

## 234 Series, 5x20 mm, Medium-Acting Fuse



### Description

5x20mm medium-acting glass/ceramic body cartridge fuse designed to UL specification.






### Features

- Designed to UL/CSA/ ANCE 248-1 and 248-14 Standards
- Available in cartridge and axial lead format
- Glass body for 1-3.5A, Ceramic body for 4-10A
- RoHS compliant and lead-free

### Applications

Used as supplementary protection in appliance or utilization equipment to provide individual protection for components or internal circuits.

### Agency Approvals

Agency	Agency File Number	Ampere Range
	Cartridge: NBK040609-JP1021A NBK040609-JP1021C Leaded: NBK040609-JP1021B NBK040609-JP1021D	1A - 5A 6A - 10A
	N/A	1A - 10A
	SU05001-3001 SU05001-4001 SU05001-2016	1A - 3.15A 3.5A 4A - 10A
	E10480	1A - 10A
	29862	1A - 10A

### Additional Information



Datasheet



Resources



Samples








Accessories

For recommended fuse accessories for this product series, see '[Recommended Accessories](#)' section.

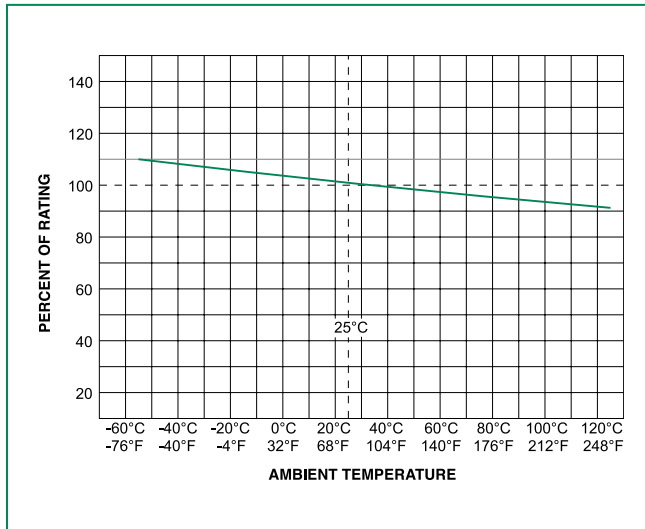
### Electrical Characteristics for Series

% of Ampere Rating	Ampere Rating	Opening Time
100%	1 – 3.5	4 hours, Minimum
	4 – 10	1 hour, Minimum
135%	1 – 3.5	3 sec., Min; 1 hr. Max
	4 – 10	3 sec., Min; 1 hr. Max
200%	1 – 3.5	400ms., Min; 2.25 sec. Max
	4 – 10	400ms., Min; 4 sec. Max

### Electrical Characteristic Specification by Item

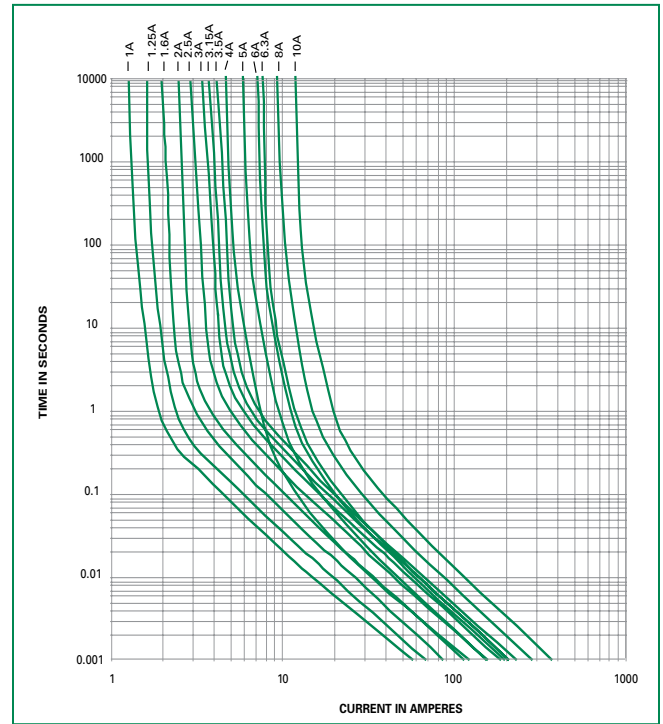
Amp Code	Ampere Rating (A)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Agency Approvals				
										
001.	1	250	100A @ 250 VAC 10000A @ 125 VAC	0.1750	1.97500	x	x	x	x	x
1.25	1.25	250		0.1262	2.06000	x	x	x	x	x
01.6	1.6	250		0.0884	6.14000	x	x	x	x	x
002.	2	250		0.0684	9.97000	x	x	x	x	x
02.5	2.5	250		0.0521	17.04500	x	x	x	x	x
003.	3	250		0.0431	26.2400	x	x	x	x	x
3.15	3.15	250		0.0380	29.79500	x	x	x	x	x
03.5	3.5	250		0.0322	36.27500	x	x	x	x	x
004.	4	250		0.0304	10.37000	x	x	x	x	x
005.	5	250		0.0214	20.64500	x	x	x	x	x
006.	6	250	0.0194	33.01500	x	x	x	x	x	
06.3	6.3	250	0.0168	37.68500	x	x	x	x	x	
008.	8	250	0.0144	80.67500	x	x	x	x	x	
010.	10	250	0.0107	51.40000	x	x	x	x	x	

### Temperature Re-rating Curve

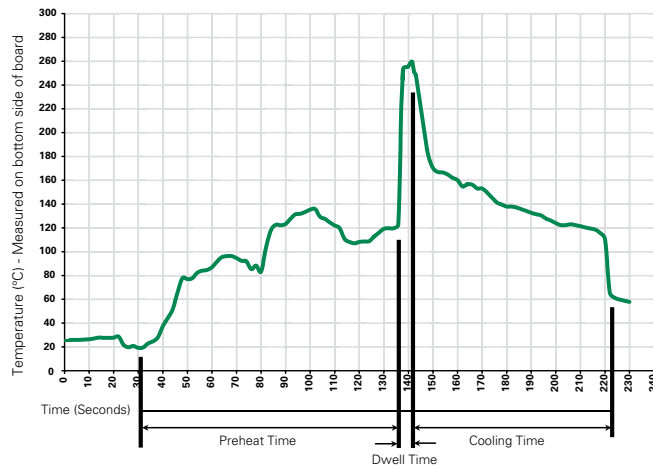


Note:  
 Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

### Average Time Current Curves



### Soldering Parameters - Wave Soldering



### Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation
<b>Preheat:</b> (Depends on Flux Activation Temperature) (Typical Industry Recommendation)	
Temperature Minimum:	100°C
Temperature Maximum:	150°C
Preheat Time:	60-180 seconds
<b>Solder Pot Temperature:</b>	260°C Maximum
<b>Solder Dwell Time:</b>	2-5 seconds

### Recommended Hand-Solder Parameters:

Solder Iron Temperature: 350°C +/- 5°C  
 Heating Time: 5 seconds max.

**Note: These devices are not recommended for IR or Convection Reflow process.**

### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
<b>234 Series</b>				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	1000	MXE	N/A
Reel and Tape	EIA 296-E	1000	MRET1	T1=53mm (2.087")

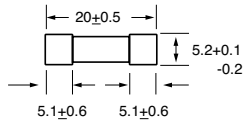
### Product Characteristics

<b>Materials</b>	Body: Glass(1A-3.5A), Ceramic(4A-10A) Cap: Nickel-plated brass Leads: Tin-plated Copper Filter: Sand (4A – 10A)
<b>Terminal Strength</b>	MIL-STD-202, Method 211, Test Condition A
<b>Solderability</b>	MIL-STD-202 Method 208
<b>Product Marking</b>	Cap 1: Brand logo, current and voltage rating Cap 2: Series and agency approval markings
<b>Packaging</b>	Available in Bulk (V=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel)

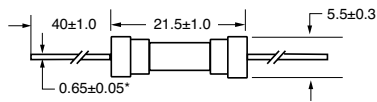
<b>Operating Temperature</b>	-55°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202 Method 201
<b>Humidity</b>	MIL-STD-202, Method 103, Test Condition A. high RH (95%) and elevated temp (40°C) for 240 hours
<b>Salt Spray</b>	MIL-STD-202, Method 101, Test Condition B

### Dimensions

0234 000P



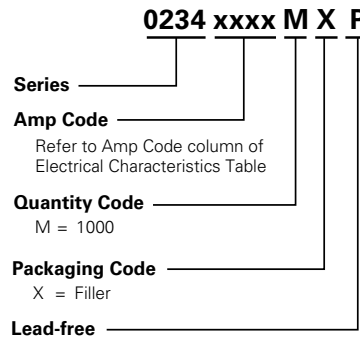
0234 000XEP



All dimensions in mm

Notes:  
\* Ratings above 6.3A have 0.8±0.05 diameter lead.

### Part Numbering System



### Recommended Accessories

Accessory Type	Series	Description	Max Application Voltage	Max Application Amperage
Holder	<a href="#">345 ISF</a>	Panel Mount Shock-Safe Fuseholder	250	10
	<a href="#">345</a>	Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options		20
	<a href="#">830</a>	PC Mount Shock-Safe Miniature Fuseholder		16
Block	<a href="#">520</a>	Metric OMNI-BLOK® Fuse Block		10
	<a href="#">646</a>	PC Mount Miniature Fuse Block		6.3
	<a href="#">658</a>	Surface Mount Miniature Fuse Block		10
Clip	<a href="#">520 W</a>	PC Mount Miniature Fuse Clip		6.3
	<a href="#">111</a>	PC Board Mount Fuse Clip		10
	<a href="#">445</a>	PC Board Mount Fuse Clip		10

Notes:  
1. Do not use in applications above rating.  
2. Please refer to fuseholder data sheet for specific re-rating information.  
3. Please contact factory for applications greater than the max voltage and amperage shown.

**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](http://www.littelfuse.com/disclaimer-electronics).