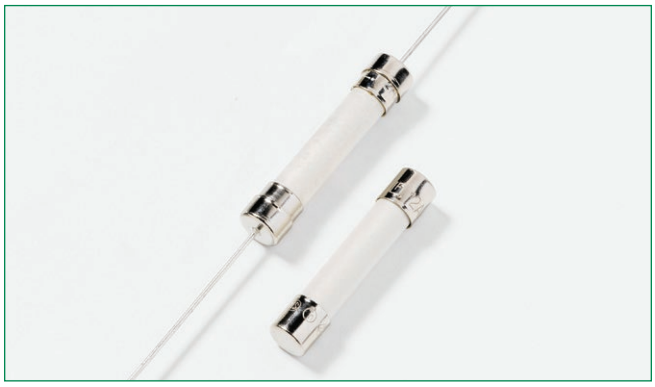
314/324 Series Lead-free 3AB, Fast-Acting Fuse



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
UL	E10480	0.375A - 15A
CSA	29862	0.375A - 20A
cULus	E10480	20A - 40A
PSE	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
KC	SU05001-6003 SU05001-6001 SU05001-7006 SU05001-8002 SU05001-8003 SU05001-6002	3A 4-6A 7-10A 12-15A 20A 25-30A
CE	N/A	0.375A - 30A
EAC	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.

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Axial Lead & Cartridge Fuses

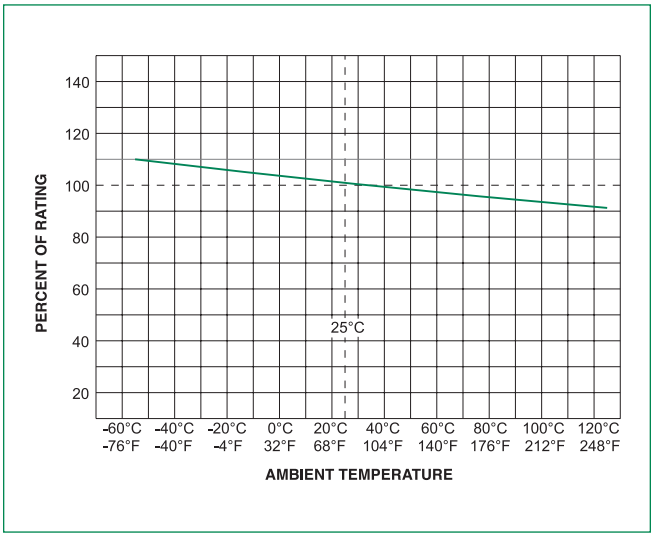
3AB > Fast-Acting > 314/324 Series

Electrical Specification by Item

Amp Code	Ampere Rating (A)	Voltage Rating (V)	Interrupting Rating+	Nominal Cold Resistance (Ohms)	Nominal Melting I²t (A² sec)***	Agency Approvals						
						UL	CSA	KC	cULus	PSE	CE	
.375	0.375	250	35 A @ 250 VAC 10 kA @ 125 VAC 10 kA @ 125 VDC	0.820	0.210	x	x	-	-	-	x	-
.500	0.5	250		0.500	0.639	x	x	-	-	-	x	-
.750	0.75	250		0.250	2.061	x	x	-	-	-	x	-
001.	1	250	100 A @ 250 VAC 10 kA @ 125 VAC 10 kA @ 125 VDC	0.189	0.690	x	x	-	-	x	x	-
002.	2	250		0.0700	5.700	x	x	-	-	x	x	-
003.	3	250		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 1000 A @ 75 VDC 400 A @ 125 VAC 400 A @ 125 VDC	0.00235	1450	-	-	x	x	x	x	-
025.**	25	280		0.00235	1450	-	-	-	x	-	x	-
030.	30	250		0.00182	2490	-	-	x	x	x	x	-
040.	40	250	1000 A @ 250 VAC 400 A @ 150 VDC	0.0014	22925	-	-	-	x	-	x	-

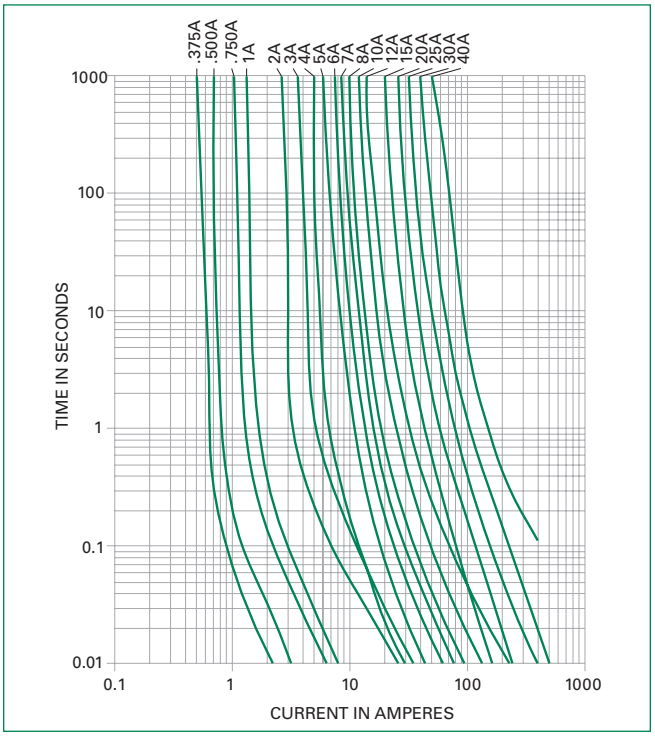
***** 350A@280VAC interrupting rating available for 10A, 15A and 20A.
****** 50A@280VAC for 25A. Add suffix '280'. Example: 0324020.MX280P.
*******I^2t test at 10x rated current
********Approved for axial leaded versions only, and interrupting rating is 750A@250Vac for 15A,1000A@250Vac for 20A
+ - Interrupting 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



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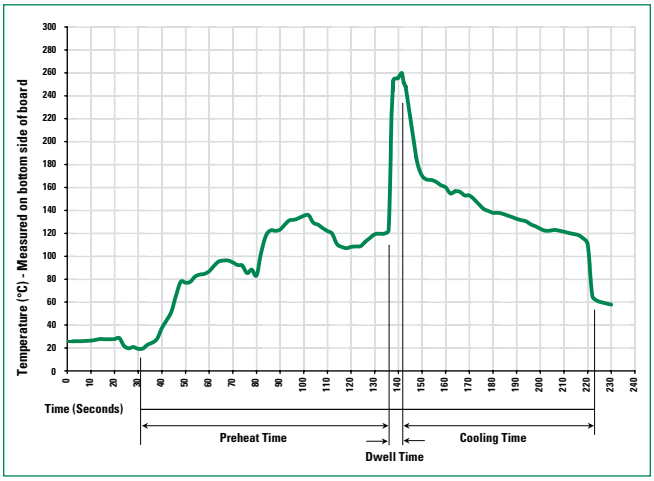
Axial Lead & Cartridge Fuses

3AB > Fast-Acting > 314/324 Series

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.

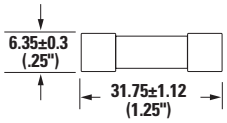
Product Characteristics

Materials	**Body:** Ceramic **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

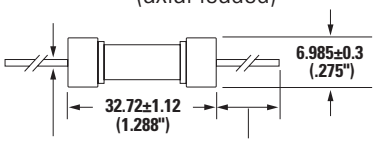
Operating Temperature	–55°C to +125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B (5 cycles, -65°C to +125°C)
Vibration	MIL-STD-202, Method 201
Humidity	MIL-STD-202, Method 103, Test Condition A (High RH (95%) and Elevated temperature (40°C) for 240 hours)
Salt Spray	MIL- STD-202, Method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

Dimensions

314 000P Series
(cartridge)



324 000P Series
(axial leaded)



Axial Lead Diameter:
0.81±0.05 (.032") for (0.375A - 15A)
1.02±0.06 (.040") for (20A - 40A)

Axial Lead Length:
38.1±3.15 (1.50") TYP.
52±3 (2.0") for Long Lead

Axial Lead Material:
Tin-coated copper

Measurements displayed in millimeters (inches)

Part Numbering System

0314 xxxx M X P

Series
314 = Cartridge
324 = Axial Leaded

Amp Code
Refer to Amp Code column of Electrical Specification 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
314 Series				
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
324 Series				
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	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.

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