

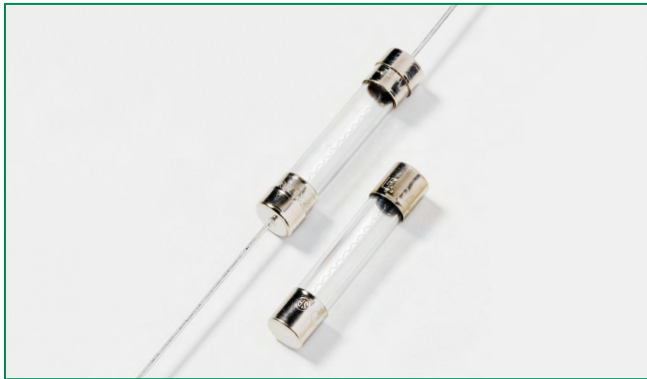
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### 312/318 Series Lead-Free 3AG, Fast-Acting Fuse



#### Description

The 3AG Fast-Acting Fuse solves a broad range of application requirements while offering reliable performance and cost-effective circuit protection.







#### 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.

#### Agency Approvals

| Agency  | Agency File Number                           | Ampere Range  |
|---|--|---|
|    | E10480                                       | 312 Series: 0.062A - 30A<br>318 Series: 0.062A - 10A                  |
|    | 29862  | 312 Series: 0.062A - 30A<br>318 Series: 0.062A - 10A                  |
|    | NBK040205-E10480B/F<br>NBK040205-E10480D/H   | 312/318 Series 1A-5A<br>312/318 Series 6A-10A                         |
|  | E10480                                       | 318 Series: 12A - 30A   |
|  | SU05001-6008<br>SU05001-5005<br>SU05001-5006 | 312/318 Series: 1-2A<br>312/318 Series: 3-6A<br>312/318 Series: 7-10A |
|  | N/A  | 312 Series: 0.062A - 10A<br>318 Series: 0.062A - 10A                  |

#### Electrical Characteristics for Series

| % of Ampere Rating | Ampere Rating | Opening Time     |
|--------------------|---------------|------------------|
| 100%               | 0.062A – 35A  | 4 hours, Minimum |
| 135%               | 0.062A – 35A  | 1 hour, Maximum  |
| 200%               | 0.062A – 10A  | 5 sec., Maximum  |
|                    | 12A – 30A     | 10 sec., Maximum |
|                    | 35A           | 20 sec., Maximum |

#### Additional Information



**Datasheet**  
312 Series



**Resources**  
312 Series



**Samples**  
312 Series



**Accessories**  
312 & 318 Series



**Datasheet**  
318 Series



**Resources**  
318 Series



**Samples**  
318 Series

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

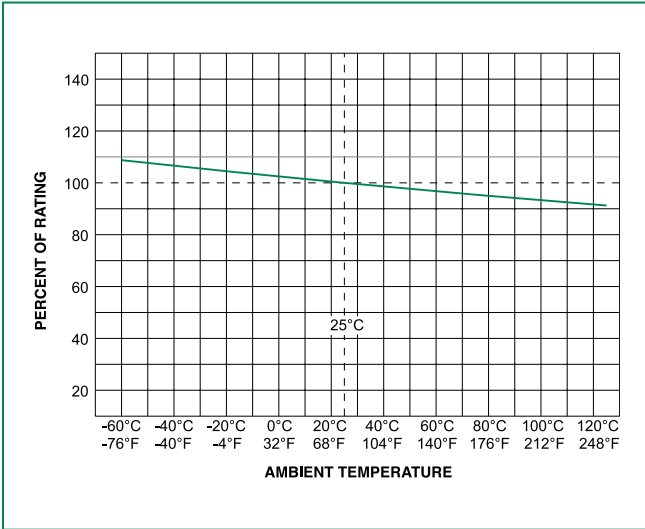
### Electrical Characteristic Specifications by Item

| Amp Code | Ampere Rating (A) | Voltage Rating (V) | Interrupting Rating        | Nominal Cold Resistance (Ohms) | Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec) | Agency Approvals |                  |   |     |     |    |   |
|----------|-------------------|--------------------|----------------------------|--------------------------------|---|------------------|------------------|---|-----|-----|----|---|
|          |                   |                    |                            |                                |   | UL               | cRU <sub>s</sub> | K | PSE | SF  | CE |   |
| .062     | 0.062             | 250                | 35A@250Vac<br>10KA@125Vac  | 24.7000                        | 0.000249  | x                |                  |   |     | x   | x  |   |
| .100     | 0.1               | 250                |                            | 11.2800                        | 0.00171   | x                |                  |   |     | x   | x  |   |
| .125     | 0.125             | 250                |                            | 7.1450                         | 0.00289   | x                |                  |   |     | x   | x  |   |
| .150     | 0.15              | 250                |                            | 5.1300                         | 0.00550   | x                |                  |   |     | x   | x  |   |
| .175     | 0.175             | 250                |                            | 3.8750                         | 0.00960   | x                |                  |   |     | x   | x  |   |
| .187     | 0.187             | 250                |                            | 3.4200                         | 0.0128  | x                |                  |   |     | x   | x  |   |
| .200     | 0.2               | 250                |                            | 3.0200                         | 0.0165  | x                |                  |   |     | x   | x  |   |
| .250     | 0.25              | 250                |                            | 2.0100                         | 0.0355  | x                |                  |   |     | x   | x  |   |
| .300     | 0.3               | 250                |                            | 1.4050                         | 0.0689  | x                |                  |   |     | x   | x  |   |
| .375     | 0.375             | 250                |                            | 0.8250                         | 0.185   | x                |                  |   |     | x   | x  |   |
| .500     | 0.5               | 250                |                            | 0.4980                         | 0.483   | x                |                  |   |     | x   | x  |   |
| .600     | .6                | 250                |                            | 0.3620                         | 0.880   | x                |                  |   |     | x   | x  |   |
| .750     | 0.75              | 250                |                            | 0.2445                         | 1.84  | x                |                  |   |     | x   | x  |   |
| 001.     | 1                 | 250                |                            | 0.1900                         | 0.760   | x                |                  |   | x   | x   | x  | x |
| 1.25     | 1.25              | 250                |                            | 100A@250Vac<br>10KA@125Vac     | 0.1385  | 1.45             | x                |   | x   | x   | x  | x |
| 01.5     | 1.5               | 250                | 0.1036                     |                                | 2.35  | x                |                  |   | x   | x   | x  |   |
| 01.6     | 1.6               | 250                | 0.0934                     |                                | 2.80  | x                |                  | x | x   | x   | x  |   |
| 1.75     | 1.75              | 250                | 0.0856                     |                                | 3.60  | x                |                  |   | x   | x   | x  |   |
| 01.8     | 1.8               | 250                | 0.0825                     |                                | 3.85  | x                |                  |   | x   | x   | x  |   |
| 002.     | 2                 | 250                | 0.0704                     |                                | 5.20  | x                |                  |   | x   | x   | x  | x |
| 2.25     | 2.25              | 250                | 0.0594                     |                                | 7.20  | x                |                  |   | x   | x   | x  | x |
| 02.5     | 2.5               | 250                | 0.0513                     |                                | 9.54  | x                |                  |   | x   | x   | x  | x |
| 003.     | 3                 | 250                | 0.0427                     |                                | 14.0  | x                |                  |   | x   | x   | x  | x |
| 004.     | 4                 | 250                | 200A@250Vac<br>10KA@125Vac |                                | 0.0293  | 28.5             | x                |   |     | x   | x  | x |
| 005.     | 5                 | 250                |                            | 0.0224                         | 50.0  | x                |                  |   | x   | x   | x  | x |
| 006.     | 6                 | 250                |                            | 0.0178                         | 118.0   | x                |                  |   | x   | x   | x  | x |
| 007.     | 7                 | 250                |                            | 0.0146                         | 81.0  | x                |                  |   | x   | x   | x  | x |
| 008.     | 8                 | 250                |                            | 0.0122                         | 166.0   | x                |                  |   | x   | x   | x  | x |
| 010.     | 10                | 250                |                            | 0.0093                         | 298.0   | x                |                  |   | x   | x   | x  | x |
| 012.*    | 12                | 32                 |                            | 300A@32 Vac                    | 0.0072  | 234.6            | x                |   |     | x** |    |   |
| 015.*    | 15                | 32                 | 0.0052                     |                                | 490.5   | x                |                  |   | x** |     |    |   |
| 020.*    | 20                | 32                 | 0.0035                     |                                | 1414  | x                |                  |   | x** |     |    |   |
| 025.*    | 25                | 32                 | 0.0024                     |                                | 2041  | x                |                  |   | x** |     |    |   |
| 030.*    | 30                | 32                 | 0.0019                     |                                | 3717  | x                |                  |   | x** |     |    |   |
| 035.     | 35                | 32                 | 0.0013                     |                                | 7531  |                  |                  |   |     |     |    |   |

NOTES:

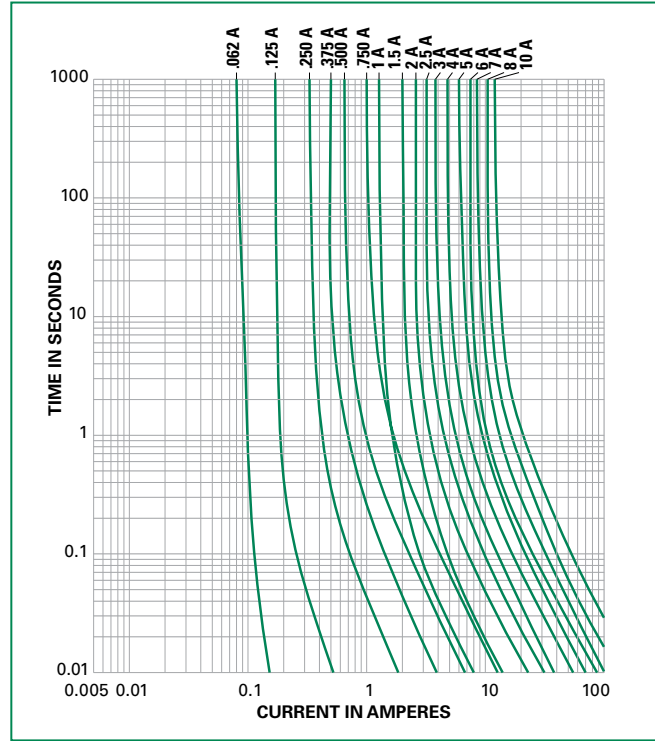
\*\* For 318 Series 12A to 30A, the agency approval is only cURus.

**Temperature Re-rating Curve**



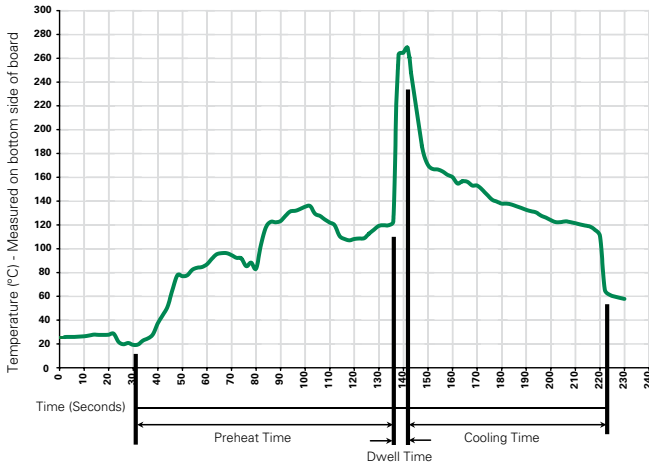
Note:  
Rerating depicted in this curve is in addition to the industry practice derating of 25% for continuous operation.

**Average Time Current Curves**



Please contact Littelfuse for more details on those T-C Curves of other ampere ratings which are not published.

**Soldering Parameters - Wave Soldering**



**Recommended Process Parameters:**

| Wave Parameter  | Lead-Free Recommendation |
|---|--------------------------|
| <b>Preheat:</b><br>(Depends on Flux Activation Temperature) (Typical Industry Recommendation) |                          |
| Temperature Minimum:  | 100°C                    |
| Temperature Maximum:  | 150°C                    |
| Preheat Time:   | 60-180 seconds           |
| <b>Solder Pot Temperature:</b> 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.**

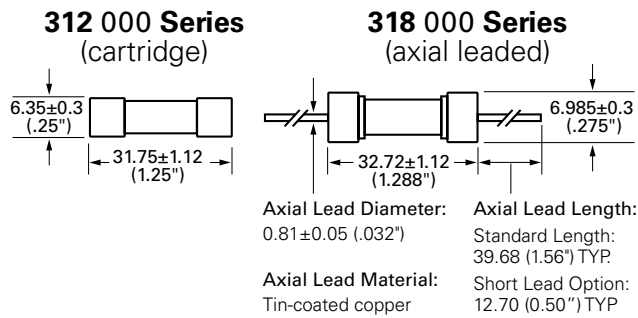
## Product Characteristics

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

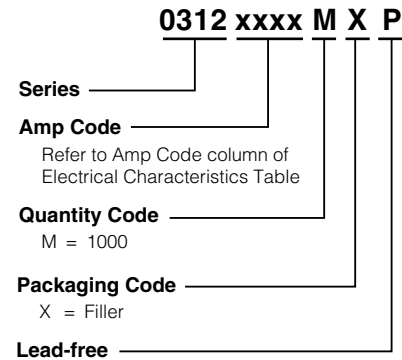
|                              |   |
|------------------------------|---|
| <b>Operating Temperature</b> | -55°C to +125°C   |
| <b>Thermal Shock</b>         | MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)                                   |
| <b>Vibration</b>             | MIL-STD-202,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

## Dimensions

Measurements displayed in millimeters (inches)



## Part Numbering System



## Packaging

| Packaging Option  | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|-------------------|-------------------------|----------|---------------------------|--------------|
| <b>312 Series</b> |                         |          |                           |              |
| Bulk              | N/A                     | 1000     | MX                        | N/A          |
| Bulk              | N/A                     | 100      | HX                        | N/A          |
| <b>318 Series</b> |                         |          |                           |              |
| Bulk              | N/A                     | 1000     | MX                        | N/A          |
| Bulk              | N/A                     | 100      | HX                        | N/A          |
| Bulk              | N/A                     | 1000     | MXB                       | N/A          |

### Recommended Accessories

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