

**RoHS** **Pb** **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
- RoHS compliant and Lead-free
- Available in cartridge and axial lead format and with various forming dimensions

### 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   | 125mA - 15A  |
|    | LR 29862   | 125mA - 20A  |
|    | E10480   | 15A* - 40A   |
|   | NBK 030805 - E10480A-F<br>NBK 260106 - JP1021A/B | 125mA - 30A  |
|  | SU05001 -<br>6001/6002/6003/7006                 | 125mA - 30 A |
|  |  | 125mA - 30A  |

### Electrical Characteristics for Series

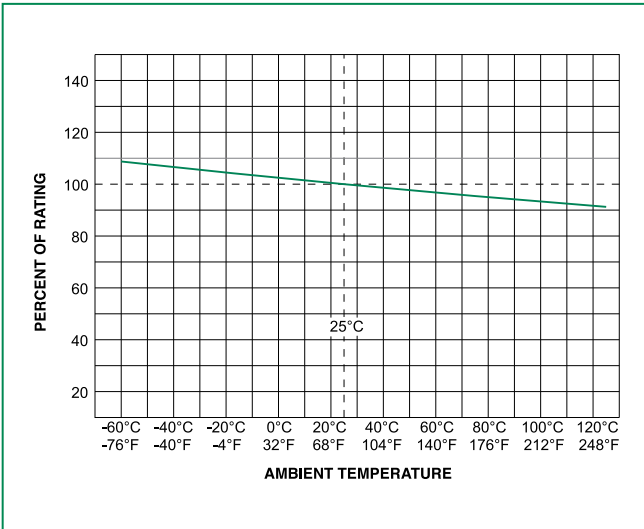
| % of Ampere Rating | Ampere Rating | Opening Time     |
|--------------------|---------------|------------------|
| 100%               | 125mA – 30A   | 4 hours, Minimum |
| 135%               | 125mA – 30A   | 1 sec., Maximum  |
| 200%               | 125mA – 12A   | 15 sec., Maximum |
|                    | 15A – 30A     | 30 sec., Maximum |

### Electrical Characteristic Specification by Item

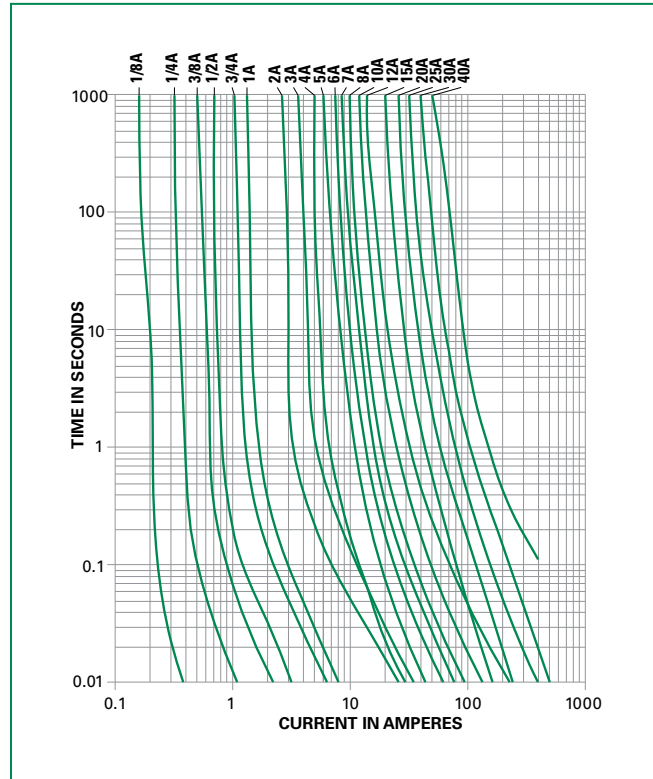
| Amp Code | Ampere Rating (A) | Voltage Rating (V) | Interrupting Rating                                    | Nominal Cold Resistance (Ohms)                            | Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec) | Agency Approvals   |   |   |   |   |   |   |
|----------|-------------------|--------------------|--|---|---|--|---|---|---|---|---|---|
|          |                   |                    |  |   |   |  |  |  |  |  |  |   |
| .125     | 0.125             | 250                | 35A@250Vac<br>10KA@125Vac<br>10KA@125Vdc               | 6.20  | 0.00149   | x  | x   |   |   |   | x   |   |
| .250     | 0.25              | 250                |  | 1.95  | 0.0140  | x  | x   |   |   |   | x   |   |
| .375     | 0.375             | 250                |  | 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                | 100A@250Vac<br>10KA@125Vac<br>10KA@125Vdc              | 0.189   | 0.690   | x  | x   |   |   |   | x   |   |
| 002.     | 2                 | 250                |  | 0.0700  | 11.0  | x  | x   |   |   |   | x   |   |
| 003.     | 3                 | 250                |  | 0.0432  | 14.6  | x  | x   | x   |   |   | x   |   |
| 004.     | 4                 | 250                |  | 0.0470  | 10.4  | x  | x   | x   |   |   | x   |   |
| 005.     | 5                 | 250                | 750A@250Vac<br>10KA@125Vac<br>10KA@125Vdc              | 0.0300  | 26.0  | x  | x   | x   |   |   | x   |   |
| 006.     | 6                 | 250                |  | 0.0240  | 45.0  | x  | x   | x   |   |   | x   |   |
| 007.     | 7                 | 250                |  | 0.0187  | 71.0  | x  | x   | x   |   |   | x   |   |
| 008.     | 8                 | 250                |  | 0.0153  | 105   | x  | x   | x   |   |   | x   |   |
| 010.     | 10                | 250                |  | 0.0105  | 206   | x  | x   | x   |   |   | x   |   |
| 012.     | 12                | 250                |  | 0.00760   | 570   | x  | x   |   |   |   | x   |   |
| 015.     | 15                | 250                |  | 0.00505   | 292   | x  | x   |   |   |   | x   |   |
| 015.*    | 15                | 280                |  | 0.00505   | 292   |  |   |   |   |   | x   |   |
| 020.     | 20                | 250                |  | 1000A@250Vac<br>200A@300Vac<br>10KA@125Vac<br>10KA@125Vdc | 0.00355   | 631  |   | x   |   | x   |   | x |
| 020.*    | 20                | 280                |  |   | 0.00355   | 631  |   |   |   | x   |   | x |
| 025.     | 25                | 250                | 100A@250Vac<br>1000@75Vdc<br>400@125Vac<br>400A@125Vdc | 0.00235   | 1450  |  |   | x   | x   |   | x   |   |
| 025.**   | 25                | 280                |  | 0.00235   | 1450  |  |   |   | x   |   | x   |   |
| 030.     | 30                | 250                |  | 0.00182   | 2490  |  |   | x   | x   |   | x   |   |
| 040.     | 40                | 250                | 1000A@250Vac<br>400A@150Vdc                            | 0.0014  | 22925   |  |   |   | x   |   | x   |   |

\* 350A@280Vac interrupting rating available for 15A and 20A. \*\* 50A@280Vac for 25A. Add suffix '280'. Example: 0324020.MX280P

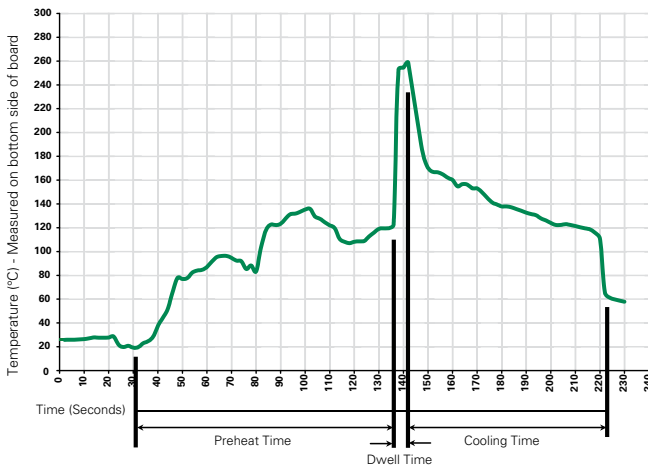
### Temperature Derating Curve



### Average Time Current Curves



### Soldering Parameters - Wave Soldering



#### Recommended Process Parameters:

| Wave Parameter  | Lead-Free Recommendation          |
|---|-----------------------------------|
| <b>Preheat:</b><br>(Depends on Flux Activation Temperature) | (Typical Industry Recommendation) |
| Temperature Minimum:  | 100° C                            |
| Temperature Maximum:  | 150° C                            |
| Preheat Time:   | 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.

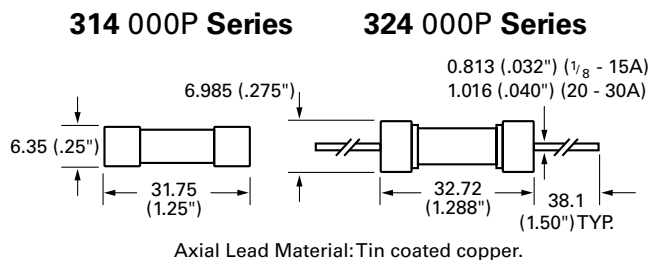
**Note: These devices are not recommended for IR or Convection Reflow process.**

### Product Characteristics

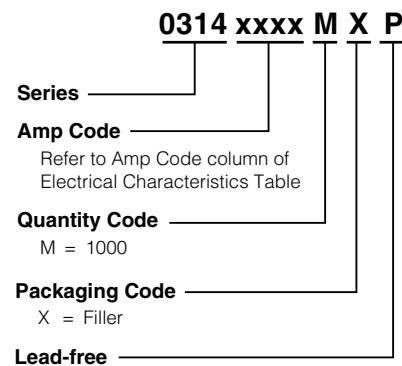
|                          |   |
|--------------------------|---|
| <b>Materials</b>         | Body: Ceramic<br>Cap: Nickel-plated brass<br>Leads: Tin-plated Copper                   |
| <b>Terminal Strength</b> | MIL-STD-202G, Method 211A, Test Condition A   |
| <b>Solderability</b>     | Reference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

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

### Dimensions



### Part Numbering System



### Packaging

| Packaging Option  | Packaging Specification | Quantity | Quantity & Packaging Code | Reel Size |
|-------------------|-------------------------|----------|---------------------------|-----------|
| <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                     | N/A       |
| Bulk              | N/A                     | 1000     | MXCC                      | N/A       |
| Bulk              | N/A                     | 1000     | MX52LE                    | 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     | MX52                      | N/A       |
| Bulk              | N/A                     | 1000     | MXF24                     | N/A       |