

232 Series, 5x20 mm, Medium-Acting Fuse



Description

The 232 Series Fuse is a 5x20mm, medium-acting, glass body cartridge fuse. It is specifically designed to meet the requirements of Appendix 3 of DENAN Technical Requirements & Enforcement Regulations (METI).

Features

- Available in cartridge and axial lead format
- Approved to DENAN's Appendix 3
- 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: NBK180509-JP1021 A/C NBK020609-JP1021 A/C | 1A – 5A 6.3A – 10A |
| | Leaded: NBK180509-JP1021 B/D NBK020609-JP1021 B/D | 1A – 5A 6.3A – 10A |
| | SU05001-2015 | 1A – 10A |
| | N/A | 1A – 10A |

Additional Information



[Datashheet](#)



[Resources](#)



[Samples](#)



[Accessories](#)

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

Electrical Characteristics for Series

| % of Ampere Rating | Opening Time |
|--------------------|--------------------|
| 130% | 1 hour, Minimum |
| 160% | 1 hour, Maximum |
| 200% | 2 minutes, Maximum |

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) | Agency Approvals | | |
|----------|----------------|--------------------|---------------------|--------------------------------|---|------------------|---|---|
| | | | | | | | | |
| 001. | 1 | 125/250 | 10 kA @ 125VAC | 0.0923 | 1.37300 | x | x | x |
| 1.25 | 1.25 | 125/250 | | 0.0685 | 4.11000 | x | x | x |
| 01.6 | 1.6 | 125/250 | | 0.0537 | 6.96000 | x | x | x |
| 002. | 2 | 125/250 | | 0.0370 | 8.25000 | x | x | x |
| 02.5 | 2.5 | 125/250 | | 0.0291 | 13.87500 | x | x | x |
| 003. | 3 | 125/250 | | 0.0226 | 17.19000 | x | x | x |
| 3.15 | 3.15 | 125/250 | | 0.0215 | 21.9500 | x | x | x |
| 004. | 4 | 125/250 | | 0.0174 | 37.73000 | x | x | x |
| 005. | 5 | 125/250 | | 0.0134 | 56.72000 | x | x | x |
| 06.3 | 6.3 | 125/250 | | 0.0102 | 151.54000 | x | x | x |
| 008.* | 8 | 125/250 | 300A @ 125VAC | 0.0076 | 182.58000 | x | x | x |
| 010.* | 10 | 125/250 | | 0.0059 | 290.66500 | x | x | x |

To order 125Vac rated, please add part no. suffix
 * Interrupting Rating for 8A & 10A is 100A@250Vac

Temperature Re-rating Curve



Note:
Derating 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 |
|------------------|-------------------------|----------|---------------------------|--------------|
| 232 Series | | | | |
| Bulk | N/A | 1000 | MX | N/A |
| Bulk | N/A | 1000 | MXE | N/A |

Product Characteristics

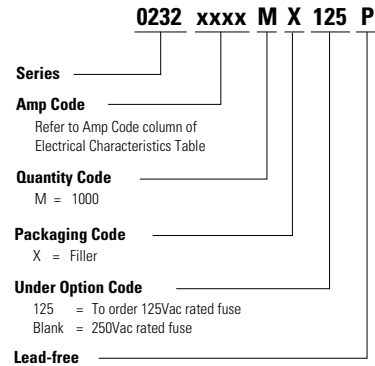
| | |
|--------------------------|--|
| Materials | Body: Glass Cap: Nickel-plated brass Leads: Tin-plated Copper |
| Terminal Strength | MIL-STD-202, Method 211, Test Condition A |
| Solderability | MIL-STD-202 Method 208 |
| Product Marking | Cap 1: Brand log, current and voltage ratings, and agency approval Cap 2: Blank |
| Packaging | Available in Bulk (M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel) |

| | |
|------------------------------|--|
| Operating Temperature | -60°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



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:**
- 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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