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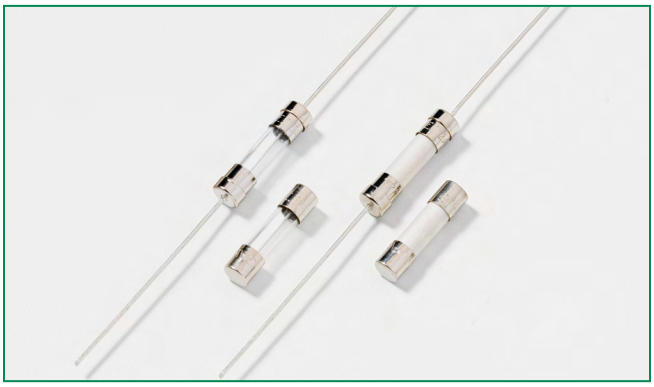
234 Series, 5×20 mm, Medium-Acting Fuse



Description

5×20mm 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 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^2t (A^2 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	200A @ 250 VAC 10000A @ 125 VAC	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

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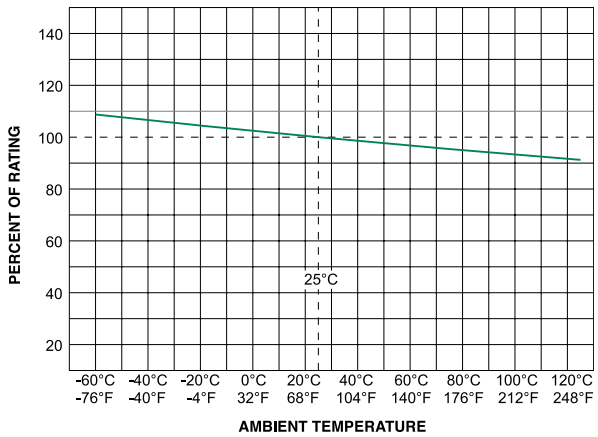
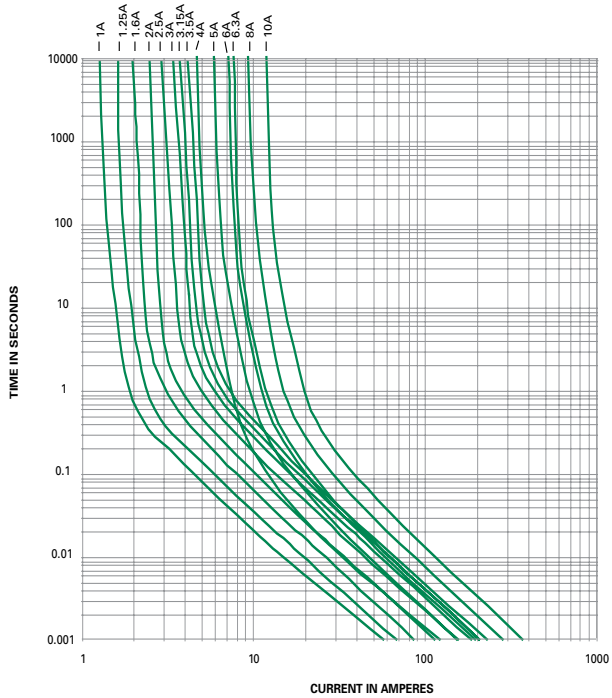
Application testing is strongly recommended.

Temperature Re-rating Curve

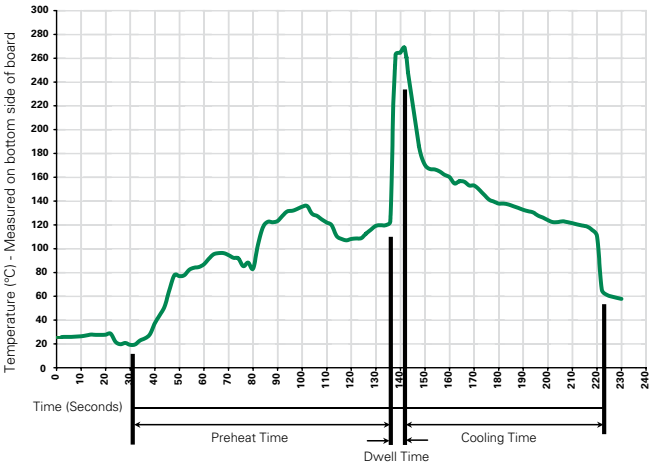


Note:
Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

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

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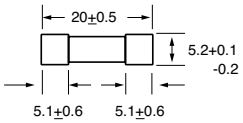
Product Characteristics

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

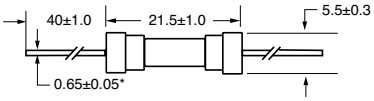
Operating Temperature	–55°C to +125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B: (5 cycles –65°C to +125°C)
Vibration	MIL-STD-202 Method 201
Humidity	MIL-STD-202, Method 103, Test Condition A. high RH (95%) and elevated temp (40°C) for 240 hours
Salt Spray	MIL-STD-202, Method 101, Test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

Dimensions

0234 000P



0234 000**XEP**



All dimensions in mm

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

Part Numbering System

0234 xxxx M X P

Series

Amp Code
Refer to Amp Code column of Electrical Characteristics Table

Quantity Code
M = 1000

Packaging Code
X = Filler

Lead-free

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
234 Series				
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")

Recommended Accessories

Accessory Type	Series	Description	Max Application Voltage	Max Application Amperage
Holder	345_ISF	Panel Mount Shock-Safe Fuseholder	250	10
	345	Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options		20
	830	PC Mount Shock-Safe Miniature Fuseholder		16
Block	520	Metric OMNI-BLOK® Fuse Block		10
	646	PC Mount Miniature Fuse Block		6.3
	658	Surface Mount Miniature Fuse Block		10
Clip	520_W	PC Mount Miniature Fuse Clip		6.3
	111	PC Board Mount Fuse Clip		10
	445	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.

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