

881 Series High-Current SMD Fuse



Agency Approvals		
AGENCY	AGENCY FILE NUMBER	AMPERE RANGE
c W °us	E71611	60A – 100A

Electrical Characteristics for Series

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

Electrical Specifications by Item

Agency Nominal Cold Nominal Nominal Max Ampere Rating Approvals Interrupting Voltage Rating (V) Amp Code Resistance Voltage Drop * Melting ** (A) Rating (mV) I²t (A²sec) c Sus (mOhms) Х 60 060. 0.81 75 1050 70 070. 0.74 85 1250 Х Х 80 080 75Vdc 1500A @75Vdc 0.56 80 3300 90 090. 0.54 85 4300 Х Х 100 100 0.45 80 6900

* Nominal Voltage Drop measured at 100% rated Current. ** Nominal Melting I²t measured at 1500A.

Thermal Characteristics

Ampere Rating I_n (A)	Typical Case Temperature Rise (°C) *		
	@ 50%I _n	@ 75%l _n	@ 100%l _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.

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

RoHS 🗭 HF c 🆓 us

 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)

Surface Mount Fuses

High-Current > 881 Series



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 Littlefuse 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_{I}	- Ramp-up Rate	5°C/second max.
Reflow	-Temperature (T _L) (Liquidus)	217°C
	-Temperature (t _L)	60 – 150 seconds
PeakTemperature (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





Dimensions







Part Numbering System



*Example: 60 amp product is 0881<u>060.</u>UR

(100 amp product shown above).

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

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:

 Based on loading at 75% of ampere rating when mounted using recommended pad layout.
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)