

224/225 Series Lead-Free 2AG, Fast-Acting



Description

The 2AG Fast-Acting Fuses are available in cartridge form or with axial leads. 2AG Fuses provide the same performance characteristics as their 3AG counterpart, while occupying one-third the space. Sleeved fuses are available.

Features

- In accordance with Underwriter's Laboratories Standard UL/CSA/NMX 248-14
- Available in cartridge and axial lead form and with various forming dimensions
- RoHS compliant and Lead-free

Agency Approvals

| Agency | Agency File Number | Ampere Range |
|--------|--|--|
| | E10480 | 0.375A - 3.5A |
| | E10480 | 4A - 10A |
| | 29862 | 0.375A - 10A |
| | 225 (Cartridge Version) NBK200405-E10480A NBK200405-E10480C NBK110512-E10480A NBK190619-E10480A | 1A 1.5A - 3.5A 4A - 5A 6A - 10A |
| | 224 (Axial Leaded Version) NBK200405-E10480B NBK200405-E10480D NBK110512-E10480B NBK190619-E10480B | 1A 1.5A - 3.5A 4A - 5A 6A - 10A |
| | N/A | 0.375A - 10A |

Applications

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

Additional Information



Resources
224 Series



Samples
224 Series



Accessories
224 & 225 Series



Resources
225 Series



Samples
225 Series

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

Electrical Characteristics for Series

| % of Ampere Rating | Opening Time |
|--------------------|------------------|
| 100% | 4 hours, Minimum |
| 135% | 1 hour, Maximum |
| 200% | 1 sec., Maximum |

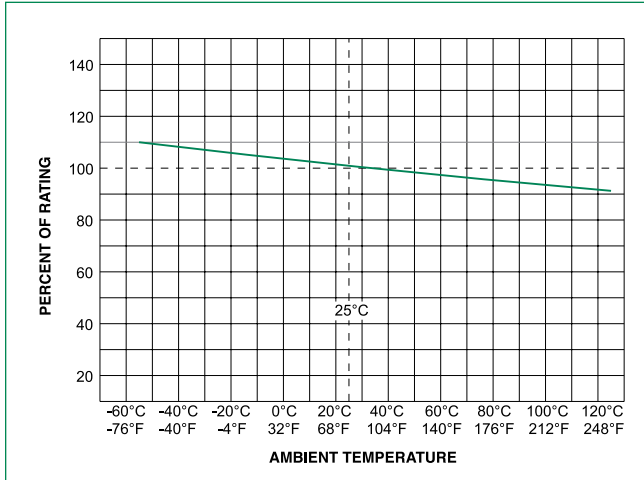
Electrical Characteristic Specifications by Item

| Amp Code | Ampere Rating (A) | Voltage Rating (V) | Interrupting Rating** | Nominal Cold Resistance (Ohms) | Nominal Melting I ² t (A ² sec) | Agency Approvals | | | | |
|----------|-------------------|--------------------|---|--------------------------------|---|------------------|---|---|---|---|
| | | | | | | | | | | |
| .375 | 0.375 | 250 | 35A@250Vac 10KA@125Vac 10KA@125Vdc | 0.3950 | 0.171 | x | | x | | x |
| .500 | 0.5 | 250 | | 0.2650 | 0.365 | x | | x | | x |
| .750 | 0.75 | 250 | | 0.1520 | 1.050 | x | | x | | x |
| 001. | 1 | 250 | 100A@250Vac 10KA@125Vac 10KA@125Vdc | 0.1027 | 2.220 | x | | x | x | x |
| 01.5 | 1.5 | 250 | | 0.0712 | 0.800 | x | | x | x | x |
| 002. | 2 | 250 | | 0.0497 | 2.180 | x | | x | x | x |
| 02.5 | 2.5 | 250 | | 0.0372 | 3.820 | x | | x | x | x |
| 003. | 3 | 250 | | 0.0317 | 4.620 | x | | x | x | x |
| 03.5 | 3.5 | 250 | 100A@250Vac 500A@125Vac | 0.0265 | 6.700 | x | | x | x | x |
| 004. | 4 | 125 | | 0.0240 | 9.400 | | x | x | x | x |
| 005. | 5 | 125 | | 0.0186 | 17.0 | | x | x | x | x |
| 005. | 5 | 250 | | 0.0186 | 17.0 | | x | x | | x |
| 006. | 6 | 125 | | 0.0154 | 22.1 | | x | x | x | x |
| 007. | 7 | 125 | | 0.0130 | 40.0 | | x | x | x | x |
| 008. | 8 | 125 | | 0.0107 | 56.0 | | x | x | x | x |
| 010. | 10 | 125 | | 0.0075 | 116.0 | | x | x | x | x |

* 10A with 500A @ 125 Vdc internal breaking capacity testing

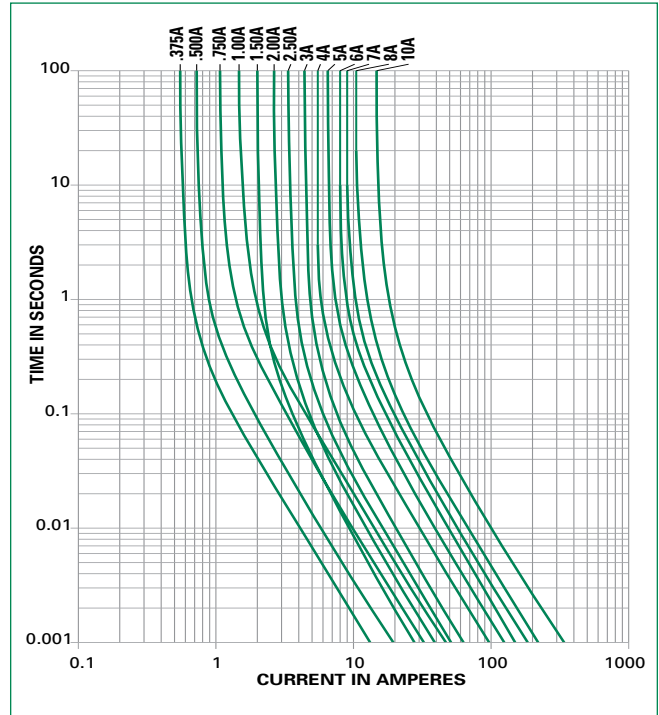
** : Interrupting Rating may differ based on Agency Approval. See Agency Approval certificate for more details..

Temperature Re-rating Curve

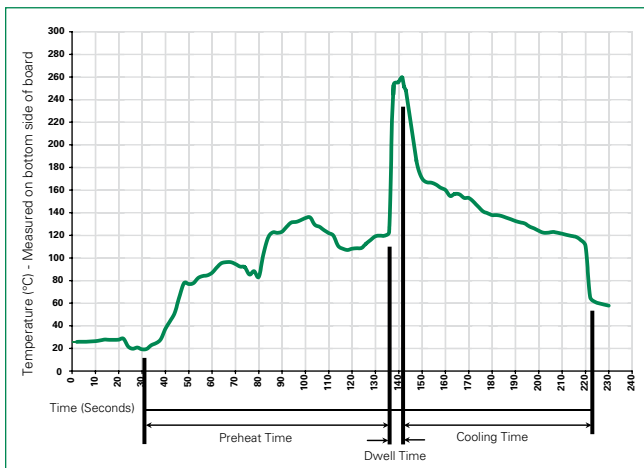


Note:
Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

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.

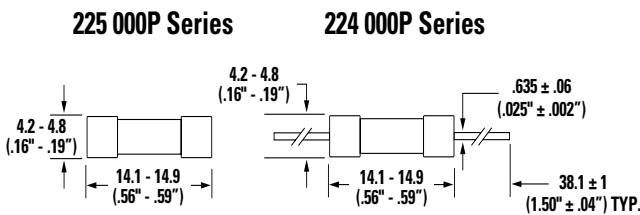
Note: These devices are not recommended for IR or Convection Reflow process.

Product Characteristics

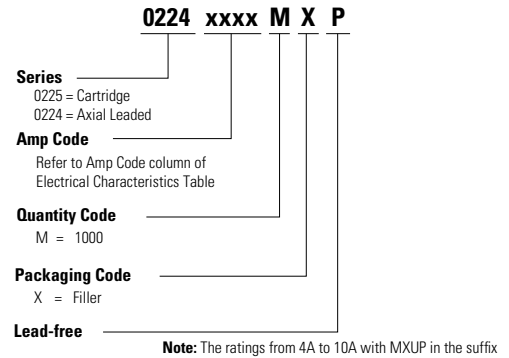
| | |
|--------------------------|---|
| Materials | Body : Glass Cap : Nickel-plated brass Leads: Tin-plated Copper |
| Terminal Strength | MIL-STD-202, Method 211, Test Condition A |
| Solderability | MIL-STD-202 Method 208 |
| Product Marking | Cap1 : Brand logo, current and voltage ratings Cap2 : Series and agency approval marks |

| | |
|-------------------------------|---|
| 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



Part Numbering System



Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|------------------|-------------------------|----------|---------------------------|------------------|
| 224 Series | | | | |
| Bulk | N/A | 1000 | MX | N/A |
| Bulk | N/A | 100 | HX | N/A |
| Reel and Tape | EIA 296-E | 1500 | DRT1 | T1=53mm (2.087") |
| 225 Series | | | | |
| Bulk | N/A | 1000 | MX | N/A |
| Bulk | N/A | 100 | HX | N/A |

Recommended Accessories

| Accessory Type | Series | Description | Max Application Voltage | Max Application Amperage |
|----------------|---------------------|--|-------------------------|--------------------------|
| Holder | 245 | Panel Mount Shock-Safe Fuseholder | 300 | 10 |
| | 150 | In-Line Fuseholder | 350 | 10 |
| | 286 | Panel Mount Flip-Top Shock-Safe Fuseholder | 250 | 10 |
| Block | 254 | OMNI-BLOK® Fuse Block | 400 | 10 |
| Clip | 111 | PC Board Mount Fuse Clip | 250 | 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.