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

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













Agency Approvals

Agency	Agency File Number	Ampere Range		
(UL)	E10480 AU1410	312 Series 10mA - 10A/ 318 Series 31mA - 10A 312 Series 12A - 30A		
⑤ P⊚	LR 29862	312 Series 10mA - 30A 318 Series 31mA - 10A		
PS	NBK040205- E10480B/F	312/318 Series 1A - 10A		
c Fl us	E10480	318 Series 12A - 30A		
®	SU05001- 5005/5006/6005/6008	312/318 Series 1A/ 1.25A / 1.6A/ 2A - 10A		
Œ		312 Series 10mA - 10A 318 Series 31mA - 35A		

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 (except 10mA and 31mA rated items)

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	OpeningTime
100%	.01 – 35	4 hours, Minimum
135%	.01 – 35	1 hour, Maximum
	.01 – 10	5 sec., Maximum
200%	12 – 30	10 sec., Maximum
	35	20 sec., Maximum



Electrical Characteristic Specifications by Item

Amper Code Rating (A) Rating (V) Rating (V) 10" 0.01 250 250 1774000 NA X" X" X X X X X X X			Max		Nominal	Nominal	Agency Approvals					
0.031	Amp Code	Ampere Rating (A)		Interrupting Rating		Melting	(F)	c 711 us	®	PS E	⊕ ®	Œ
0.062	.10*	0.01	250		177.4000	NA	X**				X**	X**
11.2800	.031*	0.031	250		23.6500	0.0000300	Х				Х	X
1.125	.062	0.062	250		24.7000	0.000249	X				X	X
1.150	.100	0.1	250		11.2800	0.00102	X				Х	×
3.8750 0.00960 x x x x x x x x x	.125	0.125	250		7.1450	0.00289	Х				Х	X
1.187	.150	0.15	250		5.1300	0.00550	Х				Х	X
35A@250Vac 10KA@125Vac 3.0200 0.0165 x x x x x x x x x	.175	0.175	250		3.8750	0.00960	Х				Х	×
200 0.2 250 10KA@125Vac 3.0200 0.0165 x x x x x x x x x	.187	0.187	250		3.4200	0.0128	Х				Х	X
1.4050	.200	0.2	250		3.0200	0.0165	Х				Х	X
0.8250	.250	0.25	250		2.0100	0.0355	Х				Х	X
.500 0.5 250 .600 .6 250 .750 0.75 250 001 1 250 0.1900 0.760 x 0.125 1.25 250 01.5 1.5 250 01.6 1.6 250 1.75 1.75 250 01.8 1.8 250 002 2 250 002 2 250 02.5 2.25 250 00.825 3.85 x 0.094 4 250	.300	0.3	250		1.4050	0.0689	Х				Х	Х
.600 .6 250 .750 0.75 250 001 1 250 0.1900 0.760 x 0.1900 0.760 x 0.1900 0.760 x 0.1900 0.760 x x 0.1900 0.760 x x x 0.15 1.25 250 0.1385 1.45 x x x x 0.15 1.5 250 0.1036 2.35 x x x x 0.106 1.6 250 0.0934 2.80 x x x x 0.18 1.8 250 0.0934 2.80 x x x x 0.08 3.60 x x x x x x 0.08 3.85 x x x x x 0.05 2.25 2.50 0.0594 7.20 x x x x 0.03 3 250 0.0427 14.0 <td< td=""><td>.375</td><td>0.375</td><td>250</td><td></td><td>0.8250</td><td>0.185</td><td>Х</td><td></td><td></td><td></td><td>Х</td><td>×</td></td<>	.375	0.375	250		0.8250	0.185	Х				Х	×
.750 0.75 250 001 1 250 1.25 1.25 250 01.5 1.5 250 01.6 1.6 250 1.75 1.75 250 01.8 1.8 250 002 2 250 10KA@125Vac 0.0825 3.85 x x x 0.0934 7.20 x x x x 0.094 4 250 0.0427 14.0 x x x 0.04 4 250 0.0293 28.5 x x x x	.500	0.5	250		0.4980	0.483	Х				Х	X
001 1 250 0.1900 0.760 x	.600	.6	250		0.3620	0.880	Х				Х	X
1.25 1.25 250 01.5 1.5 250 01.6 1.6 250 1.75 1.75 250 01.8 1.8 250 002 2 250 2.25 2.25 250 02.5 2.5 250 003 3 250 004 4 250	.750	0.75	250		0.2445	1.84	Х				Х	X
01.5 1.5 250 01.6 1.6 250 1.75 1.75 250 01.8 1.8 250 002 2 250 2.25 2.25 250 02.5 2.5 250 003 3 250 004 4 250	001	1	250		0.1900	0.760	Х		Х	Х	Х	×
01.6 1.6 250 1.75 1.75 250 01.8 1.8 250 002 2 250 2.25 2.25 250 02.5 2.5 250 003 3 250 004 4 250	1.25	1.25	250		0.1385	1.45	Х		Х	Х	Х	X
1.75 1.75 250 01.8 1.8 250 1002 2 250 2.25 2.25 250 02.5 2.5 250 003 3 250 004 4 250 1.25A ~ 3A 100A@250Vac 0.0825 3.85 x 0.0704 5.20 x x x 0.0594 7.20 x x x x 0.0513 9.54 x x x x 0.0427 14.0 x x x x 0.0293 28.5 x x x x	01.5	1.5	250		0.1036	2.35	Х			Х	Х	×
01.8 1.8 250 1.25A ~ 3A 100A@250Vac 10KA@125Vac 0.0825 3.85 x <th< td=""><td>01.6</td><td>1.6</td><td>250</td><td></td><td>0.0934</td><td>2.80</td><td>Х</td><td></td><td>Х</td><td>Х</td><td>Х</td><td>X</td></th<>	01.6	1.6	250		0.0934	2.80	Х		Х	Х	Х	X
01.8 1.8 250 100A@250Vac 10KA@125Vac 0.0825 3.85 x	1.75	1.75	250	1054 04	0.0856	3.60	Х			Х	X	X
002 2 250 0.0704 5.20 x x x x 2.25 2.25 250 0.0594 7.20 x x x x 02.5 2.5 250 0.0513 9.54 x x x x 003 3 250 0.0427 14.0 x x x x 004 4 250 0.0293 28.5 x x x x	01.8	1.8	250		0.0825	3.85	Х			Х	Х	X
02.5 2.5 250 003 3 250 004 4 250 00293 28.5 x 250 x x 250 0.0293 28.5 250 x x 250 0.0293 28.5	002	2	250	10KA@125Vac	0.0704	5.20	X		Х	X	Х	X
003 3 250 0.0427 14.0 x x x x 004 4 250 0.0293 28.5 x x x x	2.25	2.25	250		0.0594	7.20	Х		Х	Х	Х	X
004 4 250 0.0293 28.5 x x x x	02.5	2.5	250		0.0513	9.54	Х		Х	Х	Х	×
	003	3	250		0.0427	14.0	Х		Х	Х	Х	Х
0.0024 50.0	004	4	250	4A ~ 10A 200A@250Vac 10KA@125Vac	0.0293	28.5	X		Х	X	Х	X
000 0 250 0.0224 50.0 X X X X	005	5	250		0.0224	50.0	Х		Х	Х	Х	X
	006	6	250		0.0178	118.0	Х		Х	Х	Х	X
	007	7	250		0.0146	118.0	Х		Х	Х	Х	Х
008 8 250 0.0122 166.0 x x x x	008	8	250		0.0122	166.0	X		Х	X	Х	X
010 10 250 0.0093 298.0 x x x x							Х		Х	Х	Х	X
012 12 32 0.0072 234.6 x** x*** x***	012	12	32		0.0072			X***			X**	
015 15 32 0.0052 490.5 x** x*** x***	015	15	32	1	0.0052	490.5		X***			X**	
020 20 32 12A ~ 35A 0.0035 1029 x** x*** x***			32					-				
025				300A@32 Vac								
030 30 32 0.0019 3717 x** x*** x***												
035 35 32 0.0013 7531				-								

NOTES:

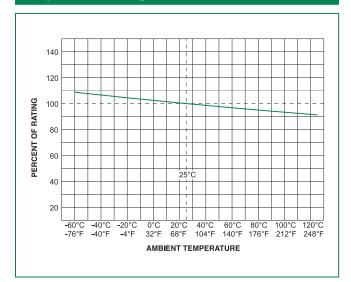
^{* 10}mA and 31mA are not RoHS compolaint as the glass bead contains Pb.

^{** 312} Series only. Refer to Agency Approvals section of this document.

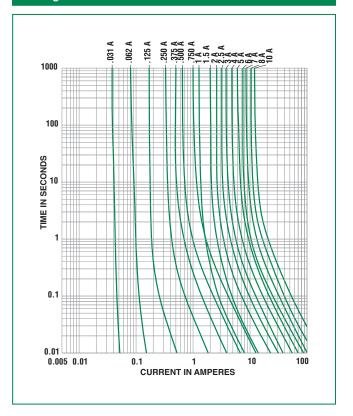
^{*** 318} Series only. Refer to Agency Approvals section of this document.



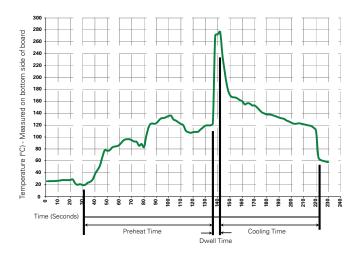
Temperature Rerating Curve



Average Time Current Curves



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:	280° C Maximum		
Solder DwellTime:	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.

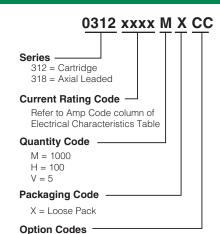


Product Characteristics

Body: Glass Cap: Nickel-plated brass Leads: Tin-plated Copper		
MIL-STD-202G, Method 211A, Test Condition A		
Reference IEC 60127 Second Edition 2003-01 Annex A		
Cap1: Brand logo, current and voltage ratings Cap2: Series and agency approval marks		

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

Part Numbering System



Blank = Standard Item
CC = Color Coded

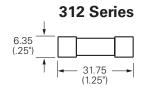
SL = Short Lead Option (12.70 +/- 1.575 mm) P = RoHS Compliant and Lead Free Indicator *

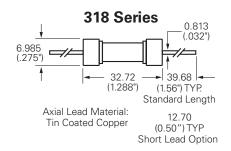
For additional information or information about other available options, please contact Littelfuse.

*Note: All 312 / 318 series fuses are now sold as RoHS compliant and Lead Free by default, with or without the "P" indicator.

Dimensions

Measurements displayed in millimeters (inches)





Packaging

Packaging Option	Quantity	Quantity & Packaging Code			
312 Series (Cartridge Type)					
Bulk	5	VX			
Bulk	100	HX			
Bulk	1000	MX			
Bulk	1000	MXCC			
Bulk	100	HXCC			
318 Series (Axial Leaded)					
Bulk	5	VX			
Bulk	100	HX			
Bulk	1000	MX			
Bulk	1000	MXSL			