313/315 Series Lead-Free 3AG, Slo-Blo® Fuse

Agency Approvals

Agency	Agency File Number	Ampere Range
UL	E10480	0.010A - 10A**
CSA	29862	0.010A - 10A**/15A**
VDE	E10480	10A - 30A
PSE	313 Series (Cartridge): NBK060618-E10480A NBK060618-E10480C	1-5A 6.25- 10A**
	315 Series (Leaded): NBK060618-E10480B NBK060618-E10480D	1-5A 6.25-10A**
KC	SU05001-6004 SU05001-5007 SU05001-5008 SU05001-5009	2.25-2.5A 2.8A - 3.2A 4A - 6.3A 7A-8A
CE	N/A	0.010A - 10A**/15A**

** See note under Electrical Characteristics by item

Additional Information

Datasheet 313 Series
Resources 313 Series
Samples 313 Series
Accessories 313 & 315 Series
Datasheet 315 Series
Resources 315 Series
Samples 315 Series

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

Description

The 3AG Slo-Blo® fuse solves a broad range of application requirements while offering reliable performance and cost-effective circuit protection.

The fuse catalog number with the suffix "ID" instantly identifies itself upon opening by showing a discoloration of its glass body. Guesswork and time consuming circuit testing are eliminated. This unique design offers the same quality performance characteristics as the standard 3AG Slo-Blo® Fuse design.

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 by Series

% of Ampere Rating	Ampere Rating	Opening Time
100%	10mA – 30A	4 hours, Minimum
135%	10mA – 30A	1 hour, Maximum
200%	10mA – 15A	5 sec., Min.,30 sec., Max
	20A – 30A	5 sec., Min.,60 sec Max

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Axial Lead & Cartridge Fuses

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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^2t (A^2 sec)	Agency Approvals					
						UL	CSA	KC	VDE	PSE	CE
0.01	0.01	250	35A@250Vac 10KA@125Vac	4300.0000	0.000121	x	x				x
0.031	0.031	250		430.0000	0.00303	x	x				x
0.04	0.04	250		300.0000	0.00630	x	x				x
0.062	0.062	250		120.0000	0.0210	x	x				x
0.1	0.1	250		43.0000	0.0850	x	x				x
0.125	0.125	250		30.0000	0.152	x	x				x
0.15	0.15	250		20.0000	0.270	x	x				x
0.175	0.175	250		8.6700	0.177	x	x				x
0.187	0.187	250		8.0100	0.230	x	x				x
0.2	0.2	250		6.5900	0.270	x	x				x
0.25	0.25	250		4.2700	0.385	x	x				x
0.3	0.3	250		3.1350	0.730	x	x				x
0.375	0.375	250		2.0950	1.23	x	x				x
0.4	0.4	250		1.8750	1.35	x	x				x
0.5*	0.5	250		1.2600	2.55	x	x				x
0.6	0.6	250		0.9120	4.00	x	x				x
0.7	0.7	250		0.7000	5.90	x	x				x
0.75	0.75	250		0.6215	7.16	x	x				x
0.8	0.8	250		0.5540	8.00	x	x				x
1.0*	1	250		0.3750	14.0	x	x			x	x
1.2	1.2	250	100A@250Vac 10KA@125Vac	0.2780	21.5	x	x			x	x
1.25	1.25	250		0.2600	24.0	x	x			x	x
1.5*	1.5	250		0.1910	38.0	x	x			x	x
1.6	1.6	250		0.1710	49.6	x	x			x	x
1.8	1.8	250		0.1410	92.0	x	x			x	x
2.0*	2	250		0.1169	77.0	x	x			x	x
2.25	2.25	250		0.0968	121	x	x	x		x	x
2.5	2.5	250		0.0811	199	x	x	x		x	x
2.8	2.8	250		0.0675	269	x	x	x		x	x
3.*	3	250		0.0593	200	x	x	x		x	x
3.2	3.2	250		0.0529	209	x	x	x		x	x
4.0*	4	250	200A@250Vac 10KA@125Vac	0.0311	76.1	x	x	x		x	x
5.0*	5	250		0.0214	276	x	x	x		x	x
6.25*	6.25	250		0.0154	388	x	x	x		x	x
6.3	6.3	250		0.0154	388	x	x	x		x	x
7.0*	7	250		0.0128	547	x	x	x		x	x
8.0*	8	250		0.0111	701	x	x	x		x	x
10.0**	10	250		0.0083	1285	x	x			x	x
10.0*	10	32	300A@32Vac	0.0083	1285				x		
12.0	12	32		0.0065	1200				x		
15.0**	15	125		0.0050	2650		x		x	x	x
15.0	15	32		0.0050	2650				x		
20.0	20	32		0.0022	9560				x		
25.0	25	32		0.0017	16500				x		
30.0	30	32		0.0012	26900				x		

* For 313series, these ratings available with an indicating option. Add the "ID" designation to the series number. i.e. 313.500ID.

** The 10A and 15A ratings are ratings are designed for special voltage requirement. For 10A, it is available as 250Vac rated and the part number is 0313010.MX250P; For 15A, it is available as 125Vac rated and the part number is 0315015.MX125P.

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Axial Lead & Cartridge Fuses

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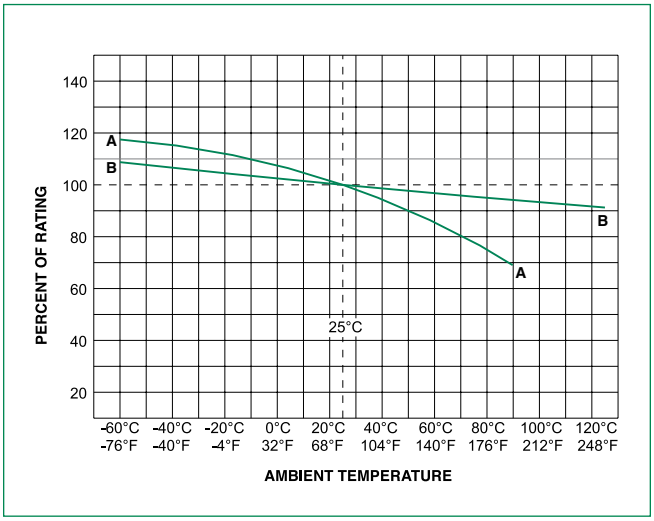
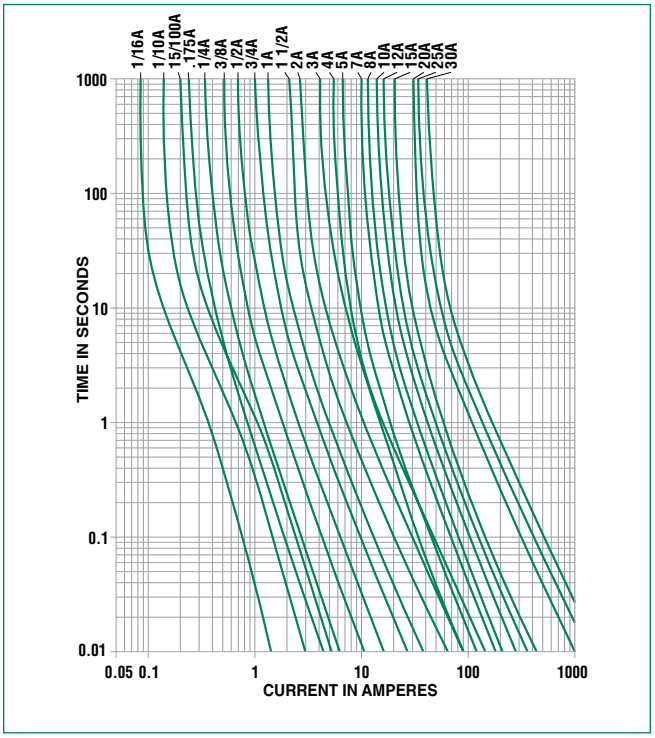
Temperature Re-rating Curve

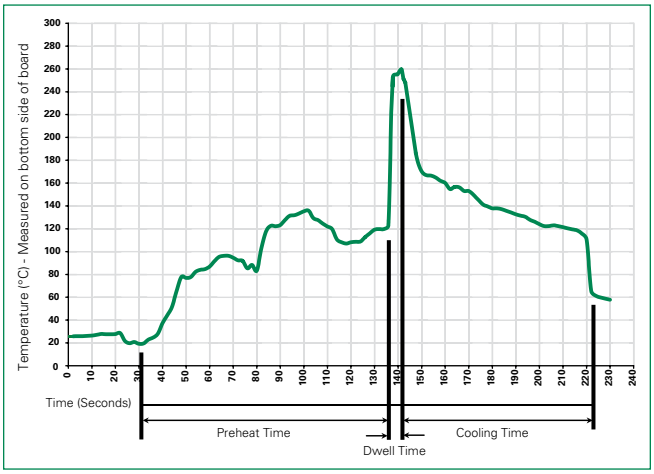


A - For 313/315 Series, from 10mA to 150mA
B - For all other ampere ratings of 313/315 series
Note:
Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

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:	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.

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
313 Series				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	100	HX	N/A
315 Series				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	100	HX	N/A
Bulk	N/A	1000	MXB	N/A

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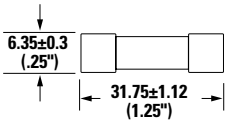
Product Characteristics

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

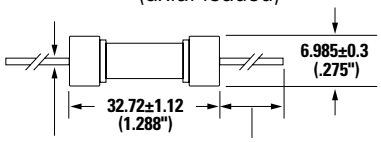
Operating Temperature	–55°C to +125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
Vibration	MIL-STD-202, Method 201
Humidity	MIL-STD-202, Method 103, Test Condition A: High RH (95%) and Elevated temperature (40°C) for 240 hours
Salt Spray	MIL- STD-202, Method 101,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

Dimensions

313 000P Series
(cartridge)



315 000P Series
(axial leaded)



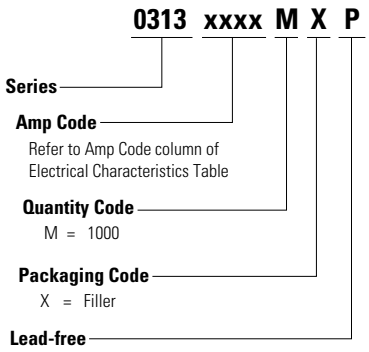
Axial Lead Diameter:
0.81±0.05 (.032") for (0.01A - 15A)
1.02±0.06 (.040") for (20A - 30A)

Axial Lead Length:
38.1±3.15 (1.50") TYP.

Axial Lead Material:
Tin-coated copper

Measurements displayed in millimeters (inches)

Part Numbering System



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	16
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.

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