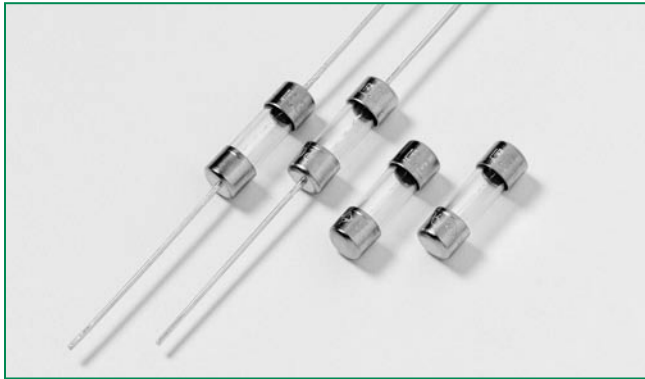


RoHS  **229/230 Series** Lead-Free 2AG, Slo-Blo® Fuse and Indicating Slo-Blo® Fuse     








Description

The 2AG Slo-Blo® 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.

The fuse catalog number with the suffix "S" instantly identifies itself upon opening by showing a discoloration of its glass body. Guesswork and time consuming circuit testing are eliminated. This unique design offers the same quality performance characteristics as the standard 2AG Slo-Blo® fuse design. When ordering the 2AG Indicating Slo-Blo® Fuse, an 'S' is required after the catalog number.

Agency Approvals

| Agency | Agency File Number | Ampere Range |
|--|---------------------------|--------------|
|  | E10480 | 250mA - 3.5A |
|  | LR 29862 | 250mA - 7A |
|  | E10480 | 4A - 7A |
|  | NBK210405 - E10480D/F/G/H | 1A - 7A |
|  | | 250mA - 7A |

Features

- In accordance with UL Standard 248-14
- Fuses are boradwashable in most solvents
- RoHS compliant and Lead-free
- Available in cartridge and axial lead form and with various lead forming dimensions
- Sleeved fuses are available

Applications

- Standard 229/230 series meets the demanding requirements of the Telecom Industry.
- These fuses combine conventional overcurrent protection with ability to withstand high current, short duration pulses which complies to short circuit requirements of UL 1459 for Telecom equipments.

Electrical Characteristics for Series

| % of Ampere Rating | Opening Time |
|--------------------|---------------------|
| 100% | 4 hours, Minimum |
| 135% | 1 hour, Maximum |
| 200% | 3 sec.onds, Maximum |
| | 20 seconds, Maximum |

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 | | | | |
|----------|-------------------|--------------------|---|--------------------------------|---|------------------|----|------|----|----|
| | | | | | | UL | RU | PS E | SR | CE |
| .250 | 0.25 | 250 | 35A@250Vac 10KA@125Vac 10KA@125Vdc 80A@310Vac | 2.4300 | 0.216 | x | | | x | x |
| .350 | 0.35 | 250 | | 1.3100 | 0.490 | x | | | x | x |
| .375 | 0.375 | 250 | | 1.1685 | 0.580 | x | | | x | x |
| .500 | 0.5 | 250 | | 0.6935 | 1.16 | x | | | x | x |
| .600 | 0.6 | 250 | | 0.4805 | 1.75 | x | | | x | x |
| .750 | 0.75 | 250 | | 0.3430 | 2.95 | x | | | x | x |
| .800 | 0.8 | 250 | | 0.3060 | 3.45 | x | | | x | x |
| 001. | 1 | 250 | | 0.2120 | 5.64 | x | | x | x | x |
| 1.25 | 1.25 | 250 | 100A@250Vac 10KA@125Vac 10KA@125Vdc 80A@310Vac | 0.1460 | 9.80 | x | | x | x | x |
| 01.5 | 1.5 | 250 | | 0.1077 | 15.0 | x | | x | x | x |
| 002. | 2 | 250 | | 0.0698 | 30.0 | x | | x | x | x |
| 2.25 | 2.25 | 250 | | 0.0567 | 39.0 | x | | x | x | x |
| 02.5 | 2.5 | 250 | | 0.0502 | 50.0 | x | | x | x | x |
| 003. | 3 | 250 | | 0.0383 | 77.0 | x | | x | x | x |
| 03.5 | 3.5 | 250 | 100A@250Vac 10KA@125Vac 10KA@125Vdc | 0.0312 | 110.0 | x | | x | x | x |
| 004. | 4 | 125 | 400A@125Vac 400A@125Vdc | 0.0258 | 148.0 | | x | x | x | x |
| 005. | 5 | 125 | | 0.0186 | 267 | | x | x | x | x |
| 006. | 6 | 125 | | 0.0141 | 380 | | x | x | x | x |
| 007. | 7 | 125 | | 0.0116 | 464 | | x | x | x | x |

Description

Standard 229 and 230 Series Slo-Blo fuses meet the demanding requirements of the Telecom industry. These fuses combine conventional overcurrent protection with the ability to withstand high current, short duration pulses. These fuses comply with the short circuit requirements of UL 1459 for telephone equipment. Insulating sleeve option available.

Features

In accordance with underwriter's Laboratories Standard UL 248-14.
 Fuses are boardwashable in most solvents.
 Available in cartridge and axial lead form and with various lead forming dimensions.
 RoHS compliant and lead-free.
 Available in ratings from 250mA to 1.25A.

Applications

Used for the telecom industry.

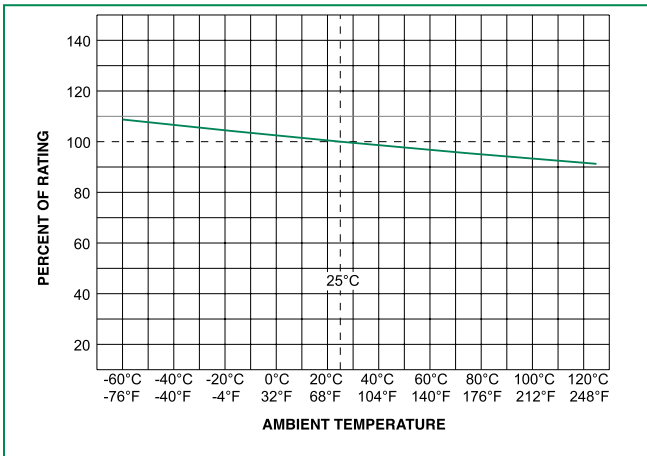
Surge Withstand Specifications

Peak Withstand Current(I_p): These fuses will withstand 50 repetitions of a double exponential impulse wave having peak currents(I_p) and peak voltages as listed.

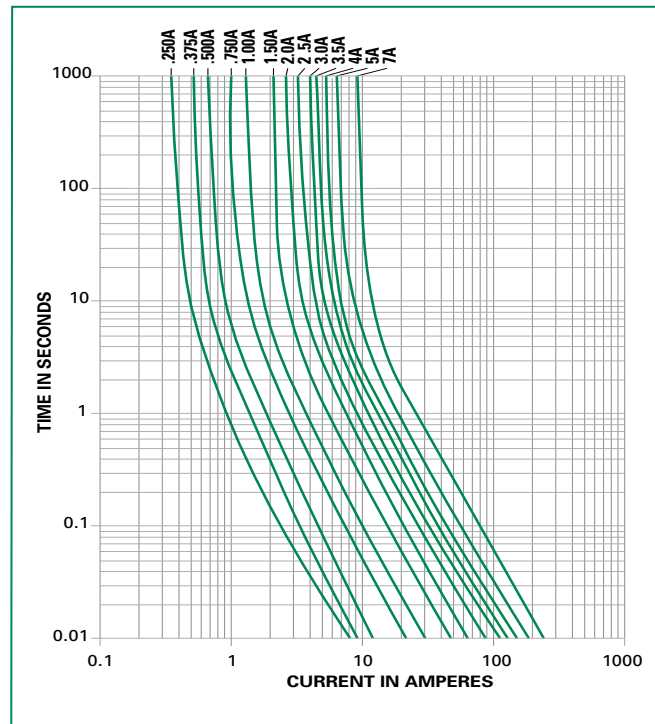
| Amp Code | Ampere Rating (A) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting I ² t (A ² sec) | 10 x 160 μs 1500V | 10 x 560 μs 800V | 10 x 1000 μs 1000V |
|----------|-------------------|--|--------------------------------|---|-------------------|------------------|--------------------|
| .250 | 0.25 | 60A@600Vac 40A@600Vac 7A@600Vac 2.2A@600Vac | 2.4300 | 0.216 | 23.0A | 16.6A | 12.4A |
| .350 | 0.35 | | 1.3100 | 0.490 | 34.0A | 25.8A | 19.3A |
| .375 | 0.375 | | 1.1685 | 0.580 | 40.0A | 25.4A | 19.0A |
| .500 | 0.5 | | 0.6935 | 1.16 | 60.0A | 37.7A | 28.2A |
| .600 | 0.6 | | 0.4805 | 1.75 | 71.0A | 47.2A | 35.3A |
| .750 | 0.75 | | 0.3430 | 2.95 | 91.0A | 65.5A | 49.0A |
| .800 | 0.8 | | 0.3060 | 3.45 | 104.0A | 68.9A | 51.6A |
| 001. | 1 | | 0.2120 | 5.64 | 130A | 88.6A | 66.3A |
| 1.25 | 1.25* | | 0.1460 | 9.80 | 162.0A | 118.1A | 100.0A |

* 500A peak, 2500V, 2 x 10 microseconds, 20 repetitions

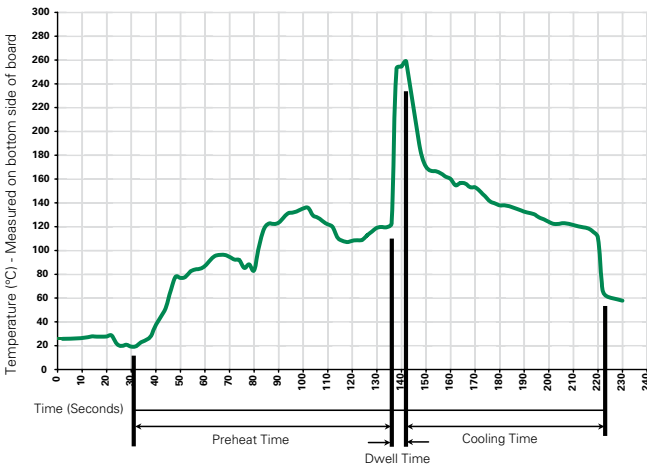
Temperature Derating Curve



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.

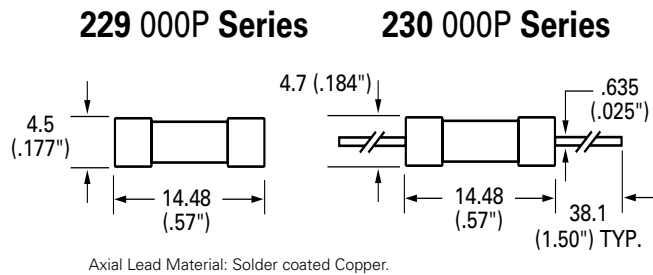
Note: These devices are not recommended for IR or Convection Reflow process.

Product Characteristics

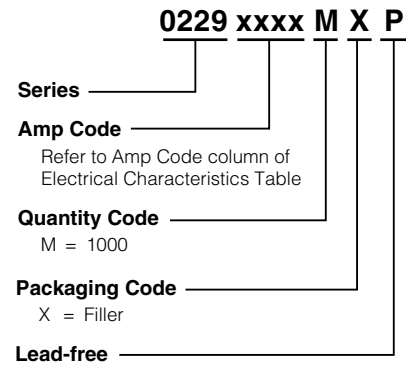
| | |
|--------------------------|---|
| Materials | Body: Glass Cap: Nickel-plated brass Leads: Tin-plated Copper |
| Terminal Strength | MIL-STD-202G, Method 211A, Test Condition A |
| Solderability | Reference IEC 60127 Second Edition 2003-01 Annex A |
| Product Marking | Cap1: Brand logo, current and voltage ratings Cap2: Series and agency approval marks |

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

Dimensions



Part Numbering System



Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|-------------------|-------------------------|----------|---------------------------|------------------|
| 229 Series | | | | |
| Bulk | N/A | 5 | VX | N/A |
| Bulk | N/A | 5 | VXS | N/A |
| Bulk | N/A | 100 | HX | N/A |
| Bulk | N/A | 100 | HXS | N/A |
| Bulk | N/A | 1000 | MX | N/A |
| Bulk | N/A | 1000 | MXS | N/A |
| 230 Series | | | | |
| Bulk | N/A | 5 | VX | N/A |
| Bulk | N/A | 5 | VXS | N/A |
| Bulk | N/A | 100 | HX | N/A |
| Bulk | N/A | 100 | HXS | N/A |
| Bulk | N/A | 1000 | MX | N/A |
| Bulk | N/A | 1000 | MXE | N/A |
| Bulk | N/A | 1000 | MXF1 | N/A |
| Bulk | N/A | 1000 | MXF16 | N/A |
| Bulk | N/A | 1000 | MXF16O | N/A |
| Bulk | N/A | 1000 | MXF17 | N/A |
| Bulk | N/A | 1000 | MXF17O | N/A |
| Bulk | N/A | 1000 | MXF23 | N/A |
| Bulk | N/A | 1000 | MXF23O | N/A |
| Bulk | N/A | 1000 | MXF32 | N/A |
| Bulk | N/A | 1000 | MXO | N/A |
| Bulk | N/A | 1000 | MXS | N/A |
| Reel and Tape | EIA 296-E | 1500 | DRT2 | T2=63mm (2.500") |
| Reel and Tape | EIA 296-E | 1500 | DRT2S | T2=63mm (2.500") |
| Reel and Tape | EIA 296-E | 1500 | DRT4 | N/A |
| Reel and Tape | EIA 296-E | 2500 | ERT2 | T2=63mm (2.500") |
| Reel and Tape | EIA 296-E | 2500 | ERT2S | T2=63mm (2.500") |
| Reel and Tape | EIA 296-E | 1000 | MRT1E | T1=52mm (2.062") |
| Reel and Tape | EIA 296-E | 1500 | DAT1 | T1=52mm (2.062") |
| Reel and Tape | EIA 296-E | 1500 | DAT1O | T1=52mm (2.062") |
| Reel and Tape | EIA 296-E | 1500 | DRT1 | T1=52mm (2.062") |
| Reel and Tape | EIA 296-E | 1500 | DRT1S | T1=52mm (2.062") |
| Reel and Tape | EIA 296-E | 1500 | DRT1SS | T1=52mm (2.062") |
| Reel and Tape | EIA 296-E | 1500 | DRT3 | T3=73mm (2.874") |
| Reel and Tape | EIA 296-E | 1500 | DRT3S | T3=73mm (2.874") |
| Reel and Tape | EIA 296-E | 2500 | ERT1 | T1=52mm (2.062") |
| Reel and Tape | EIA 296-E | 2500 | ERT1S | T1=52mm (2.062") |
| Reel and Tape | EIA 296-E | 2500 | ERT3 | T3=73mm (2.874") |
| Reel and Tape | EIA 296-E | 2500 | ERT3S | T3=73mm (2.874") |