

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



**Description**

The 312 and 318 Series are 3AG Fast-Acting fuses that solve 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	0.062 - 10A
	E10480	12A-25A
	29862	312 Series: 0.062A - 30A 318 Series: 0.062A - 10A
	(312 Series) NBK060618-E10480A NBK060618-E10480C	1A - 5A 6A - 10A
	(318 Series) NBK060618-E10480B NBK060618-E10480D	1A - 5A 6A - 10A
	E10480	318 Series: 12A - 30A
	SU05001-6008	1A - 2A
	SU05001-5005	3A - 6A
	SU05001-5006	7A - 10A
	N/A	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
	0.062A – 10A	5 sec., Maximum
200%	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 <sup>US</sup>	CCC	PS E	SIPA	CE
0.062	0.062	250	35A@250Vac 10KA@125Vac	24.7	0.000249	x	-	-	-	x	x
0.1	0.1	250		11.28	0.00171	x	-	-	-	x	x
0.125	0.125	250		7.145	0.00289	x	-	-	-	x	x
0.15	0.15	250		5.13	0.00550	x	-	-	-	x	x
0.175	0.175	250		3.875	0.00960	x	-	-	-	x	x
0.187	0.187	250		3.42	0.0128	x	-	-	-	x	x
0.2	0.2	250		3.02	0.0165	x	-	-	-	x	x
0.25	0.25	250		2.01	0.0355	x	-	-	-	x	x
0.3	0.3	250		1.405	0.0689	x	-	-	-	x	x
0.375	0.375	250		0.825	0.185	x	-	-	-	x	x
0.5	0.5	250		0.498	0.483	x	-	-	-	x	x
0.6	0.6	250		0.362	0.88	x	-	-	-	x	x
0.75	0.75	250		0.2445	1.84	x	-	-	-	x	x
1.0	1	250		0.19	0.76	x	-	x	x	x	x
1.25	1.25	250		0.1385	1.45	x	-	x	x	x	x
1.5	1.5	250	0.1036	2.35	x	-	-	x	x	x	
1.6	1.6	250	0.0934	2.8	x	-	x	x	x	x	
1.75	1.75	250	0.0856	3.6	x	-	-	x	x	x	
1.8	1.8	250	0.0825	3.85	x	-	-	x	x	x	
2.0	2	250	0.0704	5.2	x	-	x	x	x	x	
2.25	2.25	250	0.0594	7.2	x	-	x	x	x	x	
2.5	2.5	250	0.0513	9.54	x	-	x	x	x	x	
3.0	3	250	0.0427	14.0	x	-	x	x	x	x	
4.0	4	250	0.0293	28.5	x	-	x	x	x	x	
5.0	5	250	0.0224	50.0	x	-	x	x	x	x	
6.0	6	250	0.0178	118.0	x	-	x	x	x	x	
7.0	7	250	0.0146	81.0	x	-	x	x	x	x	
8.0	8	250	0.0122	166.0	x	-	x	x	x	x	
10.0	10	250	0.0093	298.0	x	-	x	x	x	x	
12.0	12	32	0.0072	234.6	x <sup>†</sup>	x <sup>**</sup>	-	-	x <sup>†</sup>	-	
15.0	15	32	0.0052	490.5	x <sup>†</sup>	x <sup>**</sup>	-	-	x <sup>†</sup>	-	
20.0	20	32	0.0035	1414	x <sup>†</sup>	x <sup>**</sup>	-	-	x <sup>†</sup>	-	
25.0	25	32	0.0024	2041	x <sup>†</sup>	x <sup>**</sup>	-	-	x <sup>†</sup>	-	
30.0	30	32	0.0019	3717	-	x <sup>**</sup>	-	-	x <sup>†</sup>	-	
35.0	35	32	0.0013	7531	-	-	-	-	-	-	

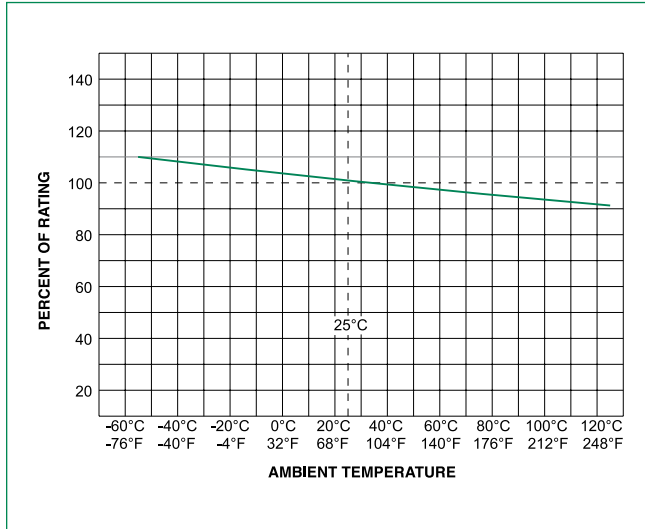
**Notes:**

\* - For 312 and 318 Series: Listed for the US and Canada (cULus)

\*\* - For 318 Series (12A-25A) and 312 Series (30A only): Recognized for the US and Canada (cURus).

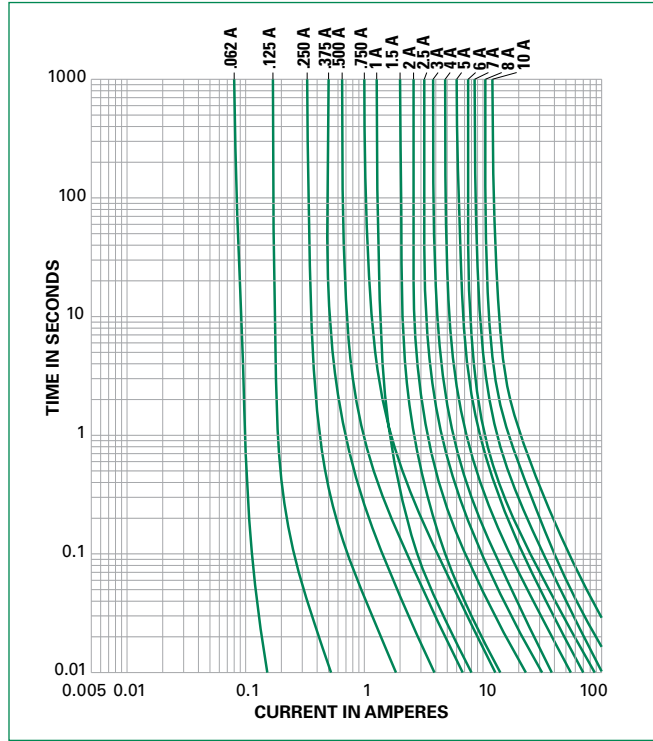
† - For 312 series only.

**Temperature Re-rating Curve**



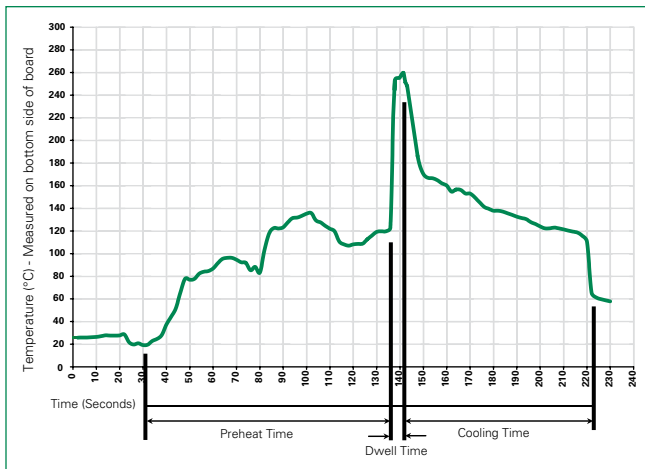
**Note:** Derating depicted in this curve is in addition to the industry practice derating of 25% for continuous operation.

**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> (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
<b>Solder Dwell Time:</b>	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.

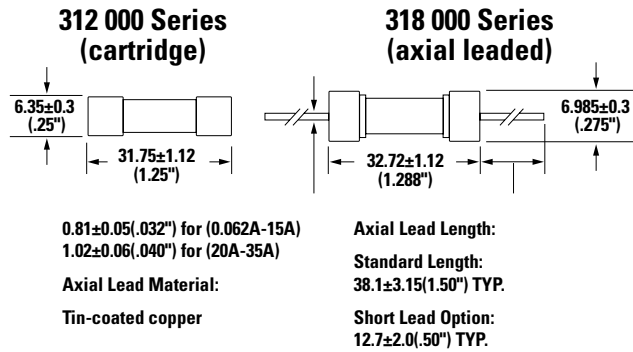
**Product Characteristics**

<b>Materials</b>	Body: Glass Cap: Nickel-plated brass 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 Cap2: Series and agency approval marks

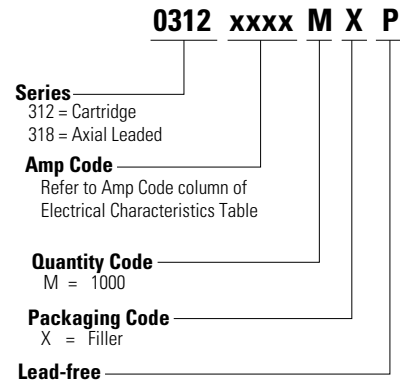
<b>Operating Temperature</b>	-55°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202, Method 201
<b>Humidity</b>	MIL-STD-202, Method 103, Test Condition A: High RH (95%), and Elevated temperature (40°C) for 240 hours
<b>Salt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