

217 Series, 5 × 20 mm, Fast-acting Fuse



Description

5×20mm fast-acting glass body cartridge fuse designed to IEC specification.

Features

- Designed to International (IEC) Standards for use globally
- Meets the IEC 60127-2, Sheet 2 specification for fast-acting fuses
- Available in cartridge and axial lead form
- 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: NBK090205-E10480A NBK120802-E10480C | 1A – 5A 6.3A – 15A |
| | Leaded: NBK090205-E10480B NBK120802-E10480D | 1A – 5A 6.3A – 15A |
| | 2002010207007600 | 0.032A – 6.3A |
| | SU05001-3004 SU05001-2005 SU05001-2006 SU05001-2007 | 0.032A – 0.040A 0.050A – 0.315A 0.400A – 6.3A 8A - 10A |
| | E10480 | 0.032A – 10A |
| | 29862 | 0.032A – 6.3A |
| | 1517221 | 0.032A – 6.3A |
| | 40014645 | 0.032A – 6.3A, 8A*, 10A* |
| | 40016647 | 15A* |
| | KM41462 | 0.040A – 6.3A |
| | N/A | 0.032A – 15A |

*Approval for cartridge versions only

Electrical Characteristics for Series

| % of Ampere Rating | Ampere Rating | Opening Time |
|--------------------|----------------|--------------------------------|
| 150% | 0.032A–0.0100A | 60 minutes, Minimum |
| | 0.0125A-6.3A | 60 minutes, Minimum |
| | 8A-15A | 30 minutes, Minimum |
| 210% | 0.032A-0.0100A | 30 minutes, Maximum |
| | 0.0125A-6.3A | 30 minutes, Maximum |
| | 8A-15A | 30 minutes, Maximum |
| 275% | 0.032A-0.0100A | 0.01 sec., Min.; .5 sec. Max. |
| | 0.0125A-6.3A | 0.05 sec., Min.; 2 sec. Max. |
| | 8A-15A | 0.05 sec., Min.; 2 sec. Max. |
| 400% | 0.032A-0.0100A | .003 sec., Min.; 0.1 sec. Max. |
| | 0.0125A-6.3A | .01 sec., Min.; 0.3 sec. Max. |
| | 8A-15A | .01 sec., Min.; 0.4 sec. Max. |
| 1000% | 0.032A-0.0100A | .02 second, Maximum |
| | 0.0125A-6.3A | .02 second, Maximum |
| | 8A-15A | .04 second, Maximum |

Additional Information



Datasheet



Resources



Samples



Accessories

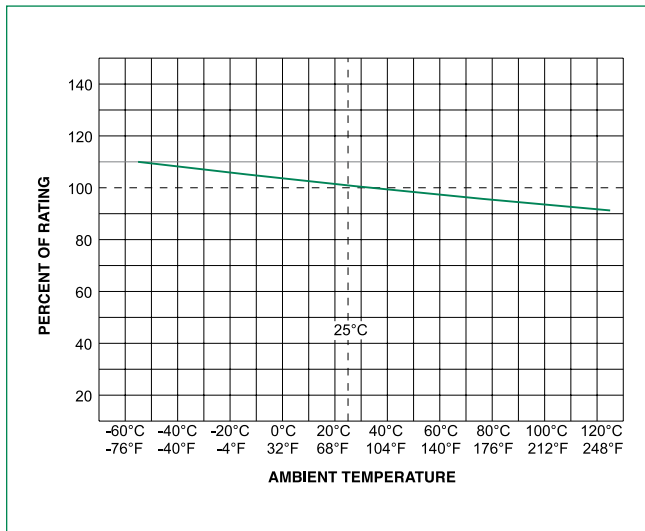
For recommended fuse accessories for this product series, see ["Recommended Accessories"](#) section.

Electrical Characteristic Specifications by Item

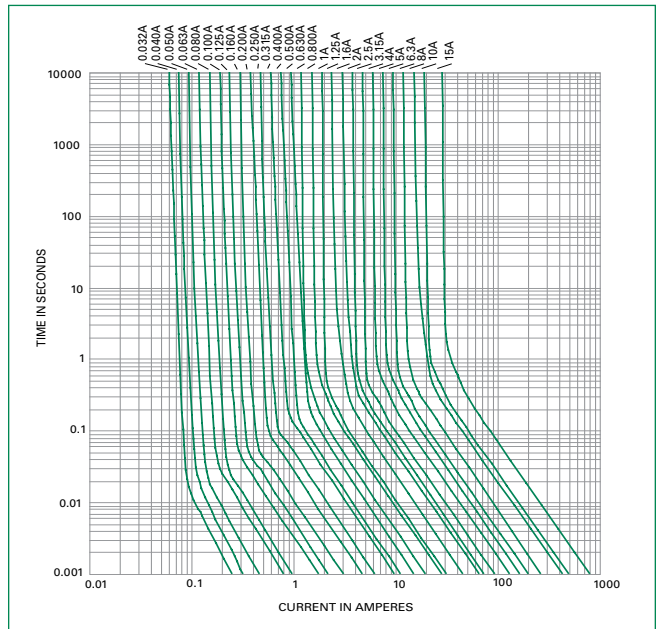
| Amp Code | Amp Rating (A) | Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting I ² t (A ² sec) | Maximum Voltage Drop at Rated Current (mV) | Maximum Power Dissipation At 1.5In(W) | Agency Approvals | | | | | | | | | |
|----------|----------------|--------------------|--|--------------------------------|---|--|---------------------------------------|------------------|-----|------|----|----|---|----|------|----|---|
| | | | | | | | | UL | CCC | PS E | RU | SP | S | CE | UL E | | |
| 0.032 | 0.032 | 250 | 35A @ 250VAC | 262.2000 | 0.00015 | 10000 | 1.6 | - | x | x | - | x | x | x | x | x | |
| 0.04 | 0.04 | 250 | | 183.1500 | 0.00008 | 8000 | 1.6 | - | x | x | - | x | x | x | x | x | x |
| 0.05 | 0.05 | 250 | | 15.2000 | 0.00049 | 7000 | 1.6 | - | x | x | - | x | x | x | x | x | x |
| 0.063 | 0.063 | 250 | | 10.4500 | 0.00056 | 5000 | 1.6 | - | x | x | - | x | x | x | x | x | x |
| 0.08 | 0.08 | 250 | | 7.8900 | 0.00132 | 4000 | 1.6 | - | x | x | - | x | x | x | x | x | x |
| 0.1 | 0.1 | 250 | | 5.6965 | 0.0026 | 3500 | 1.6 | - | x | x | - | x | x | x | x | x | x |
| 0.125 | 0.125 | 250 | | 3.8200 | 0.00478 | 2000 | 1.6 | - | x | x | - | x | x | x | x | x | x |
| 0.16 | 0.16 | 250 | | 2.5250 | 0.01 | 2000 | 1.6 | - | x | x | - | x | x | x | x | x | x |
| 0.2 | 0.2 | 250 | | 1.7000 | 0.02 | 1700 | 1.6 | - | x | x | - | x | x | x | x | x | x |
| 0.25 | 0.25 | 250 | | 1.2325 | 0.04 | 1400 | 1.6 | - | x | x | - | x | x | x | x | x | x |
| 0.315 | 0.315 | 250 | | 0.8800 | 0.11 | 1300 | 1.6 | - | x | x | - | x | x | x | x | x | x |
| 0.4 | 0.4 | 250 | | 0.2770 | 0.125 | 1200 | 1.6 | x | x | x | - | x | x | x | x | x | x |
| 0.5 | 0.5 | 250 | | 0.2065 | 0.215 | 1000 | 1.6 | x | x | x | - | x | x | x | x | x | x |
| 0.63 | 0.63 | 250 | | 0.1900 | 0.41 | 650 | 1.6 | x | x | x | - | x | x | x | x | x | x |
| 0.8 | 0.8 | 250 | | 0.1203 | 0.85 | 240 | 1.6 | x | x | x | - | x | x | x | x | x | x |
| 1.0 | 1 | 250 | | 0.0964 | 1.045 | 200 | 1.6 | x | x | x | x | x | x | x | x | x | x |
| 1.25 | 1.25 | 250 | | 0.0701 | 2.23 | 200 | 1.6 | x | x | x | x | x | x | x | x | x | x |
| 1.6 | 1.6 | 250 | | 0.0528 | 4.615 | 190 | 1.6 | x | x | x | x | x | x | x | x | x | x |
| 2.0 | 2 | 250 | | 0.0416 | 5.73 | 170 | 1.6 | x | x | x | x | x | x | x | x | x | x |
| 2.5 | 2.5 | 250 | | 0.0334 | 9.46 | 170 | 1.6 | x | x | x | x | x | x | x | x | x | x |
| 3.15 | 3.15 | 250 | 0.0224 | 17.72 | 150 | 2.5 | x | x | x | x | x | x | x | x | x | x | |
| 4.0 | 4 | 250 | 40A @ 250VAC | 0.0165 | 29.165 | 130 | 2.5 | x | x | x | x | x | x | x | x | x | |
| 5.0 | 5 | 250 | 50A @ 250VAC 35A @ 250VAC 70A @ 60VDC 70A @ 75VDC | 0.0137 | 42.795 | 130 | 2.5 | x | x | x | x | x | x | x | x | x | |
| 6.3 | 6.3 | 250 | 63A @ 250VAC | 0.0095 | 62.465 | 130 | 2.5 | x | x | x | x | x | x | x | x | x | |
| 8.0 | 8 | 250 | 80A @ 250VAC | 0.0068 | 198.16 | 130 | 4 | - | x | - | x | x | - | - | x | x* | |
| 10.0 | 10 | 250 | 100A @ 250VAC | 0.0063 | 217.635 | 130 | 4 | - | x | - | x | x | - | - | x | x* | |
| 15.0 | 15 | 250 | 150A @ 250VAC | 0.0040 | 607.135 | 130 | 4 | - | - | - | x | - | - | - | x | x* | |

* Approval for cartridge versions only.

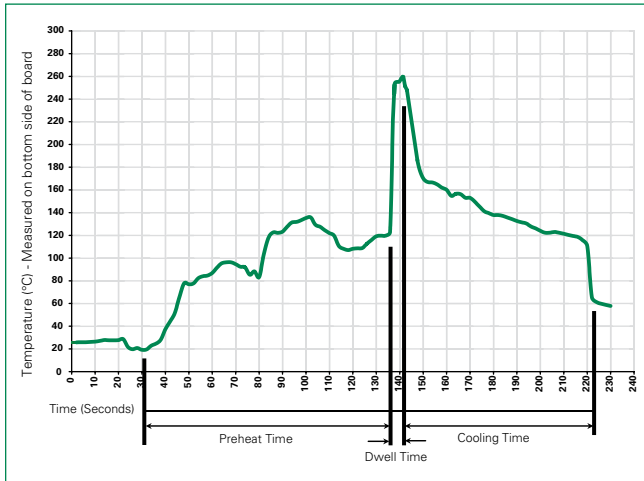
Temperature Re-rating Curve



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.

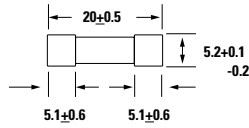
Product Characteristics

| | |
|--------------------------|--|
| Material | 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 | Cap1: Brand logo, current and voltage ratings Cap2: Agency approval marks |
| Packaging | Available in Bulk (M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel) |

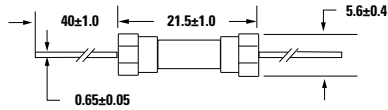
| | |
|------------------------------|---|
| Operating Temperature | -55°C to +125°C |
| Thermal Shock | MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C) |
| Vibration | MIL-STD-202, Method 201 |
| Humidity | MIL-STD-202, Method 103, Test Condition A. high RH (95%) and elevated temperature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

Dimensions

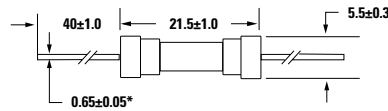
0217 000P



0217.032 XEP
to
0217.315 XEP



0217.400 XEP
to
0217015 XEP

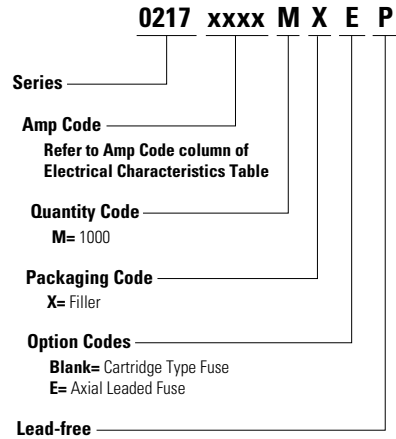


All dimensions in mm

Notes:

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

Part Numbering System



Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|-------------------|-------------------------|----------|---------------------------|------------------|
| 217 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") |
| Bulk | N/A | 1000 | MXG | N/A |
| Bulk | N/A | 1000 | MXB | N/A |
| Bulk | N/A | 100 | HX | N/A |

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:

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

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