

235 Series, 5x20 mm, Fast-Acting Fuse



Agency Approvals

| Agency | Agency File Number | Ampere Range |
|---|---|--|
|  | Cartridge: NBK030609-JP1021A NBK190609-JP1021A NBK030609-JP1021B Leaded: NBK030609-JP1021C NBK190609-JP1021B NBK030609-JP1021D | 1A - 3.5A 4A -5A 6A -7A 1A - 3.5A 4A -5A 6A -7A |
|  | SU05001 – 3007 SU05001 – 2002 SU05001 – 2003 | 0.100A – 0.400A 0.500A – 3A 4A – 6A |
|  | E10480 | 0.100A - 7A |
|  | 29862 | 0.100A - 7A |
|  | N/A | 0.100A – 7A |

Description

5x20mm fast-acting glass body cartridge fuse designed to UL specification.

Features

- Designed to UL/CSA/ ANCE 248 Standard
- Available in cartridge and axial lead format
- RoHS compliant and lead-free

Applications

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

Electrical Characteristics for Series

| % of Ampere Rating | Ampere Rating | Opening Time |
|--------------------|---------------|--------------------|
| 100% | 0.100A – 7A | 4 hours, Minimum |
| 135% | | 1 hour, Maximum |
| 200% | | 5 seconds, Maximum |

Additional Information



Datasheet



Resources



Samples



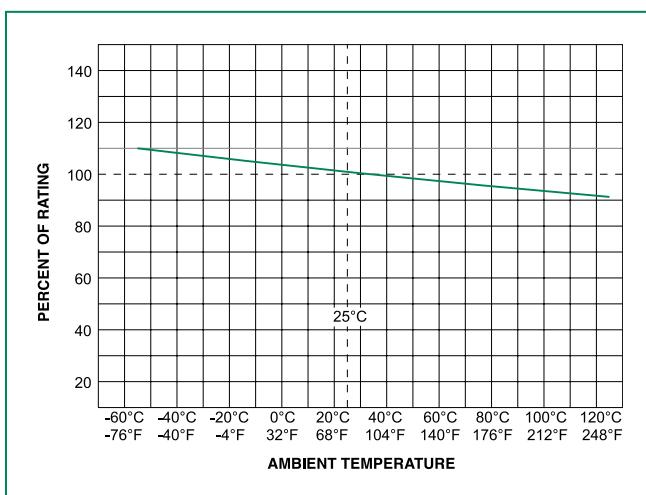
Accessories

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

Electrical Characteristic Specifications by Item

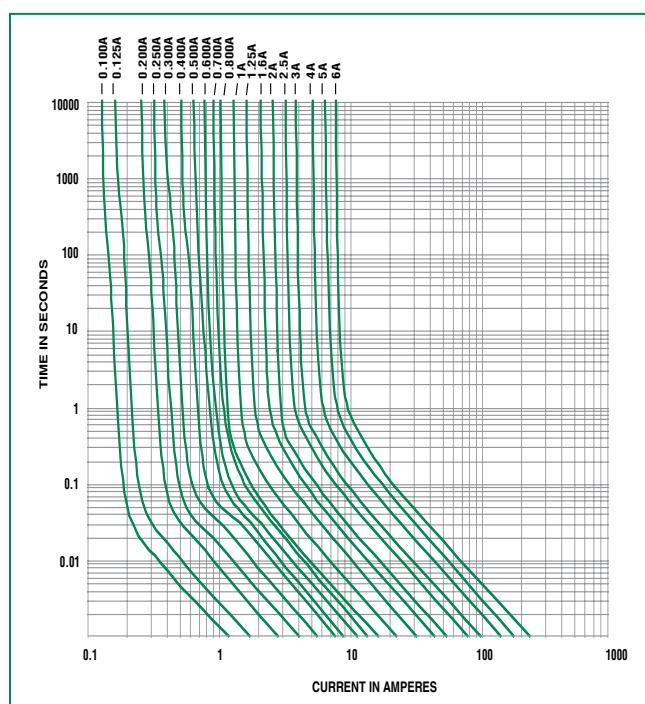
| Amp Code | Amp Rating (A) | Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting I^2t (A ² sec) | Agency Approvals | | | | |
|----------|----------------|--------------------|--------------------------------|--------------------------------|---|------------------|----|-----|------|----|
| | | | | | | CE | UL | CSA | PS E | KC |
| .100 | 0.1 | 250 | 35A @ 250VAC 10kA @ 125VAC | 8.4000 | 0.00127 | x | x | x | | x |
| .125 | 0.125 | 250 | | 5.7500 | 0.00273 | x | x | x | | x |
| .200 | 0.2 | 250 | | 3.1500 | 0.00867 | x | x | x | | x |
| .250 | 0.25 | 250 | | 2.2500 | 0.01660 | x | x | x | | x |
| .300 | 0.3 | 250 | | 1.6000 | 0.03215 | x | x | x | | x |
| .400 | 0.4 | 250 | | 1.075 | 0.05845 | x | x | x | | x |
| .500 | 0.5 | 250 | | 0.4265 | 0.06915 | x | x | x | | x |
| .600 | 0.6 | 250 | | 0.3195 | 0.11200 | x | x | x | | x |
| .700 | 0.7 | 250 | | 0.2625 | 0.15600 | x | x | x | | x |
| .800 | 0.8 | 250 | | 0.1920 | 0.25300 | x | x | x | | x |
| 001. | 1 | 250 | 100A @ 250VAC 10kA @ 125VAC | 0.1530 | 0.46750 | x | x | x | x | x |
| 1.25 | 1.25 | 250 | | 0.1055 | 1.08500 | x | x | x | x | x |
| 01.6 | 1.6 | 250 | | 0.0758 | 2.02500 | x | x | x | x | x |
| 002. | 2 | 250 | | 0.0603 | 2.64500 | x | x | x | x | x |
| 02.5 | 2.5 | 250 | | 0.0437 | 5.44500 | x | x | x | x | x |
| 003. | 3 | 250 | | 0.0347 | 8.39500 | x | x | x | x | x |
| 03.5 | 3.5 | 250 | | 0.0331 | 17.14000 | x | x | x | | |
| 004. | 4 | 125 | 10kA @ 125VAC | 0.0246 | 17.14000 | x | x | x | x | x |
| 005. | 5 | 125 | | 0.0184 | 27.41000 | x | x | x | x | x |
| 006. | 6 | 125 | | 0.0148 | 47.32500 | x | x | x | x | x |
| 007. | 7 | 125 | | 0.0157 | 64.81500 | x | x | | x | |

Temperature Re-rating Curve



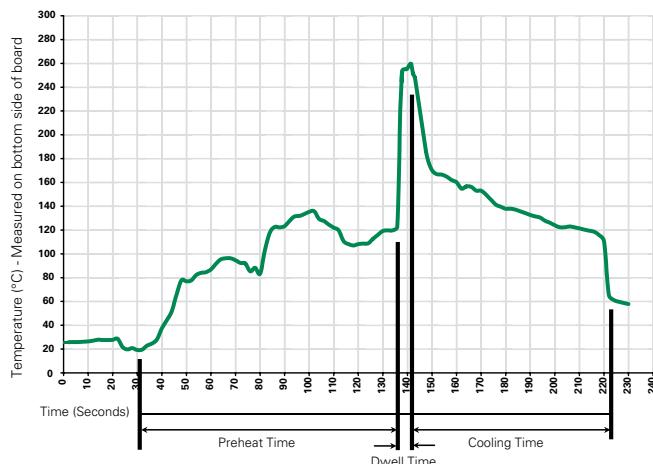
Note:
 Re-rating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Please contact Littelfuse for details on T-C curve for 7A rating

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.

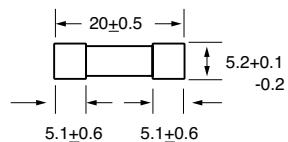
Product Characteristics

| | |
|--------------------------|---|
| Materials | Body: Glass Cap: Nickel-plated brass Leads: Tin-plated Copper |
| 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 (M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel) |

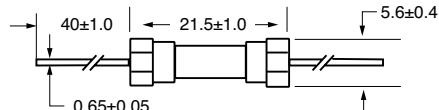
| | |
|------------------------------|--|
| Operating Temperature | -55°C to +125°C |
| Thermal Shock | MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C + 125°C) |
| Vibration | MIL-STD-202, Method 201 |
| Humidity | MIL-STD-202, Method 103, Test Condition A high RH (95%) and elevated temperature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

Dimensions

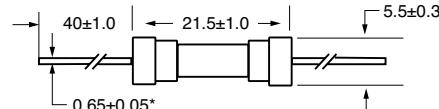
0235000P



0235.100 XEP
to
0235.400 XEP



0235.500 XEP
to
0235006.XEP



All dimensions in mm

Notes:

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

Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|-------------------|-------------------------|----------|---------------------------|------------------|
| 235 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

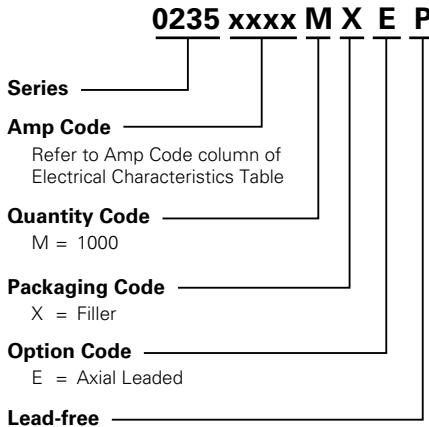
| Accessory Type | Series | Description | Max Application Voltage | Max Application Amperage |
|----------------|-------------------------|---|-------------------------|--------------------------|
| Holder | 345_ISF | Panel Mount Shock-Safe Fuseholder | 250 | 10 |
| | 345 | Shock-Safe Fuseholder with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



Mouser Electronics

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[0235.500HXP](#) [0235.500MXEP](#) [0235.100H-](#) [0235001.HXE-](#) [023501.6H-](#) [0235.800MXP](#) [023502.5MXEP](#)
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