# 313/315 Series Lead-Free 3AG, Slo-Blo® Fuse

## Agency Approvals

| Agency | Agency File Number | Ampere Range |
|---|---|---|
| UL | E10480 | 0.010A - 10A** |
| CSA | 29862 | 0.010A - 10A**/15A** |
| VDE | E10480 | 10A - 30A |
| PSE | 313 Series (Cartridge):<br>NBK060618-E10480A<br>NBK060618-E10480C | 1-5A<br>6.25- 10A** |
| | 315 Series (Leaded):<br>NBK060618-E10480B<br>NBK060618-E10480D | 1-5A<br>6.25-10A** |
| KC | SU05001-6004<br>SU05001-5007<br>SU05001-5008<br>SU05001-5009 | 2.25-2.5A<br>2.8A - 3.2A<br>4A - 6.3A<br>7A-8A |
| CE | N/A | 0.010A - 10A**/15A** |

** See note under Electrical Characteristics by item

## Additional Information

**Datasheet 313 Series**

**Resources 313 Series**

**Samples 313 Series**

**Datasheet 315 Series**

**Resources 315 Series**

**Samples 315 Series**

**Accessories 313 & 315 Series**

For recommended fuse accessories for this product series, see 'Recommended Accessories' section.

## Description

The 3AG Slo-Blo® fuse solves a broad range of application requirements while offering reliable performance and cost-effective circuit protection.

The fuse catalog number with the suffix "ID" 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 3AG Slo-Blo® Fuse design.

## Features

- In accordance with UL Standard 248-14
- Available in cartridge and axial lead format and with various forming dimensions
- 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 by Series

| % of Ampere Rating | Ampere Rating | Opening Time |
|---|---|---|
| 100% | 10mA – 30A | 4 hours, Minimum |
| 135% | 10mA – 30A | 1 hour, Maximum |
| 200% | 10mA – 15A | 5 sec., Min.,30 sec., Max |
| | 20A – 30A | 5 sec., Min.,60 sec Max |


Revised: 01/30/20

# Axial Lead & Cartridge Fuses

3AG > Slo-Blo® Fuse > 313/315 Series

## Electrical Characteristic Specifications by Item

| Amp Code | Ampere Rating (A) | Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting $I^2t$ ($A^2$ sec) | Agency Approvals | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | UL | CSA | KC | VDE | PSE | CE |
| 0.01 | 0.01 | 250 | 35A@250Vac 10KA@125Vac | 4300.0000 | 0.000121 | x | x | | | | x |
| 0.031 | 0.031 | 250 | | 430.0000 | 0.00303 | x | x | | | | x |
| 0.04 | 0.04 | 250 | | 300.0000 | 0.00630 | x | x | | | | x |
| 0.062 | 0.062 | 250 | | 120.0000 | 0.0210 | x | x | | | | x |
| 0.1 | 0.1 | 250 | | 43.0000 | 0.0850 | x | x | | | | x |
| 0.125 | 0.125 | 250 | | 30.0000 | 0.152 | x | x | | | | x |
| 0.15 | 0.15 | 250 | | 20.0000 | 0.270 | x | x | | | | x |
| 0.175 | 0.175 | 250 | | 8.6700 | 0.177 | x | x | | | | x |
| 0.187 | 0.187 | 250 | | 8.0100 | 0.230 | x | x | | | | x |
| 0.2 | 0.2 | 250 | | 6.5900 | 0.270 | x | x | | | | x |
| 0.25 | 0.25 | 250 | | 4.2700 | 0.385 | x | x | | | | x |
| 0.3 | 0.3 | 250 | | 3.1350 | 0.730 | x | x | | | | x |
| 0.375 | 0.375 | 250 | | 2.0950 | 1.23 | x | x | | | | x |
| 0.4 | 0.4 | 250 | | 1.8750 | 1.35 | x | x | | | | x |
| 0.5* | 0.5 | 250 | | 1.2600 | 2.55 | x | x | | | | x |
| 0.6 | 0.6 | 250 | | 0.9120 | 4.00 | x | x | | | | x |
| 0.7 | 0.7 | 250 | | 0.7000 | 5.90 | x | x | | | | x |
| 0.75 | 0.75 | 250 | | 0.6215 | 7.16 | x | x | | | | x |
| 0.8 | 0.8 | 250 | | 0.5540 | 8.00 | x | x | | | | x |
| 1.0* | 1 | 250 | | 0.3750 | 14.0 | x | x | | | x | x |
| 1.2 | 1.2 | 250 | 100A@250Vac 10KA@125Vac | 0.2780 | 21.5 | x | x | | | x | x |
| 1.25 | 1.25 | 250 | | 0.2600 | 24.0 | x | x | | | x | x |
| 1.5* | 1.5 | 250 | | 0.1910 | 38.0 | x | x | | | x | x |
| 1.6 | 1.6 | 250 | | 0.1710 | 49.6 | x | x | | | x | x |
| 1.8 | 1.8 | 250 | | 0.1410 | 92.0 | x | x | | | x | x |
| 2.0* | 2 | 250 | | 0.1169 | 77.0 | x | x | | | x | x |
| 2.25 | 2.25 | 250 | | 0.0968 | 121 | x | x | x | | x | x |
| 2.5 | 2.5 | 250 | | 0.0811 | 199 | x | x | x | | x | x |
| 2.8 | 2.8 | 250 | | 0.0675 | 269 | x | x | x | | x | x |
| 3.* | 3 | 250 | | 0.0593 | 200 | x | x | x | | x | x |
| 3.2 | 3.2 | 250 | | 0.0529 | 209 | x | x | x | | x | x |
| 4.0* | 4 | 250 | 200A@250Vac 10KA@125Vac | 0.0311 | 76.1 | x | x | x | | x | x |
| 5.0* | 5 | 250 | | 0.0214 | 276 | x | x | x | | x | x |
| 6.25* | 6.25 | 250 | | 0.0154 | 388 | x | x | x | | x | x |
| 6.3 | 6.3 | 250 | | 0.0154 | 388 | x | x | x | | x | x |
| 7.0* | 7 | 250 | | 0.0128 | 547 | x | x | x | | x | x |
| 8.0* | 8 | 250 | | 0.0111 | 701 | x | x | x | | x | x |
| 10.0** | 10 | 250 | | 0.0083 | 1285 | x | x | | | x | x |
| 10.0* | 10 | 32 | 300A@32Vac | 0.0083 | 1285 | | | | x | | |
| 12.0 | 12 | 32 | | 0.0065 | 1200 | | | | x | | |
| 15.0** | 15 | 125 | | 0.0050 | 2650 | | x | | x | x | x |
| 15.0 | 15 | 32 | | 0.0050 | 2650 | | | | x | | |
| 20.0 | 20 | 32 | | 0.0022 | 9560 | | | | x | | |
| 25.0 | 25 | 32 | | 0.0017 | 16500 | | | | x | | |
| 30.0 | 30 | 32 | | 0.0012 | 26900 | | | | x | | |

* For 313series, these ratings available with an indicating option. Add the "ID" designation to the series number. i.e. 313.500ID.

** The 10A and 15A ratings are ratings are designed for special voltage requirement. For 10A, it is available as 250Vac rated and the part number is 0313010.MX250P; For 15A, it is available as 125Vac rated and the part number is 0315015.MX125P.


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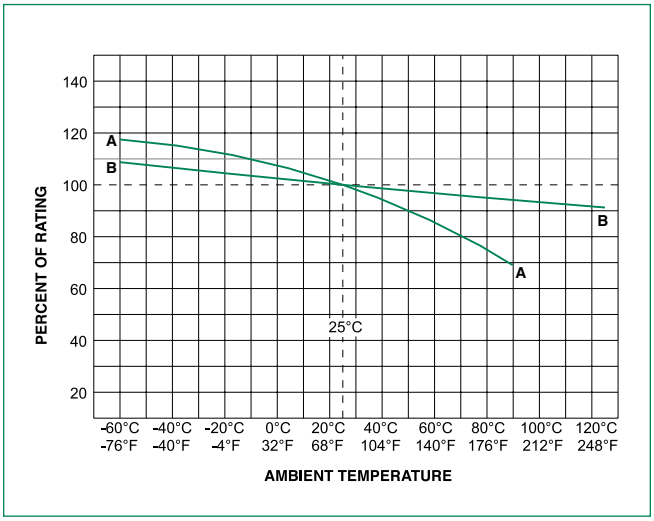
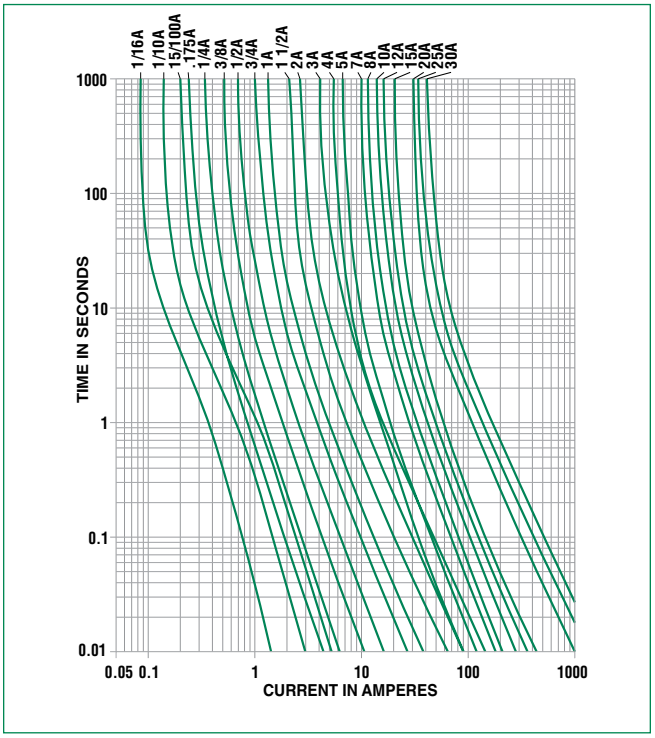
## Temperature Re-rating Curve

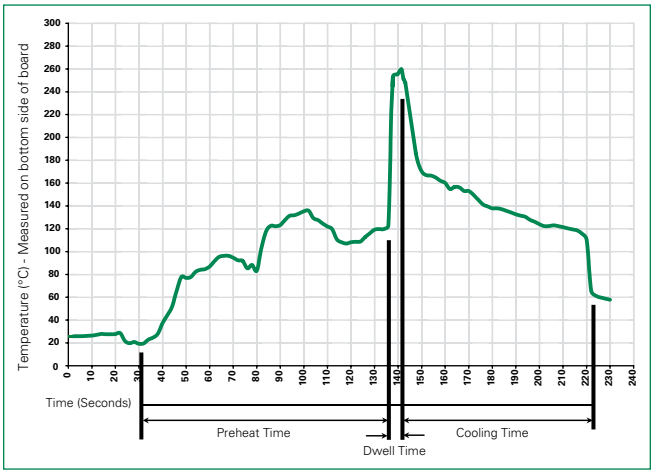



**A - For 313/315 Series, from 10mA to 150mA**
**B - For all other ampere ratings of 313/315 series**
**Note**:
Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

## Average Time Current Curves




## Soldering Parameters - Wave Soldering




### Recommended Process Parameters:

| Wave Parameter | Lead-Free Recommendation |
|---|---|
| Preheat:<br>(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 |
|---|---|---|---|---|
| **313 Series** | | | | |
| Bulk | N/A | 1000 | MX | N/A |
| Bulk | N/A | 100 | HX | N/A |
| **315 Series** | | | | |
| Bulk | N/A | 1000 | MX | N/A |
| Bulk | N/A | 100 | HX | N/A |
| Bulk | N/A | 1000 | MXB | N/A |


Revised: 01/30/20

# Axial Lead & Cartridge Fuses

3AG > Slo-Blo® Fuse > 313/315 Series

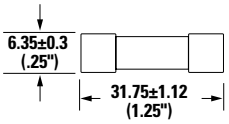
## Product Characteristics

| | |
|---|---|
| **Materials** | Body: Glass<br>Cap: Nickel–plated brass<br>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<br>Cap2: Series and agency approval marks |

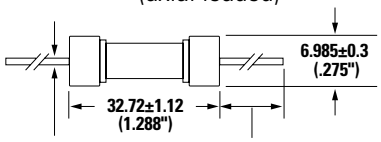
| | |
|---|---|
| **Operating Temperature** | –55°C to +125°C |
| **Thermal Shock** | MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C) |
| **Vibration** | MIL-STD-202, Method 201 |
| **Humidity** | MIL-STD-202, Method 103, Test Condition A: High RH (95%) and Elevated temperature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

## Dimensions

**313 000P Series**
(cartridge)




**315 000P Series**
(axial leaded)




**Axial Lead Diameter:**
0.81±0.05 (.032") for (0.01A - 15A)
1.02±0.06 (.040") for (20A - 30A)

**Axial Lead Length:**
38.1±3.15 (1.50") TYP.

**Axial Lead Material:**
Tin-coated copper

Measurements displayed in millimeters (inches)

## Part Numbering System

**0313 xxxx M X P**

- **Series**
- **Amp Code**
  Refer to Amp Code column of Electrical Characteristics Table
- **Quantity Code**
  M = 1000
- **Packaging Code**
  X = Filler
- **Lead-free**

## Recommended Accessories

| Accessory Type | Series | Description | Max Application Voltage | Max Application Amperage |
|---|---|---|---|---|
| Holder | 155100 | Twist-Lock In-Line Fuseholder | 32 | 20 |
| | 342 | Traditional Panel Mount Fuseholder | 250 | 20 |
| | 346 | Panel Mount Flip-Top Shock-Safe Fuseholder | 250 | 15 |
| | 345 | Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options | 250 | 16 |
| Block | 354 | Low Profile OMNI-BLOK® Fuse Block | 600 | 30 |
| | 359 | High Current Screw Terminal Fuse Block | | 30 |
| Clip | 122 | High Current Traditional PC Board Fuse Clip | 1000 | 30 |
| | 101 | Rivet/Eyelet Type Fuse Clip | 1000 | 15 |

**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.

# Mouser Electronics

Authorized Distributor

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Littelfuse:

0375012.MXP 0375012.HXP 0375015.HXP 0315020.MXBP 313005P 0313.031HXP 0313.040MXP 0313001.H 0313015.H 031506.3MXP 0313.250H 0313.600HXP 0313010.HXP 0313.150HXP 0313015.M 0315010.MXP 0313.375M 0313.800H 0313003.HXP 0313005.H 031301.5HXP 0313001.M 0315008.MXP 031302.5H 031501.8HXP 0313001.HXP 031501.2HXP 031306.3M 0315003.MXP 0315.100MXP 0313.700HXP 0313015.HXP 0313025.M 0315.031HXP 0313.700H 031301.2M 03152.25MXP 031501.5HXP 0313.125M 0313008.HXID 0313.800MXP 031502.8HXP 0313.100MXP 0313.300H 0313.750MXP 031301.5M 03132.25HXP 0313005.HXID 0313.010MXP 0313.300M 031302.8MXP 0313025.HXP 031301.5HXID 0315.200MXP 0313.375H 0313015.MXP 0313010.H 0313.600M 03136.25H 031502.5MXP 0313.100H 0313.187M 0315.800HXP 0315012.MXP 0313003.MXP 03156.25MXP 0313.125H 0313.600H 0315010.HXP 0313.400HXP 031301.8H 031302.5M 0313.100M 0315.150MXP 0315015.HXP 0315.250MXP 0313002.H 0315.150HXP 0315003.HXP 0313002.HXID 0313005.M 0313.150MXP 0313020.HXP 0315.300MXP 0315.700MXP 0313.800M 0313.125MXP 0313.375MXP 0313007.M 031303.2M 031301.6M 0315.500MXP 0313.250M 0313.100HXP 031306.3MXP 03136.25HXID 0315020.HXP 031503.2HXP 03152.25HXP 0315030.HXP