

312/318 Series

Lead-Free 3AG, Fast-Acting Fuse



Web Resources



Download ECAD models, order samples, and find technical resources at www.littelfuse.com/312



Download ECAD models, order samples, and find technical resources at www.littelfuse.com/318

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

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
- RoHS compliant and Lead-free
- Available in cartridge and axial lead format and with various forming dimensions

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, Minimum
135%	0.062A – 35A	1 hour, Maximum
200%	0.062A – 10A	5 sec., Maximum
	12A – 30A	10 sec., Maximum
	35A	20 sec., Maximum

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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	cULus	KC	PS E	SF	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	100A@250Vac 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	2.8	x	-	x	x	x	x
1.75	1.75	250		0.0856	3.6	x	-	-	x	x	x
01.8	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	200A@250Vac 10KA@125Vac	0.0224	50.0	x	-	x	x	x	x
006.	6	250		0.0178	81.0	x	-	x	x	x	x
007.	7	250		0.0146	118.0	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 ^{**}	-	-	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)

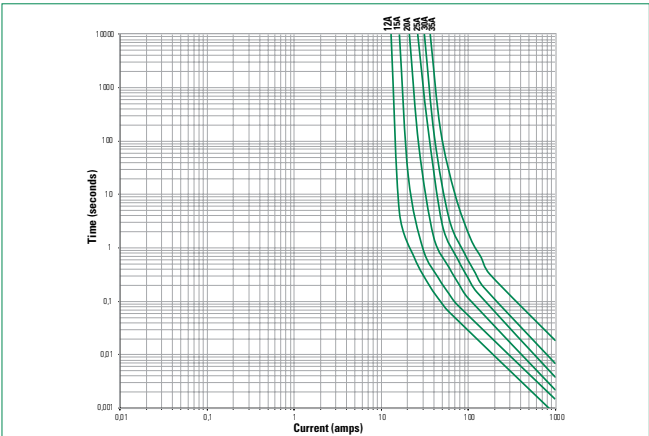
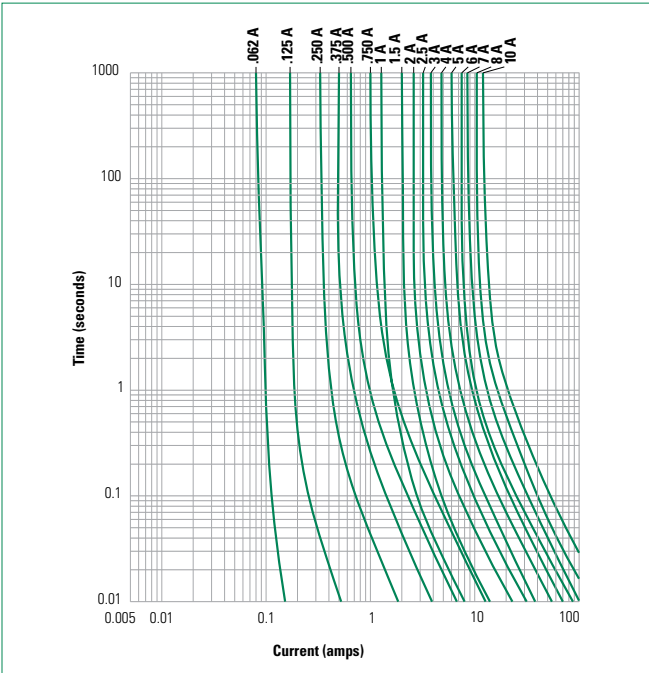
** - For 318 Series (12A-25A) and 312 Series (30A only): Recognized for the US and Canada (cURus).

† - For 312 series only.

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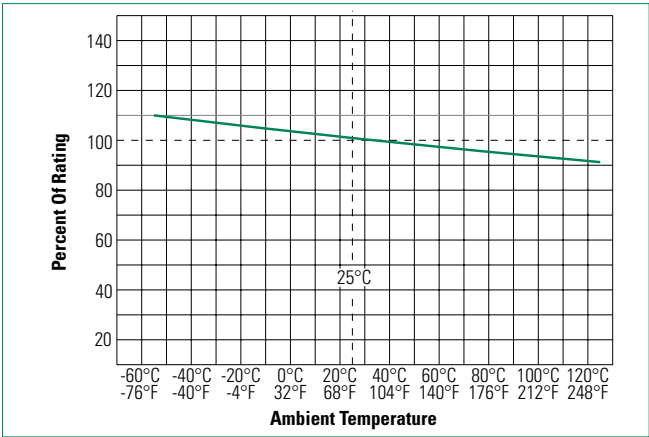
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Average Time Current Curves



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

Temperature Re-rating Curve

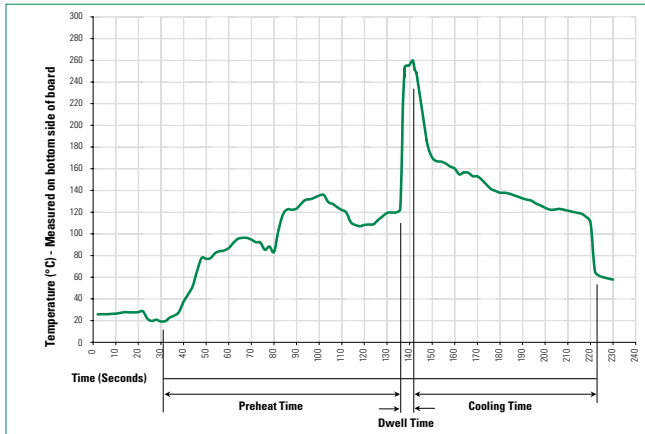


Note:
Derating depicted in this curve is in addition to the industry practice derating of 25% for continuous operation.

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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.

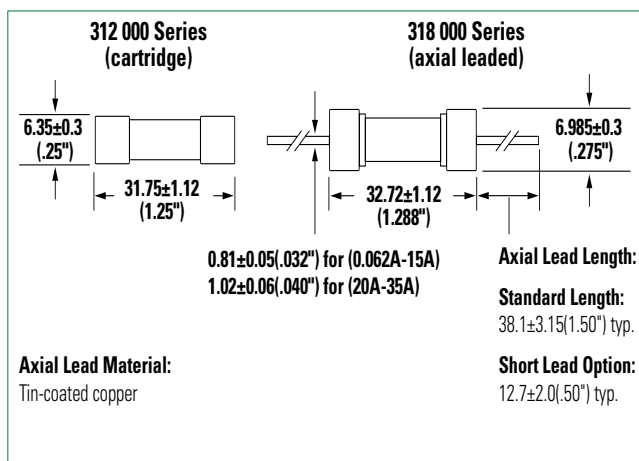
Product Characteristics

Materials	Body: Glass Cap: Nickel-plated brass Leads: Tin-plated Copper
Terminal Strength	MIL-STD-202, Method 211, Test Condition A
Solderability	MIL-STD-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	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

Measurements displayed in millimeters (inches)



Part Numbering System

0312 xxxx M X P

Series	312 = Cartridge 318 = Axial Leaded
Amp Code	Refer to Amp Code column of Electrical Characteristics Table
Quantity Code	M = 1000
Packaging Code	X = Filler
Lead-free	

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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	600	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.

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