

RoHS 456 Series Fuse




Description

The High Current Nano2 Fuse is a small square surface mount fuse that is designed to support higher current requirements of various applications.

Features

- Surface mount high current fuse
- Fully compatible with lead free solder alloys and higher temperature profiles associated with lead free assembly
- RoHS compliant
- Available in ratings of 20 and 30 Amperes

Agency Approvals

Agency	Agency File Number	Ampere Rating
	E10480	20A, 30A


Electrical Characteristics

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
200%	60 seconds, Maximum

Applications

- Voltage regulator module for PC server
- Cooling fan system for PC server
- Storage system power
- Basestation power supply
- Automotive

Electrical Characteristics

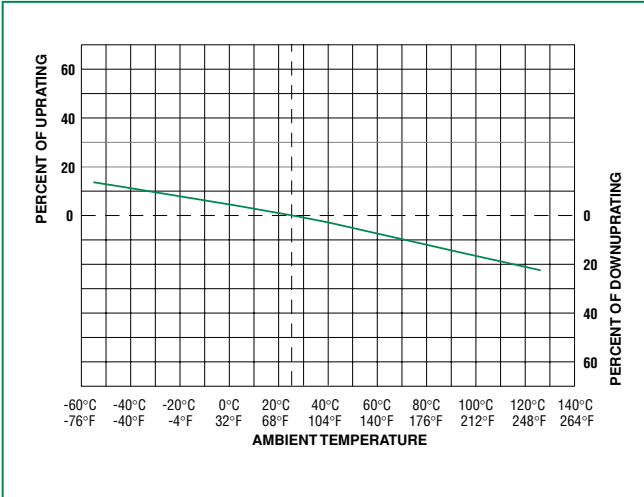
Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² Sec.)	Nom Voltage Drop (mV)	Nom Power Dissipation (W)	Agency Approvals
								
20	020.	125	100A @ 125V AC 300A @ 65V AC	0.00230	205	64.7		x
30	030.	125		0.00132	382	69.9		x

Notes:

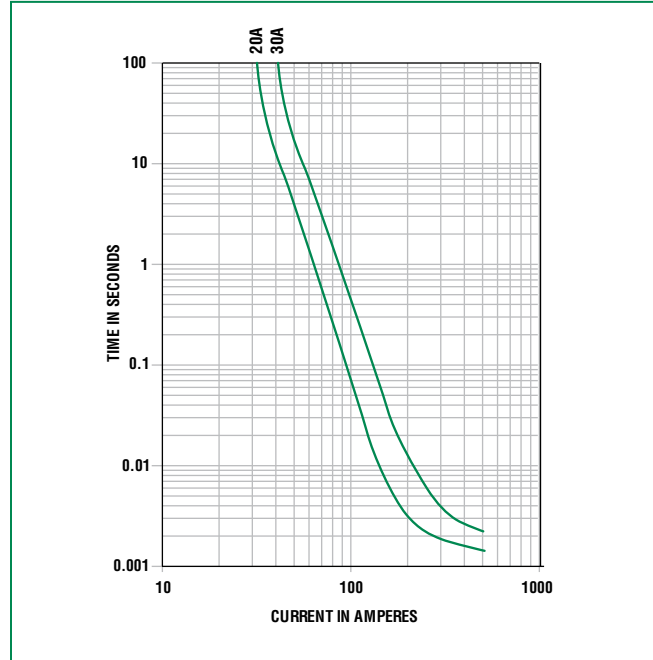
1. Cold resistance measured at less than 10% of rated current at 23°C.
2. I²t values stated for 10 msec opening time.
3. Agency Approval Table Key: X=Approved or Certified, P=Pending and Blank=Not Approved

If you have special electrical characteristic needs, please contact Littelfuse to learn more about application specific options.

Temperature Derating Curve

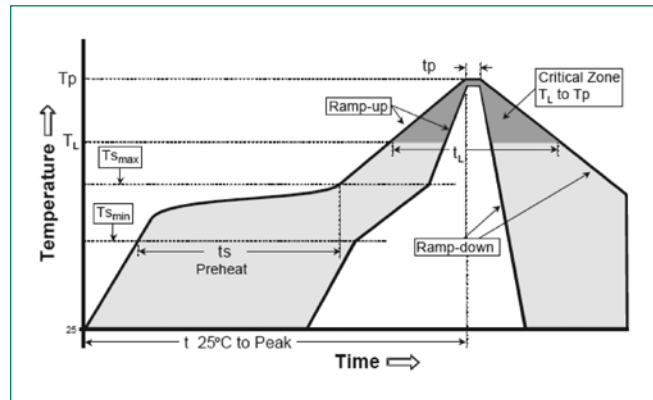


Average Time Current Curves



Soldering Parameters

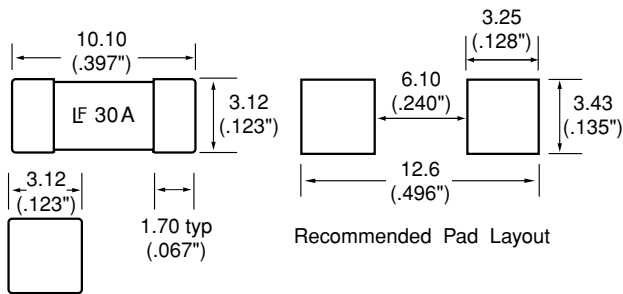
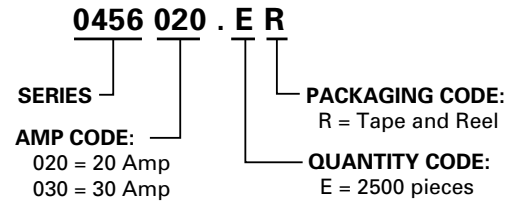
Reflow Condition		Pb – Free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		5°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		5°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		250 ^{+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



Product Characteristics

Materials	Body: Ceramic Cap: Silver Plated Brass
Product Marking	Body: Brand Logo, Current Rating
Insulation Resistance	MIL-STD-202, method 302, Test Condition A (10,000 ohms, Minimum)
Solderability	MIL-STD-202, Method 208
Resistance to Soldering Heat	MIL-STD-202, Method 210, Test Condition B (10 sec at 260°C)
PCB Recommendation for Thermal Management	Min. copper layer thickness = 100µm Min. copper trace width = 10mm Alternate methods of thermal management may be used. In such cases, under normal operations, the maximum temperature of the fuse body should not exceed 80°C in a 25°C ambient environment.

Operating Temperature	-55°C to 125°C with proper derating
Thermal Shock	MIL-STD-202F, Method 107G, Test Condition B3 (5 cycles -65°C to 125°C)
Vibration	MIL-STD-202F, Method 201A (10-55 Hz)
Moisture Resistance	MIL-STD-202F Method 106, High Humidity (90-98%RH), Heat (65°C)
Salt Spray	MIL-STD-202F, Method 101D, Test Condition B
Shock	MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds)

Dimensions

Part Numbering System

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
24 mm Tape and Reel	EIA RS-481-2	2500	ER