

### 688 Series Lead-Free, 6x25mm Fuse



#### Agency Approvals

| Agency                                                                            | Agency File Number | Ampere Range |
|-----------------------------------------------------------------------------------|--------------------|--------------|
|  | T 50257715 01      | 30A          |
|  | E10480             | 5A - 40A     |

#### Electrical Characteristics for Series

| % of Ampere Rating | Ampere Rating | Opening Time            |
|--------------------|---------------|-------------------------|
| 100%               | 5A - 40A      | 4 Hours, <b>Min.</b>    |
| 200%               |               | 120 Second, <b>Max.</b> |

#### Description

A 70Vdc rated ceramic fuse with remarkable interrupting rating in a compact 6x25mm package, which is well suited for circuit protection in telecom applications.

#### Features

- In accordance with Underwriter's Laboratories Standard UL 248-14
- Available in cartridge version
- RoHS compliant and Lead-free

#### Applications

- PDU in Telecom Datacenter
- Wireless Transmission Base Station

#### Additional Information



**Datasheet**



**Resources**



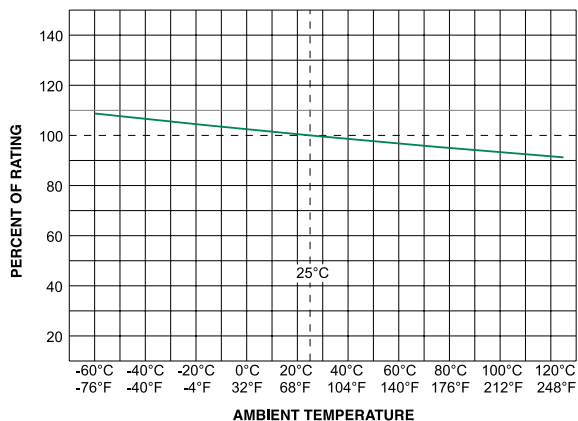
**Samples**

#### Electrical Characteristic Specifications by Item

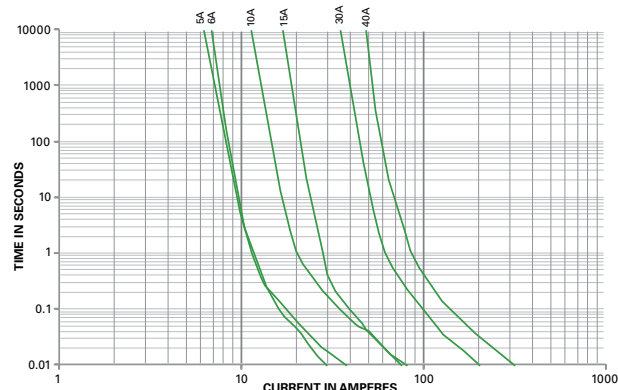
| Amp Code | Amp Rating | Voltage Rating  | Interrupting Rating             | Nominal Cold Resistance (mOhms) | Nominal Melting I <sup>2t</sup> Under 10In (A <sup>2</sup> sec) | Agency Approvals                                                                      |                                                                                       |
|----------|------------|-----------------|---------------------------------|---------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|          |            |                 |                                 |                                 |                                                                 |  |  |
| 005.     | 5          | 70Vdc           | 2500A @ 70Vdc                   | 22                              | 118                                                             |                                                                                       | x                                                                                     |
| 006.     | 6          | 70Vdc           | 2500A @ 70Vdc                   | 21                              | 132                                                             |                                                                                       | x                                                                                     |
| 010.     | 10         | 70Vdc           | 2500A @ 70Vdc                   | 10                              | 570                                                             |                                                                                       | x                                                                                     |
| 015.     | 15         | 70Vdc           | 2500A @ 70Vdc                   | 6                               | 554                                                             |                                                                                       | x                                                                                     |
| 030.*    | 30         | 70Vdc           | 2500A @ 70Vdc                   | 2.1                             | 4200                                                            | x                                                                                     | x                                                                                     |
| 040.*    | 40         | 70Vdc<br>250Vac | 2500A @ 70Vdc<br>1500A @ 250Vac | 1.55                            | 7800                                                            |                                                                                       | x                                                                                     |

Note: \*Surge rating: 1.2/50-8/20μs, 20KV/10KA surge is available for 30A and 40A.

### Temperature Re-rating Curve

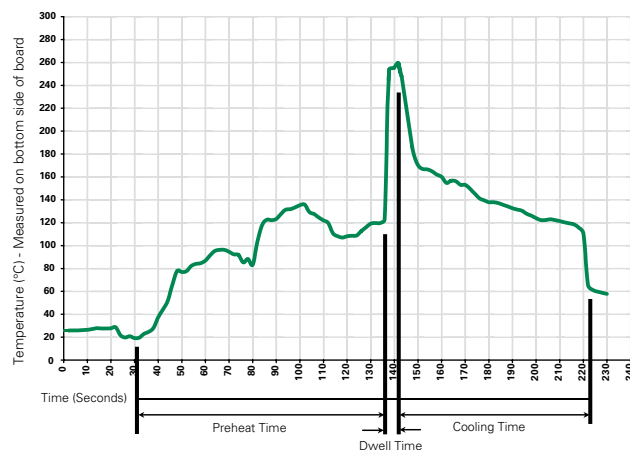


### Average Time Current Curves



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

### 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.

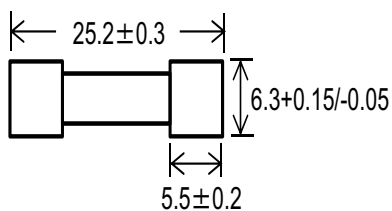
### Product Characteristics

|                          |                                                                       |
|--------------------------|-----------------------------------------------------------------------|
| <b>Materials</b>         | Body : Ceramic<br>Cap : Tin-plated Copper<br>Leads: 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>   | Brand logo, current and voltage ratings, agency approval marks        |
| <b>Packaging</b>         | Available in Bulk and Ammo packaging (M=1000 pcs/pkg)                 |

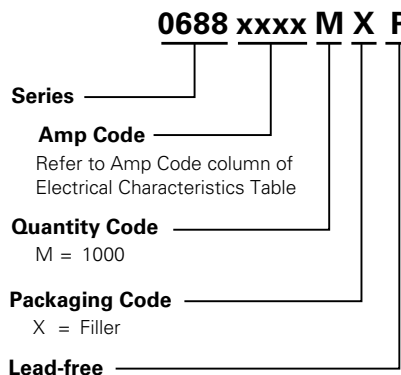
|                               |                                                                                                 |
|-------------------------------|-------------------------------------------------------------------------------------------------|
| <b>Operating Temperature:</b> | -55°C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

### Dimensions

Measurements displayed in millimeters



### Part Numbering System



### Packaging

| Packaging Option  | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|-------------------|-------------------------|----------|---------------------------|--------------|
| <b>688 Series</b> |                         |          |                           |              |
| Ammo              | N/A                     | 1000     | MAT4P                     | N/A          |
| Bulk              | N/A                     | 1000     | MX                        | N/A          |