

881F Series High-Current Fast Opening SMD Fuse



Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RANGE
	E71611	70 – 100A
	NA	70 – 100A

Electrical Characteristics for Series

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

Applications

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

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. This faster opening version enhances protection of the product from overload and short circuit current events in the application.

Features

- Available in 70A, 80A, and 100A ratings
- High interrupting rating - 1500A @ 75Vdc
- With faster opening time response
- Surface mountable high current fuse
- Robust and solderless fuse design
- Lead-free, Halogen-free, and RoHS compliant
- UL Recognized to UL/CSA/NMX 248-1

Benefits

- Single fuse solution for high current applications
- Suitable for a wide variety of voltage requirement and application
- Guaranteed protection against overload and short circuit current events
- Compatible with high volume assembly requirements
- Enhanced product reliability and performance

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 ² t (A ² sec)	Agency Approvals
70	070.	75Vdc	1500A @75Vdc	0.82	89	1050	
80	080.			0.63	86	2000	X
100	100.			0.52	96	4800	X

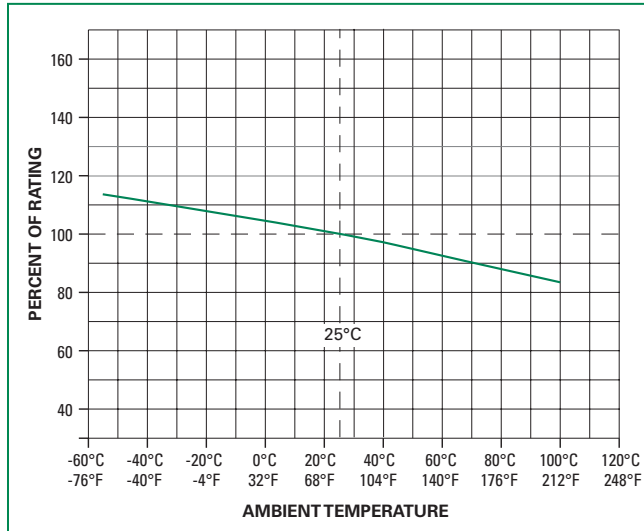
* Nominal Voltage Drop measured at 100% rated Current. ** Nominal Melting I²t measured at 1500A.

Thermal Characteristics

Ampere Rating I _n (A)	Typical Case Temperature Rise (°C) *		
	@ 50%I _n	@ 75%I _n	@ 100%I _n
70	16	38	73
80	25	58	88
100	32	60	127

* 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.

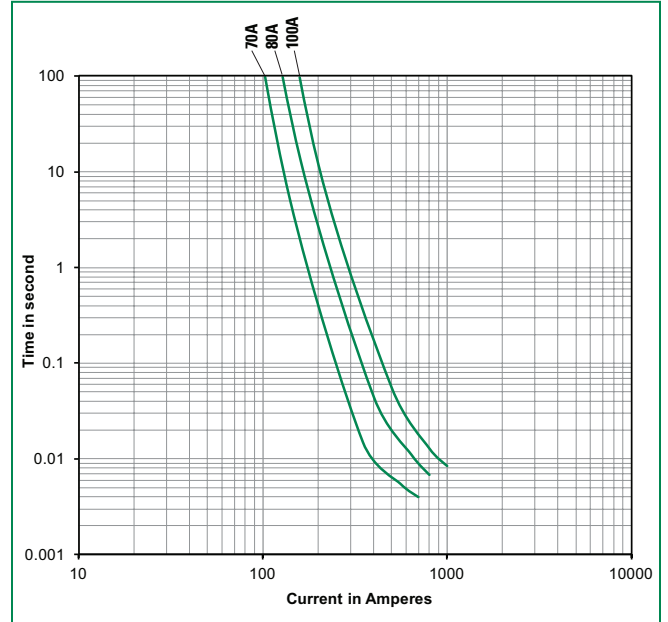
Temperature Re-rating Curve



Note:

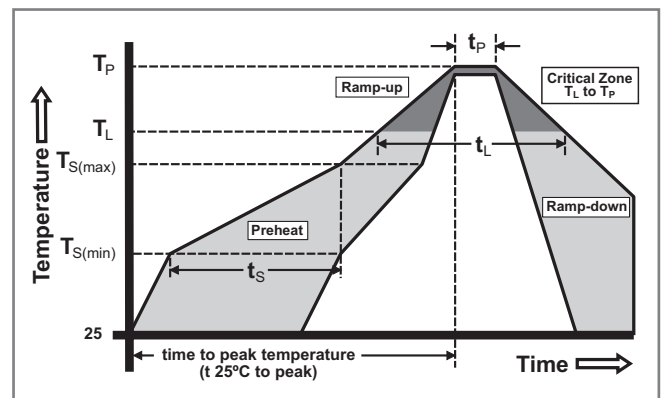
1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.
Example:
For continuous operation at 70°C, the fuse should be re-rated as follows:
 $I = (0.75)(0.90)I_{\text{RAT}} = (0.675)I_{\text{RAT}}$
2. The temperature re-rating curve represents nominal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

Average Time Current Curves

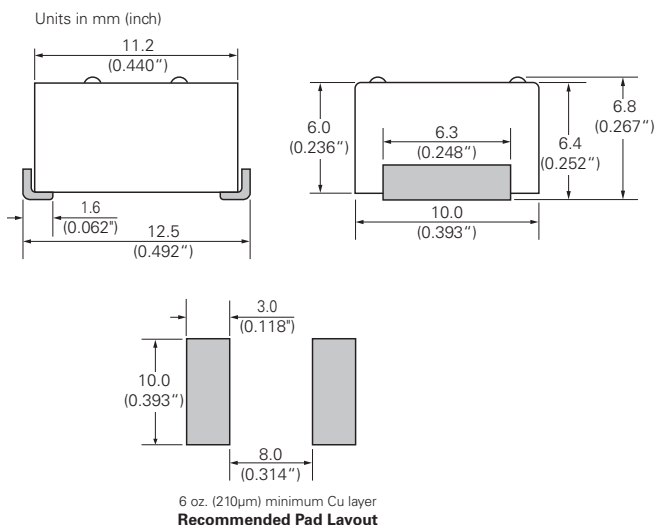


Soldering Parameters

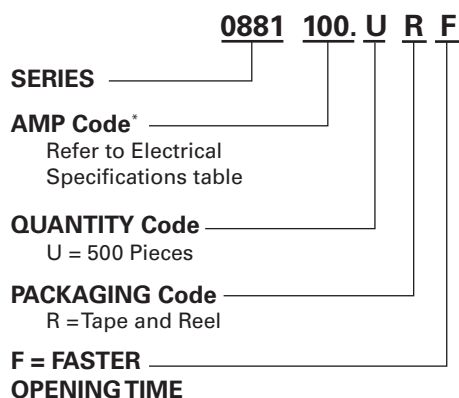
Reflow Condition		Pb – Free assembly
Number of allowed reflow cycles		3
Pre Heat	- Temperature Min ($T_{s(\min)}$)	150°C
	- Temperature Max ($T_{s(\max)}$)	200°C
	- Time (Min to Max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		5°C/second max.
$T_{s(\max)}$ to T_L - Ramp-up 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



Dimensions



Part Numbering System



***Example:**
 80 amp product is 088080.UR
 (100 amp product shown above)

Product Characteristics

Materials	Body: Thermoplastic, RTI 150°C Terminations: Tin-plated Copper
Product Marking	Brand logo, Voltage Rating, 'F' (Faster Opening Time), 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)

Packaging

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

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.