

RoHS PO HF **449 Series Fuse**







Agency Approvals

AGE	AGENCY FILE NUMBER		AMPERE RANGE
P o	L °us	E10480	375mA - 5A
P	s	NBK030205	1A - 5A

Electrical Characteristics for Series

% of Ampere Rating	Opening Time	
100%	4 hours, Minimum	
200%	1 sec., Min.; 60 sec., Max.	
300%	0.2 sec., Min.; 3 sec., Max	
800%	0.02 sec., Min.; 0.1 sec., Max.	

Description

The lead free NANO² Slo-Blo® fuse is RoHS compliant, Halogen Free and 100% lead-free. This product is fully compatible with lead-free solder alloys and higher temperature profiles associated with lead-free assembly. The Slo-Blo® design has enhanced inrush withstand characteristics over the NANO² Fast-Acting Fuse. The unique time delay feature of this fuse design helps solve the problem of nuisance "opening" by accommodating inrush currents that normally cause a fast-acting fuse to open.

Features

- Lead-free and Halogen Free
- Slo-Blo®
- Small size
- Wide range of current ratings available
- Wide operating temperature range
- Low temperature de-rating

Applications

Secondary protection for space constrained applications:

- Notebook PC
- LCD/PDPTV
- LCD monitor
- LCD/PDP panel
- LCD backlight inverter
- Portable DVD player
- Power supply
- Networking
- PC server
- Cooling fan system
- Storage system

- Telecom system
- Wireless basestation
- White goods
- Game console
- Office Automation equipment
- Battery charging circuit protection
- Industrial equipment
- Medical equipment
- Automotive

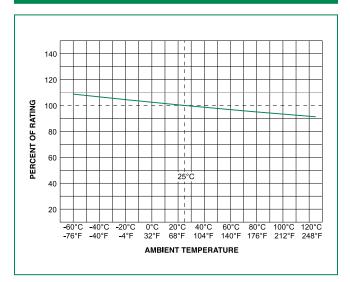
Electrical Specifications by Item

Ampere		Max		Nominal Cold	Nominal	Agency Approvals	
Rating (A)	Amp Code	Voltage Rating (V)	Interrupting Rating	Resistance (Ohms)	Melting I²t (A²sec)	c 911 ° us	PS E
0.375	0.375	125		1.5130	0.088	X	
0.500	0.500	125		0.7633	0.258	X	
0.750	0.750	125		0.4080	0.847	Х	
1.00	001.	125		0.2516	1.76	х	X
1.50	01.5	125	50 amperes @125 VAC/ VDC	0.1186	4.70	х	X
2.00	002.	125		0.0708	6.76	х	×
2.50	02.5	125	PSE: 100 amperes @100 VAC	0.0400	13.18	Х	х
3.00	003.	125		0.0352	19.55	Х	X
3.50	03.5	125		0.0261	32.70	Х	X
4.00	004.	125		0.0227	40.80	Х	X
5.00	005.	125		0.0171	59.59	X	x

Notes: - I2t calculated at 8ms. Resistance is measured at 10% of rated current, 25°C



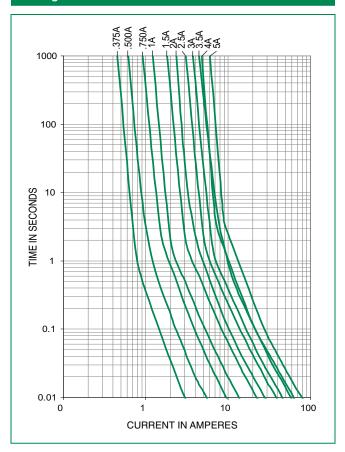
Temperature Rerating Curve



Note:

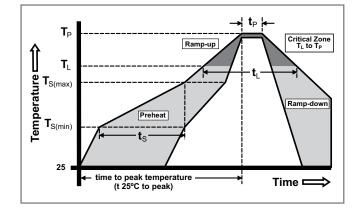
1. Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters

Reflow Co	ndition	Pb – Free assembly	
	-Temperature Min (T _{s(min)})	150°C	
Pre Heat	-Temperature Max (T _{s(max)})	200°C	
	-Time (Min to Max) (t _s)	60 – 120 secs	
Average ramp up rate (Liquidus Temp (T,) to peak		3°C/second max.	
T _{S(max)} to T _L - Ramp-up Rate		3°C/second max.	
D (1	-Temperature (T _L) (Liquidus)	217°C	
Reflow	-Temperature (t _L)	60 - 90 seconds	
PeakTemp	erature (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 peakTemperature (T _P)		8 minutes max.	
Do not exceed		260°C	
		260°C Peak	



Temperature, 3 seconds max.

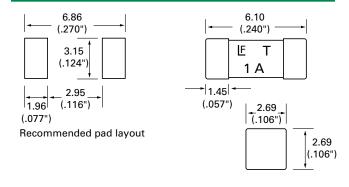
Wave Soldering Parameters

Product Characteristics

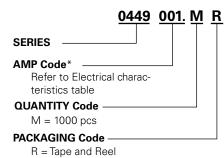
Materials	Body: Ceramic Terminations: Gold-plated Caps		
Product Marking	Brand, Amperage Rating		
Operating Temperature	-55°C to 125°C		
Moisture Sensitivity Level	Level 1, J-STD-020C		
Solderability	MIL-STD-202, Method 208		
Insulation Resistance (after Opening)	MIL-STD-202, Method 302, Test Condition A (10,000 ohms minimum)		

Thermal Shock	MIL-STD-202, Method 107, Test Condition B, 5 cycles, -65°C to 125°C, 15 minutes @ each extreme		
Mechanical Shock	MIL-STD-202, Method 213, Test I: Deenergized. 100G's pk amplitude, sawtooth wave 6ms duration, 3 cycles XYZ+xyz = 18 shocks		
Vibration	MIL-STD-202, Method 201: 0.03" amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs		
Moisture Resistance	MIL-STD-202, Method 106, 10 cycles		
Salt Spray	MIL-STD-202, Method 101, Test Condition B (48hrs)		
Resistance to Soldering Heat	MIL-STD-202, Method 210, Test condition B (10 sec at 260°C)		

Dimensions



Part Numbering System



*Example:

0.375 Amp product is 0449.375MR (1 amp product shown above).

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	
12mm Tape and Reel	EIA RS-481-2 (IEC 286, part 3)	1000	MR	

