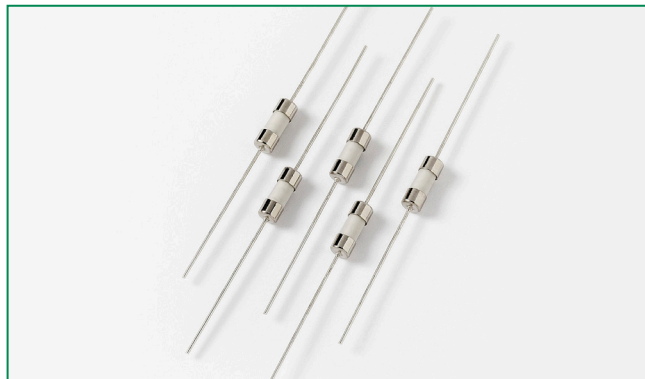


# Axial Lead & Cartridge Fuses

3.6x10mm > Time-Lag Fuse > 677 Series

## 677 Series, 3.6x10mm, Time-Lag Fuse



### Agency Approvals

| Agency                                                                            | Agency File Number | Ampere Range |
|-----------------------------------------------------------------------------------|--------------------|--------------|
|  | CQC09012032902     | 0.250 - 6.3A |
|  | 222984             | 0.250 - 6.3A |
|  | E10480             | 0.250 - 6.3A |
|  | 40006258           | 0.250 - 6.3A |

### Additional Information



Datasheet



Resources



Samples

### Description

The 3.6 x 10mm Time-Lag Fuse with ceramic body construction permits higher interrupting ratings and voltage ratings. Ideal for applications where high current loads are expected.

### Features

- Available in cartridge and axial lead format and with various forming dimensions
- Halogen free, Lead-free and RoHS compliant
- Meets the requirements of IEC 60127-3, Standard Sheet 4.
- Time-Lag, ceramic body fuse in a compact package.

### Applications

- Lighting
- Adapter applications
- Power supply

### Electrical Characteristics for Series

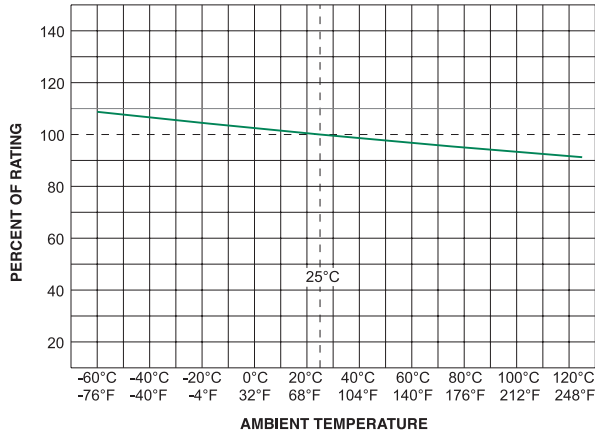
| % of Ampere Rating | Opening Time                  |
|--------------------|-------------------------------|
| 150%               | 60 minutes, Minimum           |
| 210%               | 2 minutes, Maximum            |
| 275%               | 400msec., Min.; 10 sec. Max.  |
| 400%               | 150msec., Min.; 0.3 sec. Max. |
| 1000%              | 20msec., Min.; 150msec Max.   |

### Electrical Specification by Item

| Ampere Rating (A) | Amp Code | Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec) | Agency Approvals                                                                      |                                                                                       |                                                                                       |                                                                                       |
|-------------------|----------|--------------------|---------------------|--------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                   |          |                    |                     |                                |                                                       |  |  |  |  |
| .250              | .250     | 250                | 35A@250VAC          | 0.00063                        | 0.312                                                 | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| .315              | .315     | 250                |                     | 0.00046                        | 0.422                                                 | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| .400              | .400     | 250                |                     | 0.00036                        | 0.755                                                 | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| .500              | .500     | 250                |                     | 0.00031                        | 1.32                                                  | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| .630              | .630     | 250                |                     | 0.000178                       | 2.55                                                  | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| .800              | .800     | 250                |                     | 0.000125                       | 3.25                                                  | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| 001.              | 001.     | 250                |                     | 0.000092                       | 6.95                                                  | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| 002.              | 002.     | 250                |                     | 0.000035                       | 20.8                                                  | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| 004.              | 004.     | 250                | 40A@250VAC          | 0.000016                       | 95                                                    | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| 005.              | 006.     | 250                | 50A@250VAC          | 0.000014                       | 140                                                   | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| 016               | 016      | 250                | 35A@250VAC          | 0.000048                       | 18.2                                                  | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| 02.5              | 02.5     | 250                |                     | 0.000028                       | 32.5                                                  | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| 06.3              | 06.3     | 280                | 63A@250VAC          | 0.000009                       | 240                                                   | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| 1.25              | 1.25     | 250                | 35A@250VAC          | 0.000065                       | 12.1                                                  | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |
| 3.15              | 3.15     | 250                |                     | 0.00002                        | 40.8                                                  | x                                                                                     | x                                                                                     | x                                                                                     | x                                                                                     |

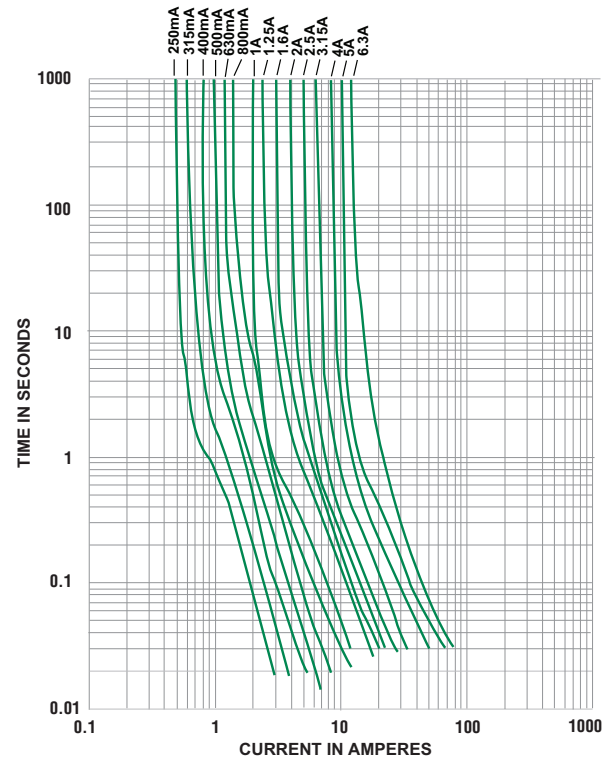
I<sup>2</sup>t test at 10x rated current

### Temperature Re-rating Curve

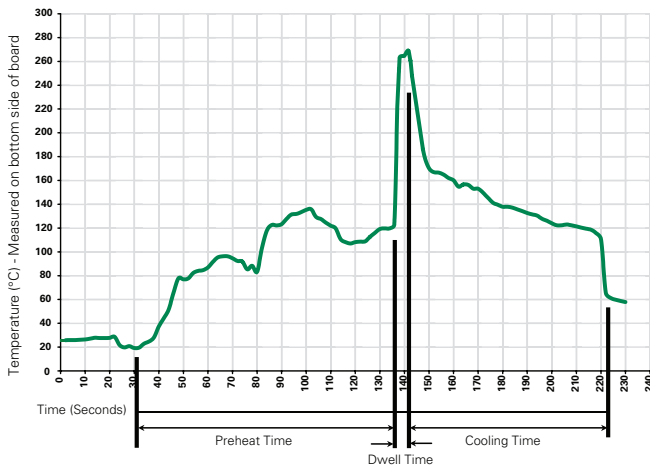


Note:  
Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

### 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) |
| 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.

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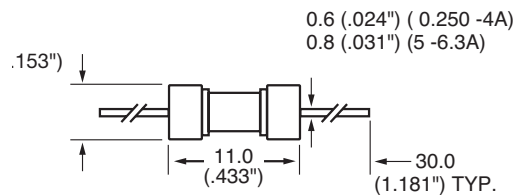
### Product Characteristics

|                          |                                                                                                       |
|--------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Materials</b>         | <b>Body:</b> Ceramic<br><b>Cap:</b> Nickel-plated Brass<br><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<br><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                                                               |

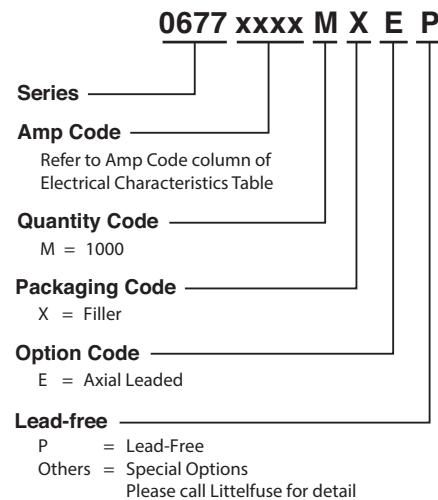
### Dimensions

Measurements displayed in millimeters (inches)



Axial Lead Material: Solder coated copper.

### Part Numbering System



### Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity and Packaging Code | Taping Width |
|------------------|-------------------------|----------|-----------------------------|--------------|
| Bulk             | N/A                     | 1000     | MXE                         | N/A          |
| Tape and Reel    | EIA-296                 | 1500     | DRT4                        | 56.5mm       |