

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
		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 ² t (A ² sec)	Agency Approvals					
						UL	cRU ^{US}	CCC	PS E	SIPA	CE
.062	0.062	250	35A@250Vac 10KA@125Vac	24.7	0.000249	x	-	-	-	x	x
.100	0.1	250		11.28	0.00171	x	-	-	-	x	x
.125	0.125	250		7.145	0.00289	x	-	-	-	x	x
.150	0.15	250		5.13	0.00550	x	-	-	-	x	x
.175	0.175	250		3.875	0.00960	x	-	-	-	x	x
.187	0.187	250		3.42	0.0128	x	-	-	-	x	x
.200	0.2	250		3.02	0.0165	x	-	-	-	x	x
.250	0.25	250		2.01	0.0355	x	-	-	-	x	x
.300	0.3	250		1.405	0.0689	x	-	-	-	x	x
.375	0.375	250		0.825	0.185	x	-	-	-	x	x
.500	0.5	250		0.498	0.483	x	-	-	-	x	x
.600	0.6	250		0.362	0.88	x	-	-	-	x	x
.750	0.75	250		0.2445	1.84	x	-	-	-	x	x
001.	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
015.	1.5	250		0.1036	2.35	x	-	-	x	x	x
016.	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	
018.	1.8	250	0.0825	3.85	x	-	-	x	x	x	
002.	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	
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	0.0293	28.5	x	-	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	0.0072	234.6	x [†]	x ^{**}	-	-	x [†]	-	
015.	15	32	0.0052	490.5	x [†]	x ^{**}	-	-	x [†]	-	
020.	20	32	0.0035	1414	x [†]	x ^{**}	-	-	x [†]	-	
025.	25	32	0.0024	2041	x [†]	x ^{**}	-	-	x [†]	-	
030.	30	32	0.0019	3717	-	x ^{**}	-	-	x [†]	-	
035.	35	32	0.0013	7531	-	-	-	-	-	-	

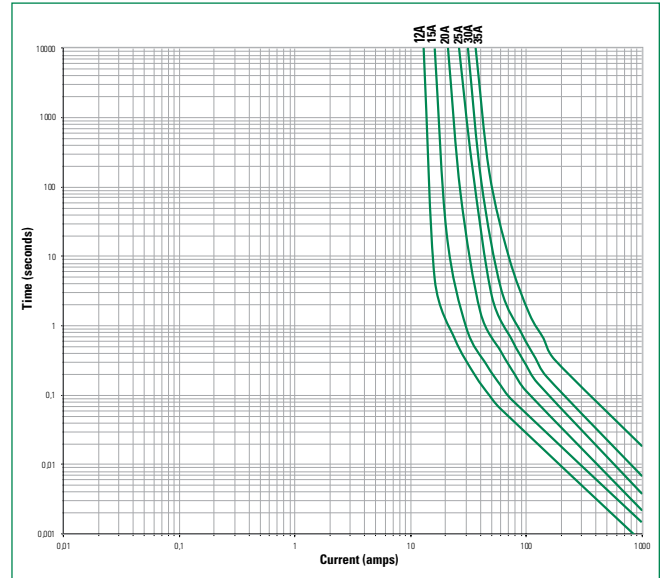
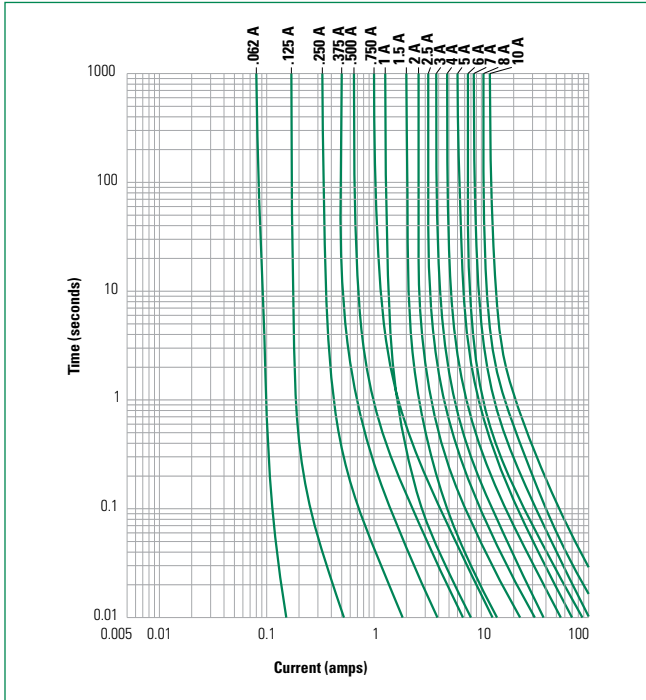
Notes:

* - 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)

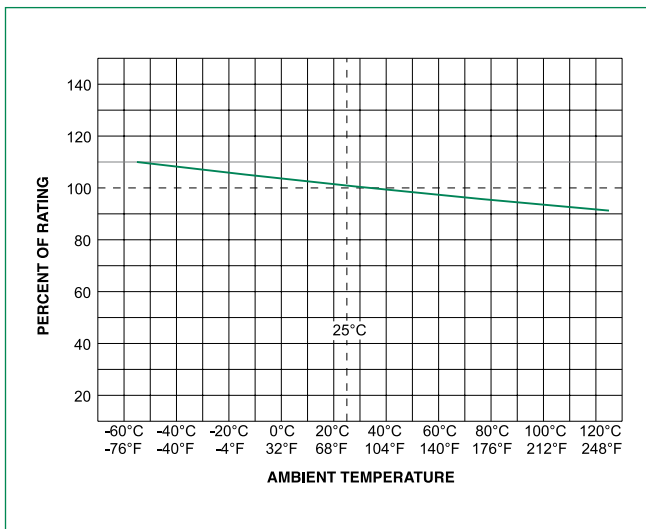
† - For 312 series only.

Average Time Current Curves



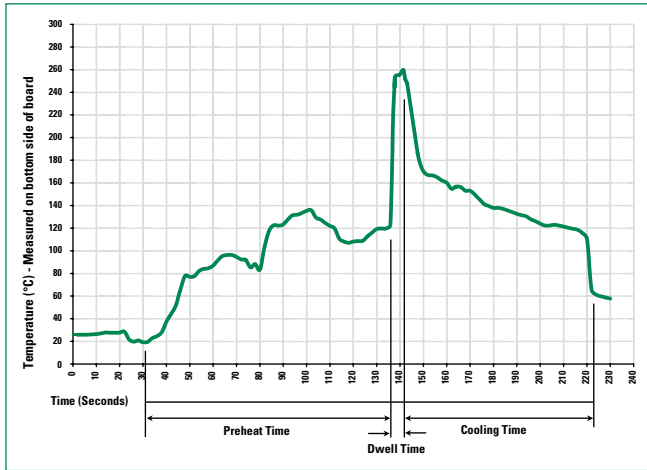
*Please contact Littelfuse for more details on those T-C Curves of other ampere ratings which are not published.

Temperature Re-rating Curve



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

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.

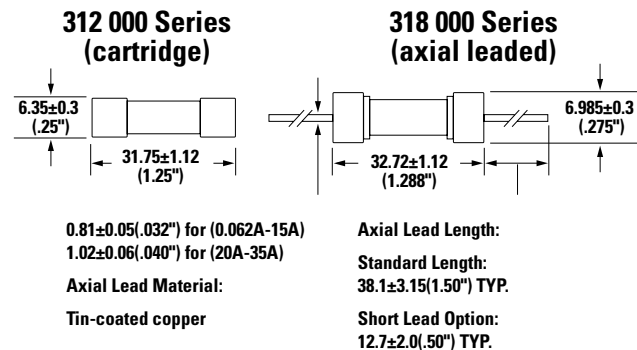
Product Characteristics

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

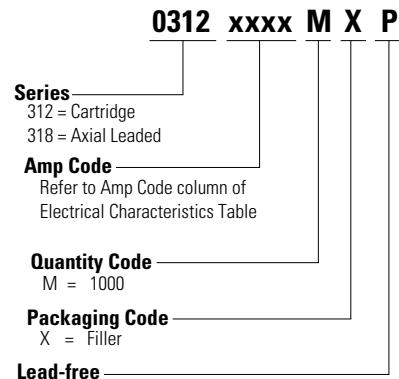
Operating Temperature	-55°C to +125°C
Thermal Shock	MILSTD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
Vibration	MILSTD-202, Method 201
Humidity	MILSTD-202, Method 103, Test Condition A: High RH (95%), and Elevated temperature (40°C) for 240 hours
Salt Spray	MILSTD-202, Method 101,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

Dimensions

Measurements displayed in millimeters (inches)



Part Numbering System



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
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	20
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.