

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.

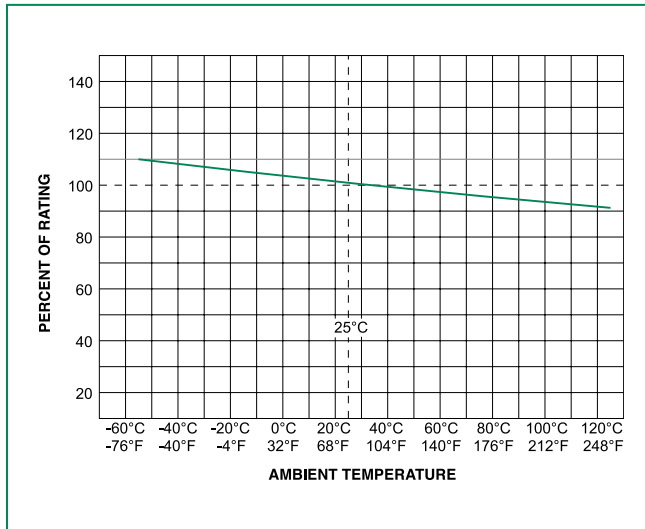
Electrical Characteristics for Series

| % 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

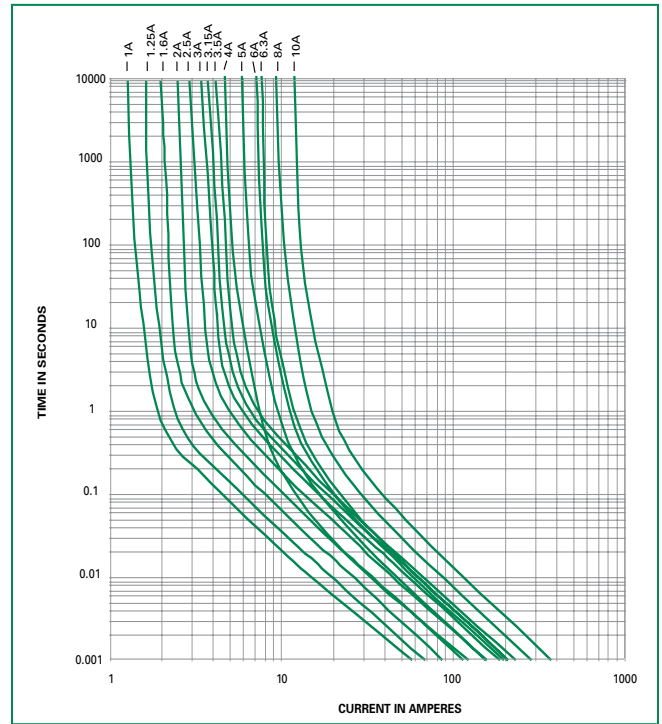
| Amp Code | Ampere Rating (A) | Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting I ² t (A ² sec) | Agency Approvals | | | | |
|----------|-------------------|--------------------|------------------------------------|--------------------------------|---|---|---|---|---|---|
| | | | | | |  |  |  |  |  |
| 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 | | 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

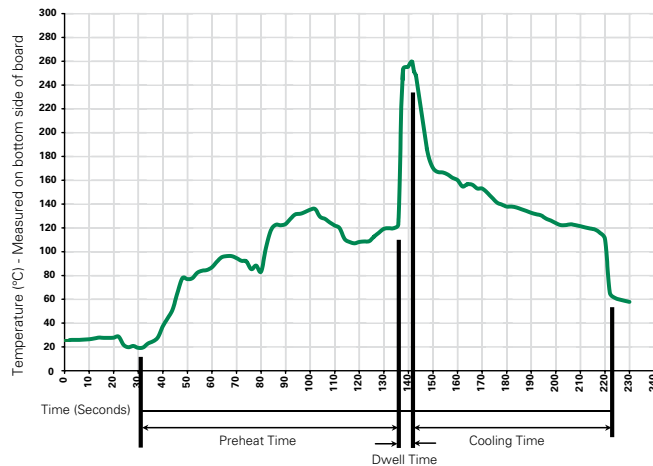


Note:
Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

| Wave Parameter | Lead-Free Recommendation |
|---|--------------------------|
| 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.

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") |

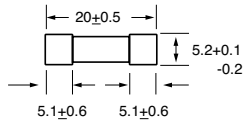
Product Characteristics

| | |
|--------------------------|--|
| 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) |

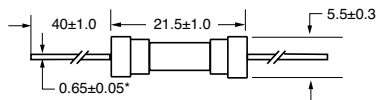
| | |
|------------------------------|---|
| Operating Temperature | -55°C to +125°C |
| Thermal Shock | MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C) |
| Vibration | MIL-STD-202 Method 201 |
| Humidity | MIL-STD-202, Method 103, Test Condition A. high RH (95%) and elevated temp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

Dimensions

0234 000P



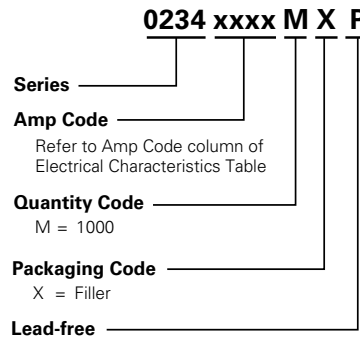
0234 000XEP



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 | 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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