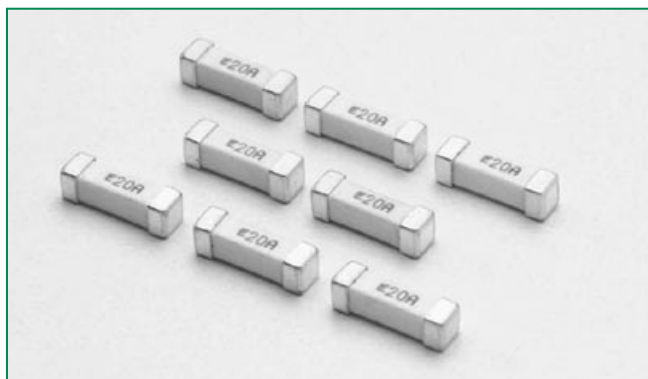




456 Series Fuse



Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RATING
	E10480	20A, 30A
	NBK030308-JP1021	20A, 30A

Electrical Characteristics for Series

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

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

Applications

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

Electrical Specifications by Item

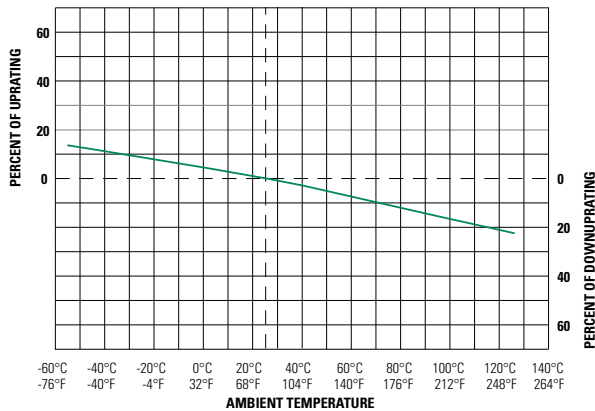
Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² Sec.)	Nom Voltage Drop (mV)	Agency Approvals	
20	020.	125	100A @125V AC 300A @ 65V AC 300A @ 100V DC 1000A @ 32V DC	0.00230	18	64.7	x	x
30	030.	125	100A @125V AC 300A @ 65V AC 1000A @ 32V DC	0.00132	81	69.9	x	x

Notes:

- I²t calculated at 8ms.

- Resistance is measured at 10% of rated current, 25°C

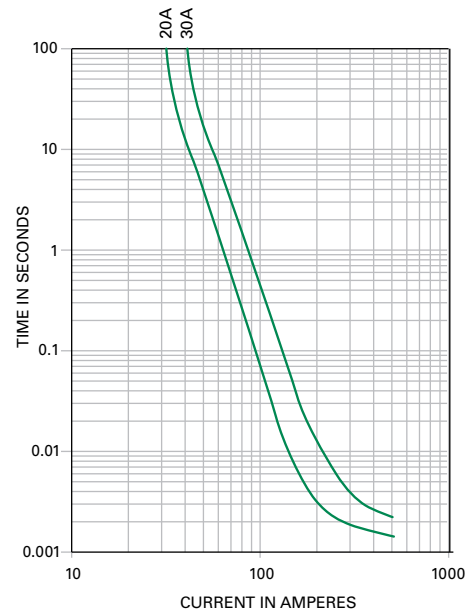
Temperature Derating Curve



Note:

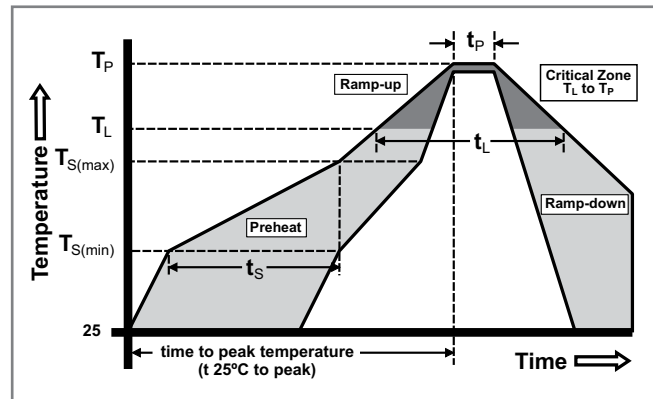
1. Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

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 – 120 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 – 90 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
Wave Soldering Parameters		260°C Peak Temperature, 10 seconds max.

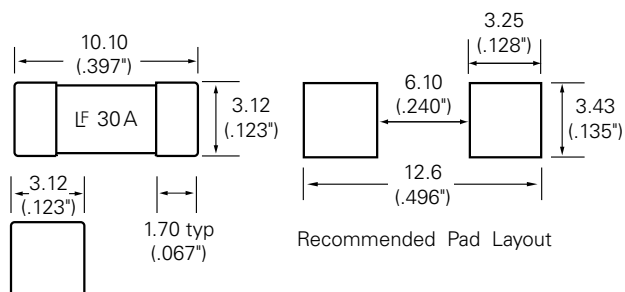


Product Characteristics

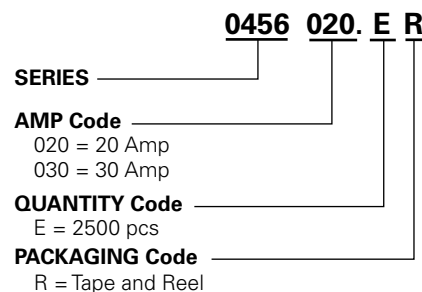
Materials	Body: Ceramic Cap: Silver Plated Brass
Product Marking	Body: Brand Logo, Current Rating
Insulation Resistance	MIL-STD-202, method 302, Test Condition A (10,000 ohms, Minimum)
Solderability	MIL-STD-202, Method 208
Resistance to Soldering Heat	MIL-STD-202, Method 210, Test Condition B (10 sec at 260°C)
PCB Recommendation for Thermal Management	Min. copper layer thickness = 100um 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)
Moisture Sensitivity Level	Level 1 J-STD-020C
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