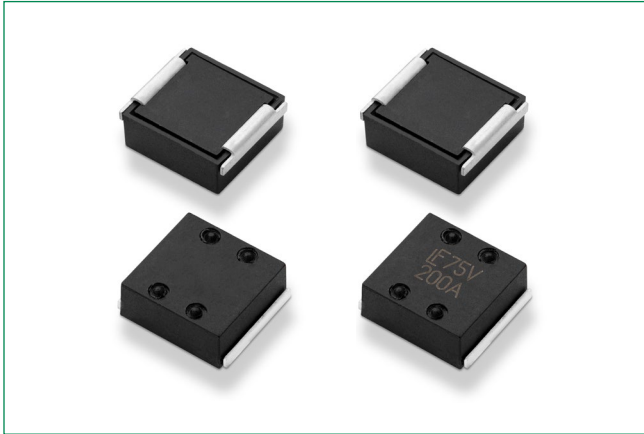


# 871 Series

## High-Current SMD Fuse



### Description

The Littelfuse 871 Series high-current SMD fuse is a small square surface-mount fuse that easily supports the higher current requirements of various applications.

### Features and Benefits

- Heat resistant plastic body, UL94 V-0
- Low voltage drop
- High-reliability solderless fuse
- High pulse resistance
- Compatible with lead-free solders and higher temperature profiles
- Halogen-free and RoHS-compliant
- AEC-Q200-qualified

### Applications

- Datacenter
- Blade server
- Router
- Power supply–power factor correction

### Web Resources



Download ECAD models, order samples, and find technical resources at [www.littelfuse.com](http://www.littelfuse.com)

### Agency Approvals

Agency	Agency File Number	Ampere Range
cULus	E71611	150~200 A

### 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 <sup>2</sup> t ** (A <sup>2</sup> sec)	Agency Approvals
							cULus
150	150.	75 Vdc	1500 A @75 Vdc	0.3	75	21500	X
200	200.	75 Vdc		0.24	90	40500	X

\*Nominal Voltage Drop measured at 100% rated current

\*\* Nominal melting I<sup>2</sup>t measured at 1500 A

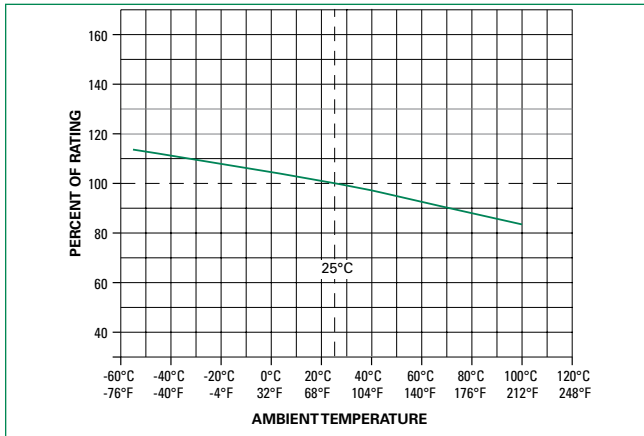
Amp Rating In(A)	Typical Case Temperature Rise(°)*		
	@50% In	@75% In	@100% In
150.	15	35	68
200.	24	76	114

\* Typical values based on tests conducted with fuse mounted on FR4 circuit board of 0.093" (2.4 mm) thickness with 15 oz. (525 um) Cu @ rated current.

# 871 Series

## High-Current SMD Fuse

Temperature Re-rating Curve



**Notes:**

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

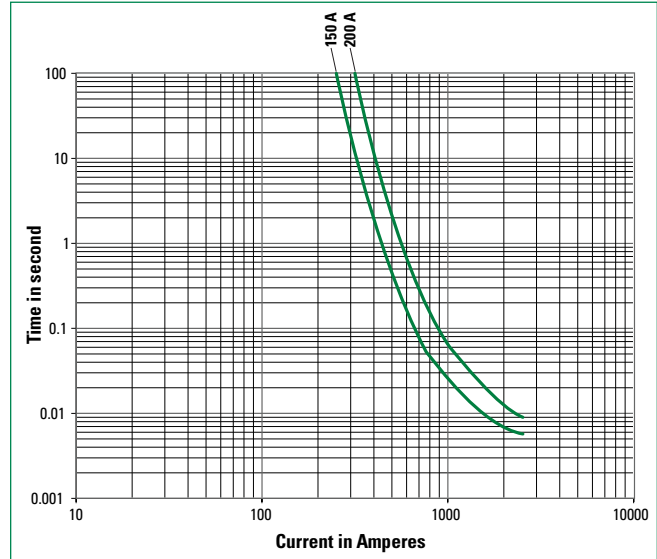
**Example:**

For continuous operation at 70 °C, the fuse should be re-rated as follows:

$$I = (0.75)(0.90)_n = (0.675)_n$$

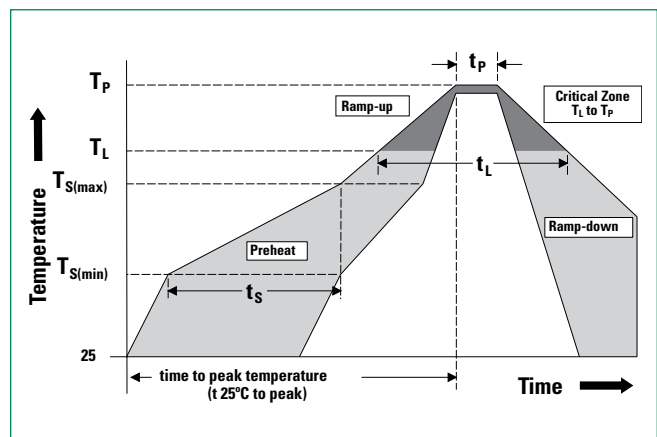
2. The temperature re-rating curve represents nominal conditions. For questions about the temperature re-rating curve, please consult Littelfuse technical support assistance.

Average Time Current Curves



### Soldering Parameters

<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 seconds
<b>Peak Temperature (<math>T_p</math>)</b>		260 $\pm$ 0.5 °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

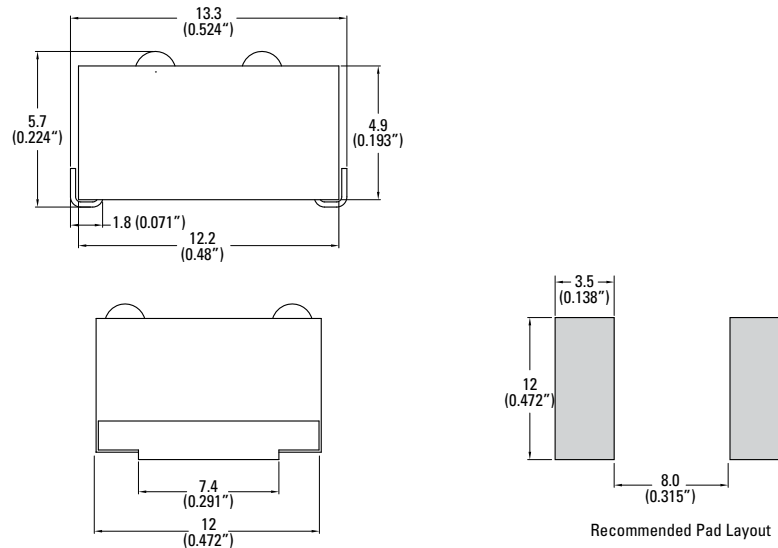


# 871 Series

## High-Current SMD Fuse

### Dimensions

Unit: mm (inch)



### Product Characteristics

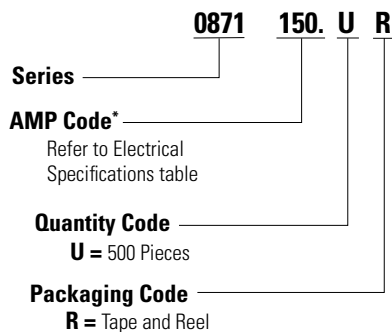
<b>Materials</b>	Body: Thermoplastic, RTI 150 °C Terminations: Tin-plated Copper
<b>Product Marking</b>	Brand logo, Voltage Rating, and Ampere Rating
<b>Operating Temperature</b> <sup>1,2</sup>	-55 °C to +100 °C with proper derating

**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.

<b>Thermal Shock</b>	MIL-STD-202 Method 107 Test Condition B (-65 °C to 125 °C, 5 cycles).
<b>Moisture Resistance</b>	MIL-STD-202 method 106 High Humidity (90–98%RH), Heat (65 °C)
<b>Vibration</b>	MIL-STD-202, Method 201 (10–55 Hz)
<b>Mechanical Shock</b>	MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds)
<b>Resistance to Solder Heat</b>	MIL-STD-202 Method 210 Test Condition B (10sec at 260 °C)
<b>Solderability</b>	MIL-STD-202 Method 208
<b>MSL Test</b>	Level 2a J-STD-020
<b>Salt Fog</b>	MIL-STD-202 Method 101 Test Condition B (5% NaCL solution, 48 hours exposure)

### Part Numbering System



### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
24 mm Tape and Reel	EIA-481 Rev. D (IEC 60286-3)	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 <http://www.littelfuse.com/disclaimer-electronics>.