## **Axial Lead & Cartridge Fuses** 3AG > Fast Acting > 312/318 Series

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





## **Agency Approvals**

Agency	Agency File Number	Ampere Range
(II)	F10480	0.062 - 10A
c (UL) us	E10400	12A-25A
<b>(</b>	29862	312 Series: 0.062A - 30A 318 Series: 0.062A - 10A
	(312 Series) NBK060618-E10480A NBK060618-E10480C	1A - 5A 6A - 10A
PS E	(318 Series) NBK060618-E10480B NBK060618-E10480D	1A - 5A 6A - 10A
c <b>FL</b> °us	E10480	318 Series: 12A - 30A
K	SU05001-6008 SU05001-5005 SU05001-5006	1A - 2A 3A - 6A 7A - 10A
Œ	N/A	0.062A - 10A

#### **Description**

The 312 and 318 Series are 3AG Fast-Acting fuses that solve 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.

#### **Electrical Characteristics for Series**

% of Ampere Rating	Ampere Rating	Opening Time
100%	0.062A – 35A 4 hours, Minimu	
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



**Datasheet** 318 Series



Resources 312 Series



318 Series



Samples 312 Series



Accessories 312 & 318 Series



Samples 318 Series

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

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## **Electrical Characteristic Specifications by Item**

		V 1/		N : 10.11	Nominal			Agency A	Approvals		
Amp Code	Ampere Rating (A)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Melting I <sup>2</sup> t (A <sup>2</sup> sec)	(P)	c <b>71</b> 2 us		ŶS E	<b>(3)</b>	Œ
.062	0.062	250		24.7	0.000249	х	-	-	-	×	х
.100	0.1	250		11.28	0.00171	х	-	-	-	х	х
.125	0.125	250		7.145	0.00289	х	-	-	-	X	Х
.150	0.15	250		5.13	0.00550	х	-	-	-	X	х
.175	0.175	250		3.875	0.00960	х	-	-	-	X	Х
.187	0.187	250		3.42	0.0128	х	-	-	-	X	х
.200	0.2	250	35A@250Vac	3.02	0.0165	х	-	-	-	Х	Х
.250	0.25	250	10KA@125Vac	2.01	0.0355	х	-	-	-	х	х
.300	0.3	250		1.405	0.0689	х	-	-	-	X	Х
.375	0.375	250		0.825	0.185	х	-	-	-	X	Х
.500	0.5	250		0.498	0.483	х	-	-	-	х	Х
.600	0.6	250		0.362	0.88	х	-	-	-	х	х
.750	0.75	250		0.2445	1.84	х	-	-	-	х	Х
001.	1	250		0.19	0.76	х	-	Х	х	х	Х
1.25	1.25	250		0.1385	1.45	x	-	X	х	Х	Х
01.5	1.5	250		0.1036	2.35	х	-	-	х	х	х
01.6	1.6	250		0.0934	2.8	х	-	Х	x	х	Х
1.75	1.75	250		0.0856	3.6	х	-	-	x	х	х
01.8	1.8	250	100A@250Vac 10KA@125Vac	0.0825	3.85	Х	-	-	Х	Х	Х
002.	2	250	TORA@125Vac	0.0704	5.2	х	-	Х	х	Х	х
2.25	2.25	250		0.0594	7.2	х	-	Х	Х	Х	Х
02.5	2.5	250		0.0513	9.54	х	-	Х	х	х	х
003.	3	250		0.0427	14.0	Х	-	Х	х	Х	Х
004.	4	250		0.0293	28.5	х	-	Х	х	Х	х
005.	5	250		0.0224	50.0	х	-	Х	Х	х	Х
006.	6	250	200A@250Vac	0.0178	118.0	х	-	Х	х	Х	х
007.	7	250	10KA@125Vac	0.0146	81.0	х	-	Х	Х	Х	Х
008.	8	250		0.0122	166.0	х	-	Х	х	х	х
010.	10	250		0.0093	298.0	x	-	X	х	Х	х
012.	12	32		0.0072	234.6	X <sup>†</sup>	X**	-	-	Χ <sup>†</sup>	-
015.	15	32		0.0052	490.5	Χ <sup>†</sup>	X**	-	-	Χ <sup>†</sup>	-
020.	20	32	300A@32 Vac	0.0035	1414	Χ <sup>†</sup>	X**	-	-	Χ <sup>†</sup>	-
025.	25	32		0.0024	2041	Χ <sup>†</sup>	X**	-	-	Χ <sup>†</sup>	-
030.	30	32		0.0019	3717	-	X**	-	-	Χ <sup>†</sup>	-
035.	35	32		0.0013	7531	-	-	-	-	-	-

Notes:

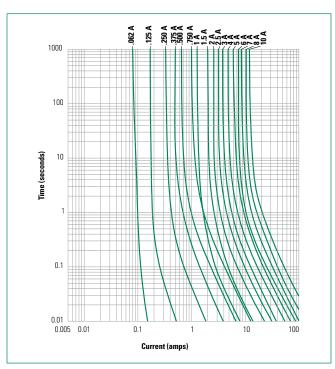
\* - For 312 and 318 Series: Listed for the US and Canada (cULus)

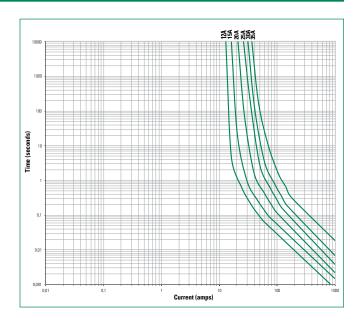
\*\* - For 318 Series (12A-25A) and 312 Series (30A only): Recognized for the US and Canada (cURus).

† - For 312 series only.



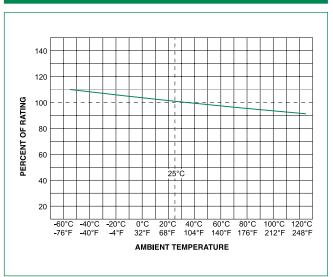
## **Average Time Current Curves**





<sup>\*</sup>Please contact Littelfuse for more details on those T-C Curves of other ampere ratings which are not published.

### **Temperature Re-rating Curve**

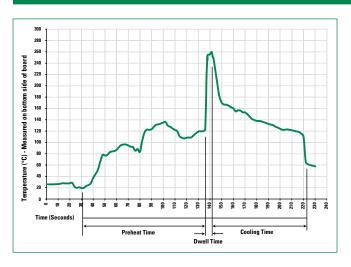


#### Note:

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

## Axial Lead & Cartridge Fuses 3AG > Fast Acting > 312/318 Series

#### **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.

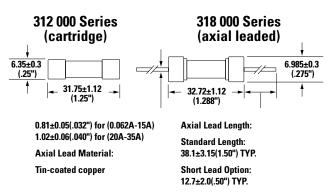
#### **Product Characteristics**

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

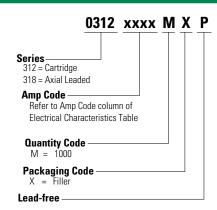
Operating Temperature	-55°C to +125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
Vibration	MIL-STD-202, Method 201
Humidity	MILSTD-202, Method 103, Test Condition A: High RH (95%), and Elevated temperature (40°C) for 240 hours
Salt Spray	MILSTD-202, Method 101,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

#### **Dimensions**

Measurements displayed in millimeters (inches)



## **Part Numbering System**



## **Axial Lead & Cartridge Fuses** 3AG > Fast Acting > 312/318 Series

#### **Packaging**

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width			
	312 Series						
Bulk	N/A	1000	MX	N/A			
Bulk	N/A	100	HX	N/A			
	318 Series						
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
	<u>155100</u>	Twist-Lock In-Line Fuseholder	32	20
Holder	<u>342</u>	Traditional Panel Mount Fuseholder	250	20
Holder 34	<u>346</u>	Panel Mount Flip-Top Shock-Safe Fuseholder	250	15
<u>345</u>		Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options	250	20
Dlask	Black 354 Low Profile OMNI-BLOK® Fuse Block		600	30
Block	<u>359</u>	High Current Screw Terminal Fuse Block	600	30
122		High Current Traditional PC Board Fuse Clip	1000	30
Clip	<u>101</u>	Rivet/Eyelet Type Fuse Clip	1000	15

#### 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.