

514 Series Lead-Free 3AB, Fast-Acting Fuse



**Description**

The 514 Series fuses are 500VAC rated ceramic fuses with remarkable interrupting rating in a compact 6.3 x 32mm package. They are well suited for circuit protection in high energy applications.

**Features**

- Available in cartridge and axial lead form
- Compact form factor of 6.3mm x 32mm
- Lead-free, Halogen free, and RoHS compliant
- High Interrupting Rating

**Applications**

High energy and power efficient applications

**Agency Approvals**

| AGENCY | CERTIFICATE NUMBER | AMPERE RANGE |
|--------|--------------------|--------------|
|        | E10480             | 0.4A - 12.5A |
|        | N/A                | 0.4A - 12.5A |

**Electrical Characteristics for Series**

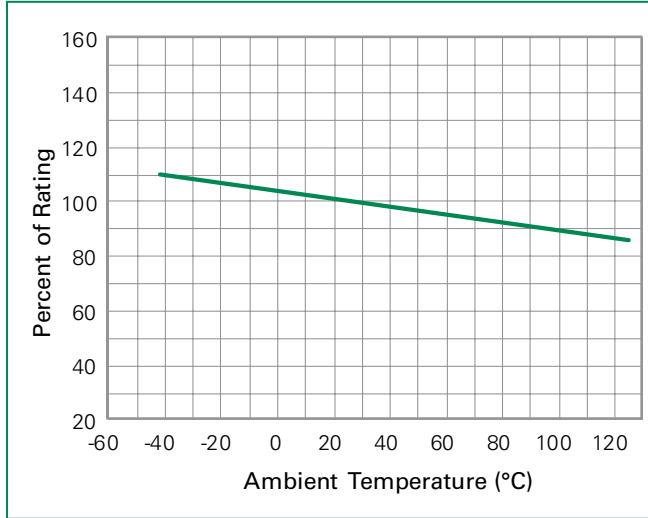
| % of Ampere Rating | Ampere Rating | Opening Time |
|--------------------|---------------|--------------|
| 100%               | 1.6A - 12.5A  | 4hours, Min  |
| 200%               |               | 120 sec, Max |

**Electrical Characteristics**

| Amp Code | Amp Rating (A) | Max. Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (mOhm) | Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec) | Agency Approvals |   |
|----------|----------------|-------------------------|---------------------|--------------------------------|---|------------------|---|
|          |                |                         |                     |                                |   |                  |   |
| 01.6*    | 1.6            | 500VAC                  | 5000A @500Vac       | 214                            | 1.92  | X*               | X |
| 002.     | 2              |                         |                     | 150                            | 4.12  | X                | X |
| 3.15     | 3.15           |                         |                     | 76                             | 5.54  | X                | X |
| 004.     | 4              |                         |                     | 49                             | 12.43   | X                | X |
| 005.     | 5              |                         |                     | 63.6                           | 6.14  | X                | X |
| 06.3     | 6.3            |                         |                     | 43                             | 13.5  | X                | X |
| 008.     | 8              |                         |                     | 29                             | 28.8  | X                | X |
| 010.     | 10             |                         |                     | 20.2                           | 50.6  | X                | X |
| 12.5     | 12.5           |                         |                     | 14.9                           | 114   | X                | X |

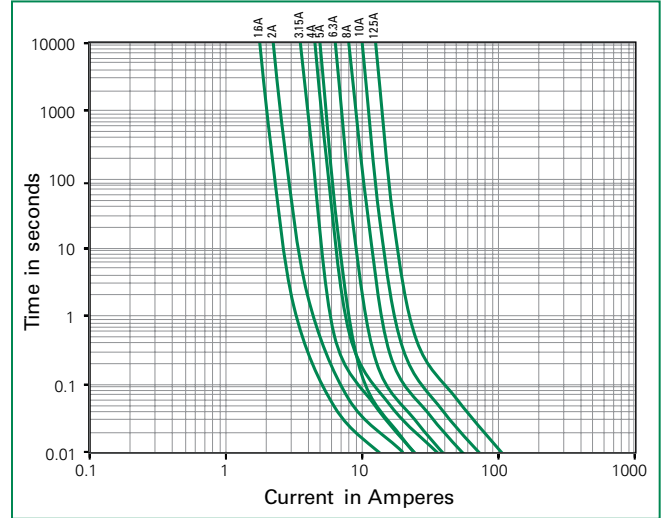
\* 25KA@500VAC interrupting rating available for 1.6A

### Temperature Re-rating Curve

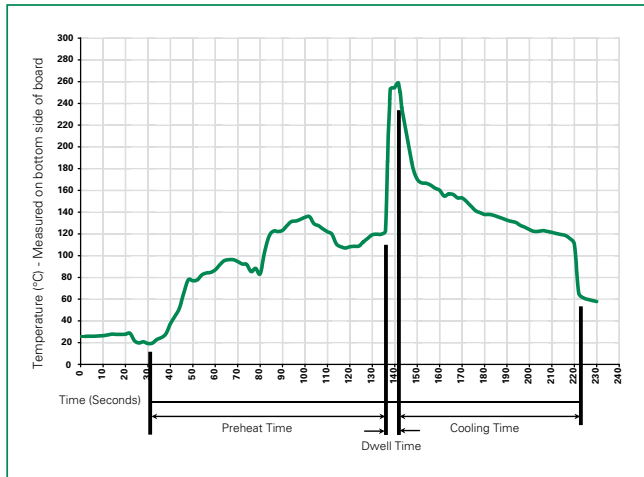


Note:  
 Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

### Average Time Current Curves



### Soldering Parameters - Wave Soldering



### Recommended Process Parameters:

| Wave Parameter  | Lead-Free Recommendation |
|---|--------------------------|
| <b>Preheat:</b><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 to 5 seconds           |

### Recommended Hand-Solder Parameters:

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

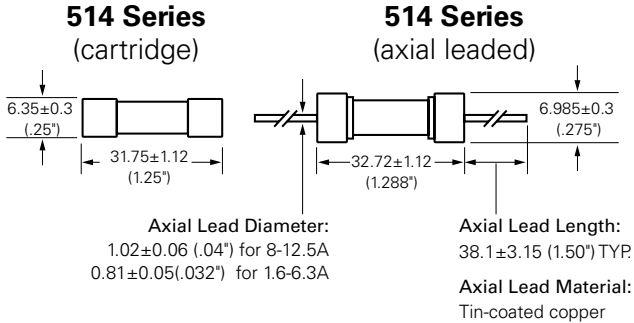
**Note: These devices are not recommended for IR or Convection Reflow process.**

### Product Characteristics

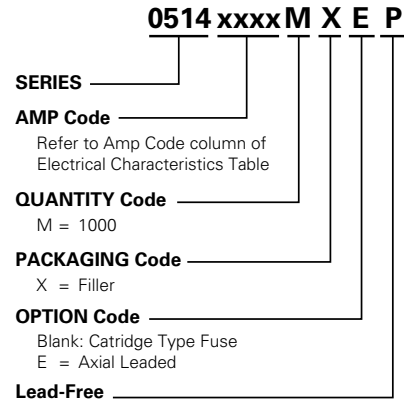
|                          |   |
|--------------------------|---|
| <b>Materials</b>         | Body : Ceramic<br>Cap : Nickel Plated Brass<br>Leads: Tin-plated copper                   |
| <b>Terminal Strength</b> | MIL-STD-202G, Method 211A,<br>Test condition A  |
| <b>Solderability</b>     | Reference MIL-STD-202 Method 208  |
| <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,<br>Test condition B: (5 cycles -65°C to 125°C) |
| <b>Vibration</b>             | MIL-STD-202G, Method 201A   |
| <b>Moisture Resistance</b>   | MIL-STD-202G, Method 103B,<br>Test condition A                            |
| <b>Salt Spray</b>            | MIL-STD-202G, Method 101E, Test condition B                               |

### Dimensions



### Part Numbering System



### Packaging

| Packaging Option  | Packaging Specification | Quantity | Quantity & Packaging Code | Reel Size |
|-------------------|-------------------------|----------|---------------------------|-----------|
| <b>514 Series</b> |                         |          |                           |           |
| Bulk              | N/A                     | 1000     | MX                        | N/A       |
| Bulk              | N/A                     | 1000     | MXE                       | N/A       |

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