

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

Applications

Used as supplementary protection in appliance or utilization equipment to provide individual protection for components or internal circuits.







Agency Approvals

| Agency | Agency File Number | Ampere Range |
|---|--|--------------|
|  | E10480 | 375mA - 15A |
|  | LR 29862 | 375mA - 20A |
|  | E10480 | 15A* - 40A |
|  | NBK 030805 - E10480A-F NBK 260106 - JP1021A/B | 375mA - 30A |
|  | SU05001 - 6001/6002/6003/7006/8002/8003 | 375mA - 30A |
|  | | 375mA - 30A |

Electrical Characteristics for Series

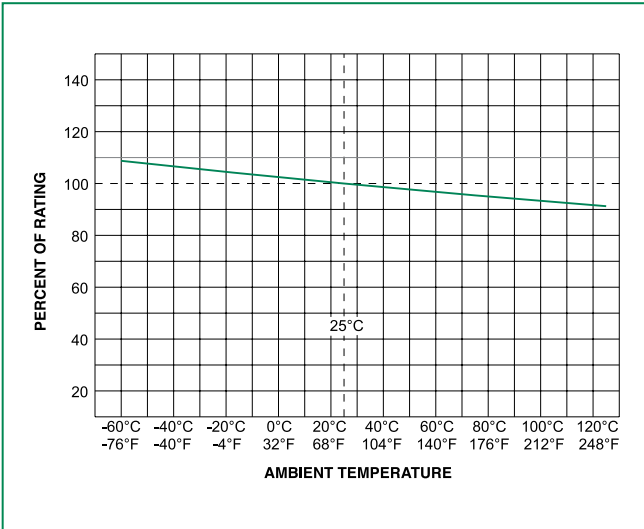
| % of Ampere Rating | Ampere Rating | Opening Time |
|--------------------|---------------|-------------------|
| 100% | 1/8 - 40 | 4 hours, Minimum |
| 135% | 1/8 - 30 | 1 hour, Maximum |
| 200% | 1/8 - 12 | 15 secs., Maximum |
| | 15 - 30 | 30 secs., Maximum |
| 250% | 40 | 30 secs., Maximum |

Electrical Specification by Item

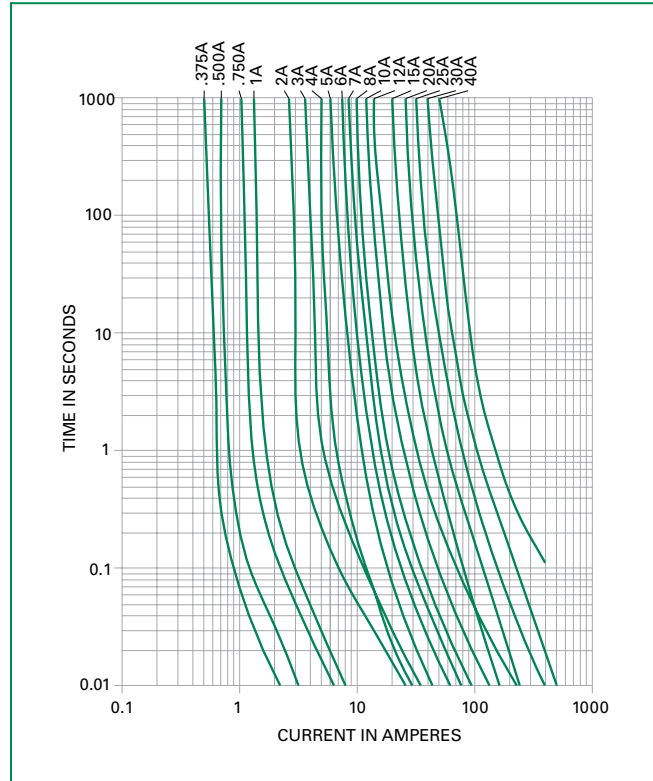
| Amp Code | Ampere Rating (A) | Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting I ² t (A ² sec) | Agency Approvals | | | | | | |
|----------|-------------------|--------------------|--|---|---|--|---|---|---|---|---|---|
| | | | | | |  |  |  |  |  |  | |
| .375 | 0.375 | 250 | 35 A @ 250 VAC 10 kA @ 125 VAC 10 kA @ 125 VDC | 0.820 | 0.050 | x | x | | | | x | |
| .500 | 0.5 | 250 | | 0.500 | 0.115 | x | x | | | | x | |
| .750 | 0.75 | 250 | | 0.250 | 0.466 | 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 | 11.0 | 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 |
| 012. | 12 | 250 | | 0.00760 | 570 | x | x | x | | | x | x |
| 015. | 15 | 250 | | 0.00505 | 292 | 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 |
| 020.* | 20 | 280 | 0.00355 | | 631 | | | | | x | | x |
| 025. | 25 | 250 | 100 A @ 250 VAC 1000A @ 75 VDC 400A @ 125 VAC 400 A @ 125 VDC | 0.00235 | 1450 | | | x | x | | x | x |
| 025.** | 25 | 280 | | 0.00235 | 1450 | | | | x | | 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 15A and 20A. ** 50A@280VAC for 25A. Add suffix '280'. Example: 0324020.MX280P
I²t test at 10x rated current

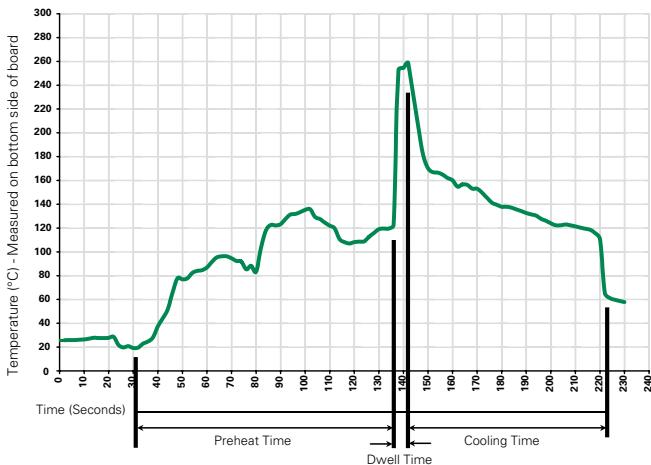
Temperature Derating Curve



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: | 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.

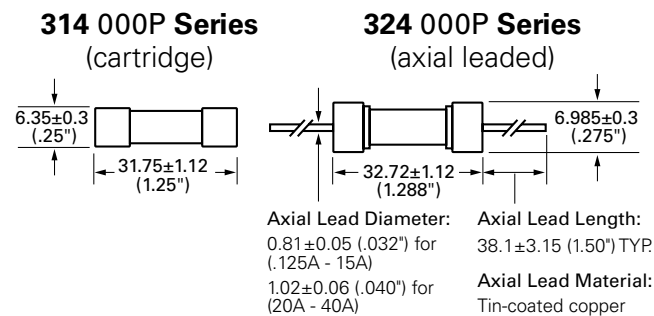
Product Characteristics

| | |
|--------------------------|---|
| Materials | Body: Ceramic Cap: Nickel-plated Brass Leads: Tin-plated Copper |
| Terminal Strength | MIL-STD-202G, Method 211A, Test Condition A |
| Solderability | Reference IEC 60127 Second Edition 2003-01 Annex A |
| Product Marking | Cap1: Brand logo, current and voltage ratings Cap2: Series and agency approval marks |

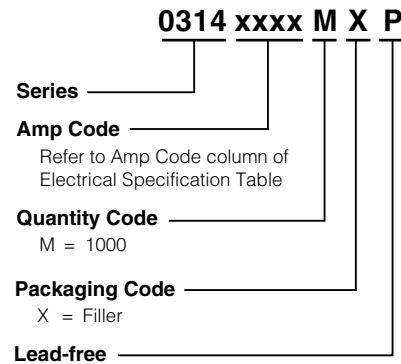
| | |
|------------------------------|---|
| Operating Temperature | -55°C to +125°C |
| Thermal Shock | MIL-STD-202G, Method 107G, Test Condition B (5 cycles, -65°C to +125°C) |
| Vibration | MIL-STD-202G, Method 201 A |
| Humidity | MIL-STD-202G, Method 103B, Test Condition A (High RH (95%) and Elevated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

Dimensions

Measurements displayed in millimeters (inches)



Part Numbering System



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 | N/A |
| Bulk | N/A | 1000 | MXCC | N/A |
| Bulk | N/A | 1000 | MX52LE | 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 | MX52 | N/A |
| Bulk | N/A | 1000 | MXF24 | N/A |

Additional Information



Datasheet 314 Series



Resources 314 Series



Samples 314 Series



Datasheet 324 Series



Resources 324 Series



Samples 324 Series

Mouser Electronics

Authorized Distributor

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Littelfuse:

[0324.125MXP](#) [0324025.HXP](#) [0324030.MXP](#) [0324010.HXP](#) [0314025.M](#) [0324.375MXP](#) [0314006.HXP](#) [0324.125M](#)
[0314030.HXP](#) [0324007.H](#) [0324020.H](#) [0314004.HXP](#) [0324.125HXP](#) [0314020.HXP](#) [0324001.MXP](#) [0314006.MXP](#)
[0314012.M](#) [0324010.MXB](#) [0314.375H](#) [0314015.HXP](#) [0314010.M](#) [0314.375M](#) [0324006.HXP](#) [0324030.HXP](#)
[0314.500HXP](#) [0314008.MXP](#) [0324010.M](#) [0314004.M](#) [0324003.MXP](#) [0324005.H](#) [0314.750M](#) [0324006.MXP](#)
[0314007.MXP](#) [0314012.HXP](#) [0324.750H](#) [0314025.MXP](#) [0324007.MXP](#) [0324008.HXP](#) [0324005.HXP](#) [0324025.MXP](#)
[0314.125MXP](#) [0314.125M](#) [0314030.H](#) [0324.500HXP](#) [0314010.H](#) [0324002.MXP](#) [0324001.M](#) [0314.375HXP](#)
[0324010.MXP](#) [0324030.M](#) [0314.250M](#) [0314.750HXP](#) [0314.750MXP](#) [0314012.MXP](#) [0324.250M](#) [0324.375H](#)
[0314001.H](#) [0324012.HXP](#) [0324020.MXB](#) [0314004.MXP](#) [0314010.HXP](#) [0324005.MXP](#) [0324008.M](#) [0314.750H](#)
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[0314040.MXP](#) [0324040.MXP](#) [0324012.MXP](#) [0324008.MXP](#) [0324010.H](#) [0324003.H](#) [0324004.HXP](#) [0324.500H](#)
[0324015.HXP](#) [0324001.HXP](#) [0324006.H](#) [0324012.H](#) [0314006.M](#) [0324002.H](#) [0314010.MXP](#) [0324012.M](#)
[0324012.MXB](#) [0314001.MXP](#) [0314015.M](#)