

### 314/324 Series Lead-free 3AB, Fast-Acting Fuse










#### Description

The 3AB Fast-Acting Fuse with ceramic body construction permits higher interrupting ratings and voltage ratings. Ideal for applications where high current loads are expected.

#### 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
- UL Listed and Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14
- Conforms to DENAN's Appendix 3
- Conforms to EN 60127-1 and EN 60127-7 (15A, 20A only)

#### Agency Approvals

Agency	Agency File Number	Ampere Range
	E10480	0.375A - 15A
	29862	0.375A - 20A
	E10480	20A - 40A
	314 Series: NBK030805-E10480A NBK030805-E10480C NBK030805-E10480E NBK260106-JP1021A 324 Series: NBK030805-E10480B NBK030805-E10480D NBK030805-E10480F NBK260106-JP1021B	1A - 3.5A 4A - 5A 6A - 15A 20A - 30A 1A - 3.5A 4A - 5A 6A - 15A 20A - 30A
	SU05001-6003 SU05001-6001 SU05001-7006 SU05001-8002 SU05001-8003 SU05001-6002	3A 4-6A 7-10A 12-15A 20A 25-30A
	N/A	0.375A - 30A
	J 50440217	*15A/*20A

\* - Approved for axial leaded version only.

#### 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%	0.375 - 40	4 hours, Minimum
135%	0.375 - 30	1 hour, Maximum
200%	0.375 - 12	15 secs., Maximum
	15 - 30	30 secs., Maximum
250%	40	30 secs., Maximum

#### Additional Information



**Datasheet**  
314 Series



**Resources**  
314 Series



**Samples**  
314 Series



**Accessories**  
314 & 324 Series



**Datasheet**  
324 Series



**Resources**  
324 Series



**Samples**  
324 Series

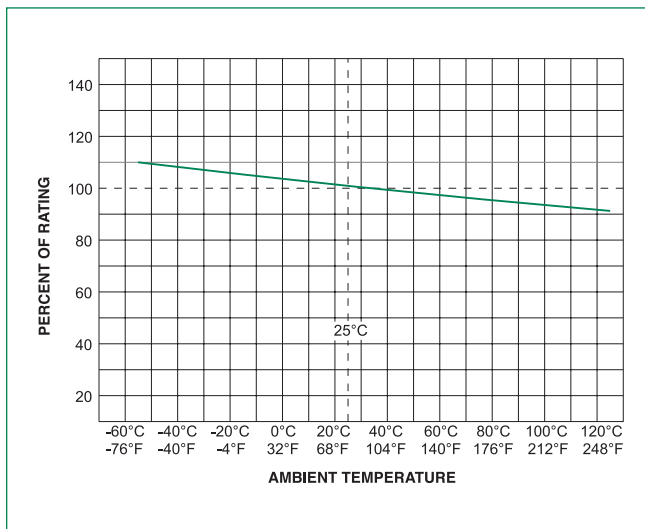
For recommended fuse accessories for this product series, see ['Recommended Accessories'](#) section.

**Electrical Specification by Item**

Amp Code	Ampere Rating (A)	Voltage Rating (V)	Interrupting Rating*	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)**	Agency Approvals							
						UL	CS	CCC	RU US	PS E	CE	△	
.375	0.375	250	35 A @ 250 VAC	0.820	0.210	x	x	-	-	-	x	-	
.500	0.5	250	10 kA @ 125 VAC	0.500	0.639	x	x	-	-	-	x	-	
.750	0.75	250	10 kA @ 125 VDC	0.250	2.061	x	x	-	-	-	x	-	
001.	1	250	100 A @ 250 VAC	0.189	0.690	x	x	-	-	x	x	-	
002.	2	250	10 kA @ 125 VAC	0.0700	5.700	x	x	-	-	x	x	-	
003.	3	250	10 kA @ 125 VDC	0.0432	14.6	x	x	x	-	x	x	-	
004.	4	250	750 A @ 250 VAC 10 kA @ 125 VAC 10 kA @ 125 VDC	0.0470	10.4	x	x	x	-	x	x	-	
005.	5	250		0.0300	26.0	x	x	x	-	x	x	-	
006.	6	250		0.0240	45.0	x	x	x	-	x	x	-	
007.	7	250		0.0187	71.0	x	x	x	-	x	x	-	
008.	8	250		0.0153	105	x	x	x	-	x	x	-	
010.	10	250		0.0105	206	x	x	x	-	x	x	-	
010.*	10	280		0.0105	206	-	-	-	x	-	x	-	
012.	12	250		0.00760	570	x	x	x	-	x	x	-	
015.	15	250		0.00505	292	x	x	x	-	x	x	x****	
015.*	15	280		0.00505	292	-	-	-	x	-	x	-	
020.	20	250		1000 A @ 250 VAC 200 A @ 300 VAC 10 kA @ 125 VAC 10 kA @ 125 VDC	0.00355	631	-	x	x	x	x	x	x****
020.*	20	280		0.00355	631	-	-	-	x	-	x	-	
025.	25	250		100 A @ 250 VAC	0.00235	1450	-	-	x	x	x	x	-
025.**	25	280		1000 A @ 75 VDC	0.00235	1450	-	-	-	x	-	x	-
030.	30	250		400 A @ 125 VAC 400 A @ 125 VDC	0.00182	2490	-	-	x	x	x	x	-
040.	40	250	1000 A @ 250 VAC 400 A @ 150 VDC	0.0014	22925	-	-	-	x	-	x	-	

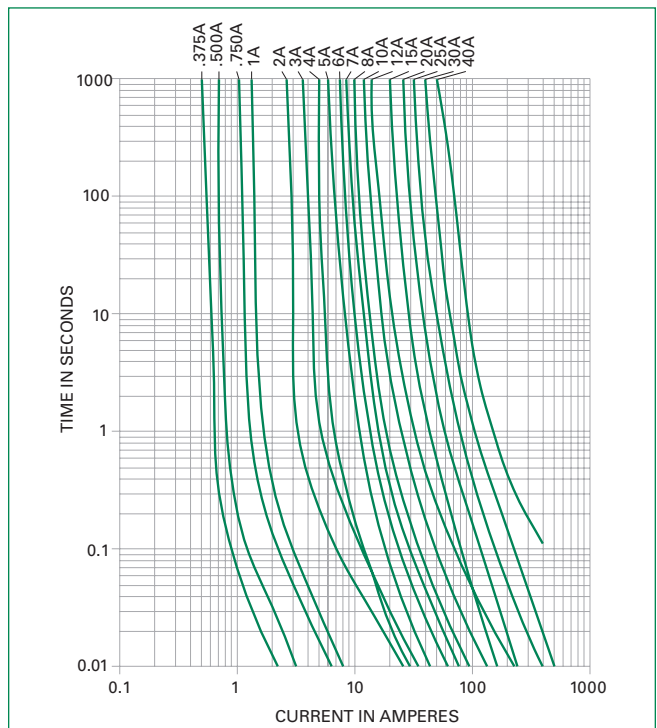
\* 350A@280VAC interrupting rating available for 10A, 15A and 20A.  
 \*\* 50A@280VAC for 25A. Add suffix '280'. Example: 0324020.MX280P.  
 \*\*\*I<sup>2</sup>t test at 10x rated current  
 \*\*\*\*Approved for axial leaded versions only, and interrupting rating is 750A@250Vac for 15A, 1000A@250Vac for 20A  
 + - Interrupting Rating may differ based on Agency Approval. See Agency Approval certificate for more details.

**Temperature Re-rating Curve**



**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
<b>Preheat:</b> (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
<b>Temperature Minimum:</b>	100°C
<b>Temperature Maximum:</b>	150°C
<b>Preheat Time:</b>	60-180 seconds
<b>Solder Pot Temperature:</b>	260°C Maximum
<b>Solder Dwell Time:</b>	2-5 seconds

### Recommended Hand-Solder Parameters:

Solder Iron Temperature: 350°C +/- 5°C  
Heating Time: 5 seconds max.

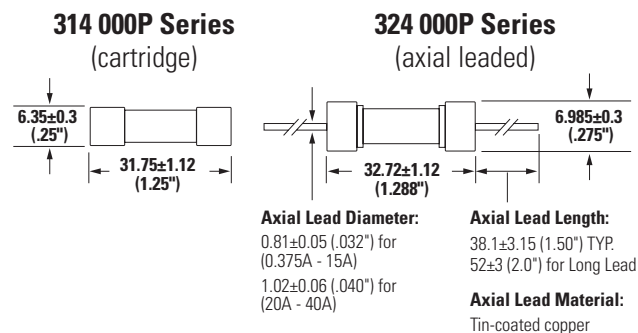
**Note:** These devices are not recommended for IR or Convection Reflow process.

### Product Characteristics

<b>Materials</b>	<b>Body:</b> Ceramic <b>Cap:</b> Nickel-plated Brass <b>Leads:</b> Tin-plated Copper
<b>Terminal Strength</b>	MIL-STD-202, Method 211, Test Condition A
<b>Solderability</b>	MIL-STD-202 Method 208
<b>Product Marking</b>	<b>Cap1:</b> Brand logo, current and voltage ratings <b>Cap2:</b> Series and agency approval marks

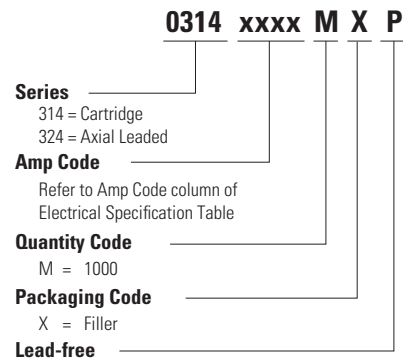
<b>Operating Temperature</b>	-55°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B (5 cycles, -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202, Method 201
<b>Humidity</b>	MIL-STD-202, Method 103, Test Condition A (High RH (95%) and Elevated temperature (40°C) for 240 hours)
<b>Salt Spray</b>	MIL-STD-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
<b>314 Series</b>				
Bulk	N/A	5	VX	N/A
Bulk	N/A	100	HX	N/A
Bulk	N/A	1000	MX	N/A
Bulk	N/A	1000	MX52L (long lead)	N/A
Bulk	N/A	1000	MXCC	N/A
Bulk	N/A	1000	MX52LE (long lead)	N/A
<b>324 Series</b>				
Bulk	N/A	5	VX	N/A
Bulk	N/A	100	HX	N/A
Bulk	N/A	1000	MX	N/A
Bulk	N/A	1000	MX280	N/A
Bulk	N/A	1000	MX52L	N/A
Bulk	N/A	1000	MXF24	N/A

### Recommended Accessories

Accessory Type	Series	Description	Max Application Voltage	Max Application Amperage
Holder	<a href="#">155100</a>	Twist-Lock In-Line Fuseholder	32	20
	<a href="#">342</a>	Traditional Panel Mount Fuseholder	250	20
	<a href="#">346</a>	Panel Mount Flip-Top Shock-Safe Fuseholder	250	15
	<a href="#">345</a>	Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options	250	20
Block	<a href="#">354</a>	Low Profile OMNI-BLOK® Fuse Block	600	30
	<a href="#">359</a>	High Current Screw Terminal Fuse Block		30
Clip	<a href="#">122</a>	High Current Traditional PC Board Fuse Clip	1000	30
	<a href="#">101</a>	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.