at 1500A.

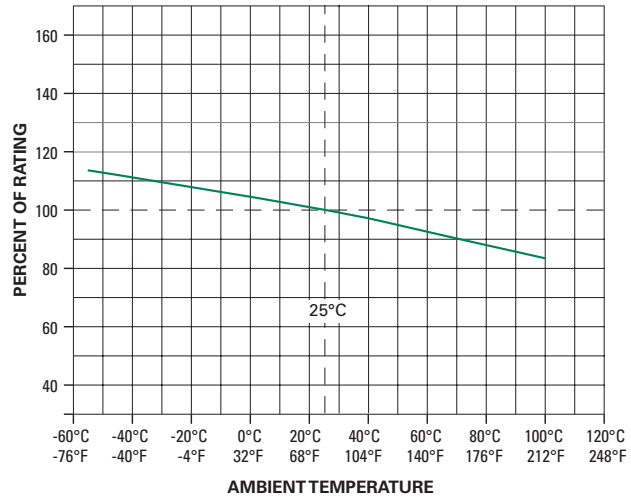
Thermal Characteristics

Ampere Rating I_n (A)	Typical Case Temperature Rise (°C) *		
	@ 50%I_n	@ 75%I_n	@ 100%I_n
60	14	35	60
70	15	37	70
80	16	39	85
90	19	49	105
100	23	53	120

* Typical values based on tests conducted with fuse mounted on FR-4 circuit board of 0.062" (1.6 mm) thickness with 6 oz. (210 µm) Cu.

Revised: 03/06/17

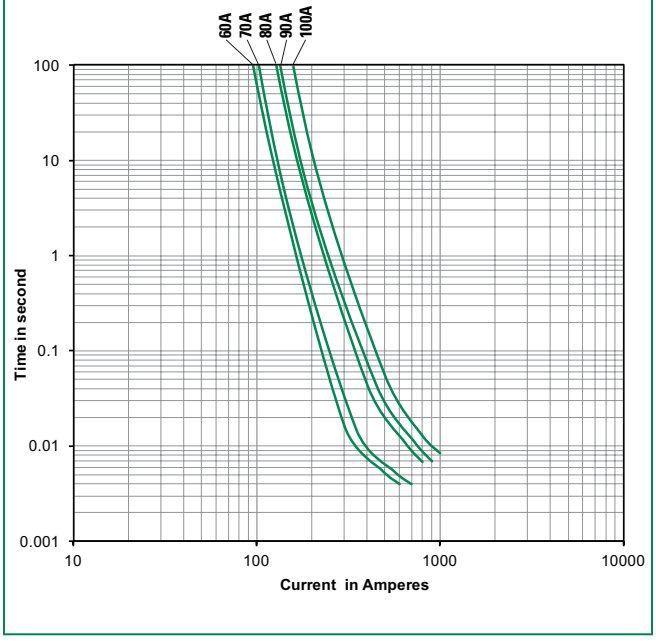
Temperature Re-rating Curve



Note:

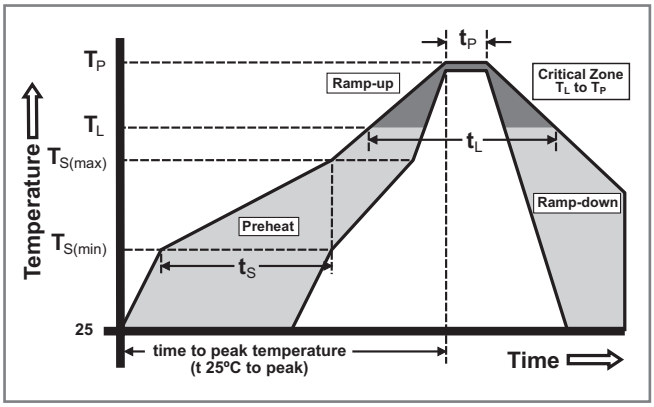
1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.
   Example:
   For continuous operation at 70°C, the fuse should be re-rated as follows:
   $I = (0.75)(0.90)I_{RAT} = (0.675)I_{RAT}$
2. The temperature re-rating curve represents nominal conditions. For questions about the temperature re-rating curve, please consult Littelfuse technical support assistance.

Average Time Current Curves



Soldering Parameters

Reflow Condition		Pb – Free assembly
Number of allowed reflow cycles		3
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 seconds
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



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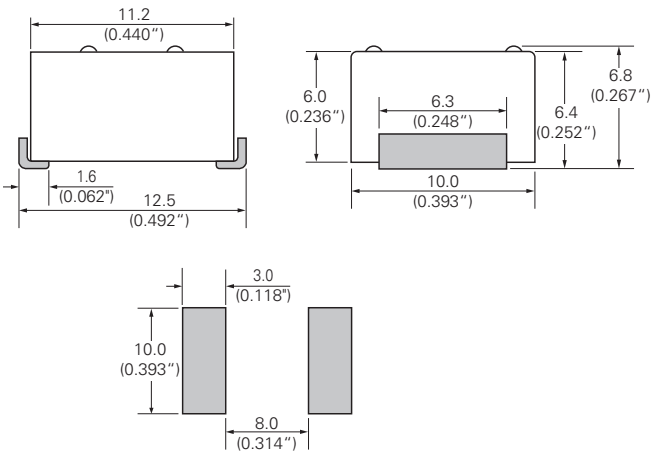
Surface Mount Fuses

High-Current > 881 Series

Dimensions

Units in mm (inch)



6 oz. (210µm) minimum Cu layer
Recommended Pad Layout

Part Numbering System

0881 100. U R

SERIES

AMP Code*
Refer to Electrical Specifications table

QUANTITY Code
U = 500 Pieces

PACKAGING Code
R = Tape and Reel

***Example:**
60 amp product is 0881060.UR
(100 amp product shown above).

Product Characteristics

Materials	Body: Thermoplastic, RTI 150°C Terminations: Tin-plated Copper
Product Marking	Brand logo, Voltage Rating, and Ampere Rating
Operating Temperature [1] [2]	-55° to +100°C with proper derating

Notes:
1. Based on loading at 75% of ampere rating when mounted using recommended pad layout.
2. Usage outside of stated operating temperature range requires testing in application. Maintain case temperature below 150°C in application.

Thermal Shock	MIL-Std 202 Method 107 Test Condition B (-65°C to 125°C, 5 cycles).
Moisture Resistance	MIL-Std 202 method 106 High Humidity (90-98%RH), Heat (65°C)
Vibration	MIL-STD-202, Method 201 (10-55 Hz)
Mechanical Shock	MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds)
Resistance to Solder Heat	MIL-Std 202 Method 210 Test Condition B (10sec at 260°C)
Solderability	MIL-STD-202 Method 208
MSL Test	Level 1 J-STD-020
Salt Fog	MIL-Std 202 Method 101 Test Condition B (5% NaCL solution, 48 hours exposure)

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
24mm Tape and Reel	EIA-481 Rev. D (IEC 60286, part 3)	500	UR

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