

### Electrical Characteristics Specifications by Item

| Amp Code | Amp Rating (A) | Voltage Rating (V) | Interrupting Rating* | Nominal Cold Resistance (Ohms) | Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec) | Maximum Voltage Drop at Rated Current (mV) | Maximum Power Dissipation at 1.5I <sub>n</sub> (W) | Agency Approvals |     |     |      |    |    |     |     |     |      |    |     |
|----------|----------------|--------------------|----------------------|--------------------------------|-------------------------------------------------------|--------------------------------------------|----------------------------------------------------|------------------|-----|-----|------|----|----|-----|-----|-----|------|----|-----|
|          |                |                    |                      |                                |                                                       |                                            |                                                    | UL               | CSA | IEC | VDE  | BS | UL | CSA | IEC | VDE | BS   | UL | CSA |
| 0.050    | 0.05           | 250                | 1500A@250Vac         | 15.9000                        | 0.00019                                               | 10000                                      | 1.6                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.063    | 0.063          | 250                |                      | 10.4500                        | 0.00079                                               | 8800                                       | 1.6                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.080    | 0.08           | 250                |                      | 7.8850                         | 0.00084                                               | 7600                                       | 1.6                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.100    | 0.1            | 250                |                      | 5.7925                         | 0.00450                                               | 7000                                       | 1.6                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.125    | 0.125          | 250                |                      | 3.6750                         | 0.00546                                               | 5000                                       | 1.6                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.160    | 0.16           | 250                |                      | 5.3490                         | 0.00326                                               | 4300                                       | 1.6                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.200    | 0.2            | 250                |                      | 3.3500                         | 0.00439                                               | 3500                                       | 1.6                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.250    | 0.25           | 250                |                      | 2.3500                         | 0.01350                                               | 2800                                       | 2.5                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.315    | 0.315          | 250                |                      | 1.8500                         | 0.02320                                               | 2500                                       | 2.5                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.500    | 0.5            | 250                |                      | 0.8660                         | 0.16500                                               | 1800                                       | 2.5                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.630    | 0.63           | 250                |                      | 0.4650                         | 0.05940                                               | 1500                                       | 2.5                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 0.800    | 0.8            | 250                |                      | 0.2950                         | 0.14600                                               | 1200                                       | 2.5                                                | -                | -   | X   | X    | X  | X  | X   | X   | X   | -    | -  | -   |
| 001.0    | 1              | 250                |                      | 0.2370                         | 0.18000                                               | 1000                                       | 2.5                                                | X                | X   | X   | X    | X  | X  | X   | X   | X   | -    | -  | X   |
| 1.25     | 1.25           | 250                |                      | 0.1530                         | 0.48000                                               | 800                                        | 4                                                  | X                | X   | X   | X    | X  | X  | X   | X   | X   | -    | -  | X   |
| 01.6     | 1.6            | 250                |                      | 0.1112                         | 1.00500                                               | 600                                        | 4                                                  | X                | X   | X   | X    | X  | X  | X   | X   | X   | -    | -  | X   |
| 002.0    | 2              | 250                |                      | 0.0764                         | 1.87000                                               | 500                                        | 4                                                  | X                | X   | X   | X    | X  | X  | X   | X   | X   | -    | -  | X   |
| 02.5     | 2.5            | 250                |                      | 0.0584                         | 3.67200                                               | 400                                        | 4                                                  | X                | X   | X   | X    | X  | X  | X   | X   | X   | -    | -  | X   |
| 3.15     | 3.15           | 250                |                      | 0.0368                         | 6.70000                                               | 350                                        | 4                                                  | X                | X   | X   | X    | X  | X  | X   | X   | X   | -    | -  | X   |
| 004.0    | 4              | 250                |                      | 0.0247                         | 14.99500                                              | 300                                        | 4                                                  | X                | X   | X   | X    | X  | X  | X   | X   | X   | -    | -  | X   |
| 005.0    | 5              | 250                |                      | 0.0183                         | 27.46000                                              | 250                                        | 4                                                  | X                | X   | X   | X    | X  | X  | X   | X   | X   | -    | -  | X   |
| 06.3     | 6.3            | 250                |                      | 0.0137                         | 56.43000                                              | 200                                        | 4                                                  | X                | X   | X   | X    | X  | X  | X   | X   | X   | -    | -  | X   |
| 008.0    | 8              | 250                |                      | 0.0123                         | 64.31500                                              | 200                                        | 4                                                  | -                | X   | X   | X    | X  | X  | X   | X   | X*  | -    | X  | X   |
| 010.0    | 10             | 250                |                      | 0.0079                         | 154.34000                                             | 200                                        | 4                                                  | -                | X   | X   | X    | X  | X  | X   | X   | X*  | -    | X  | X   |
| 12.5     | 12.5           | 250                |                      | 0.0057                         | 175.00000                                             | 200                                        | N/A**                                              | -                | -   | X   | X    | -  | X  | -   | X*  | X   | -    | X  | X   |
| 016.     | 16             | 250                | 750A@250Vac          | 0.0040                         | 462.50000                                             | 200                                        | N/A**                                              | -                | -   | -   | X*** | X  | X  | X   | -   | -   | X*** | X  | X   |

\* - Approval for cartridge versions only.

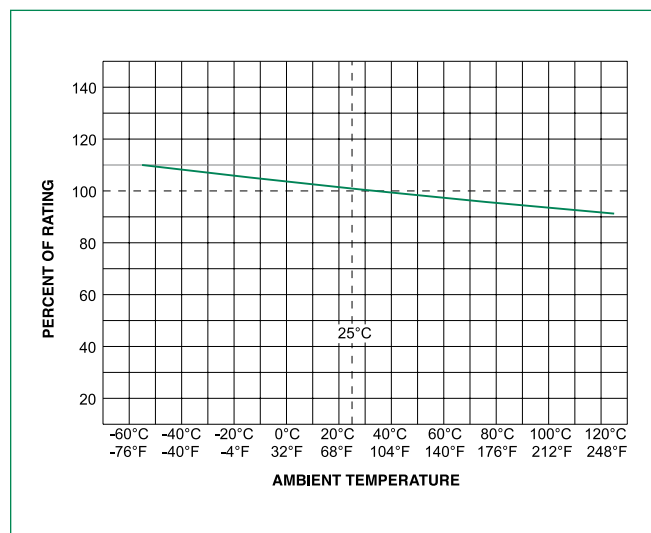
\*\* - Please contact Littelfuse for details on these parameters

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

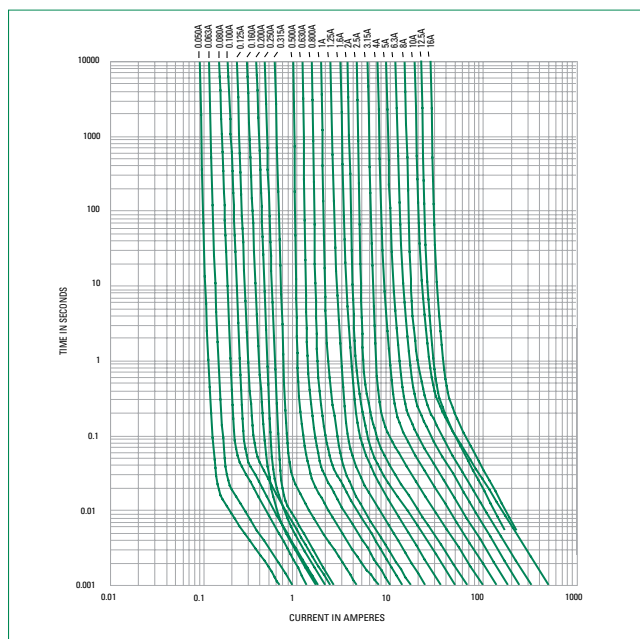
\*\*\* - 1500A@250Vac for 16A

\*Interrupting Rating may differ based on Agency Approval. See Agency Approval certificate for more details.

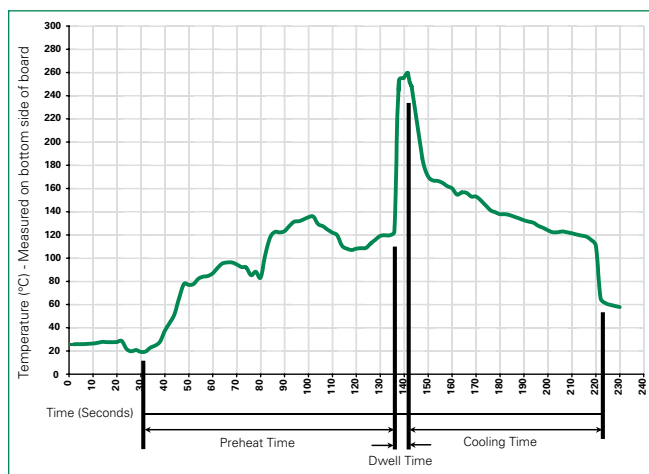
### Temperature Re-rating Curve



### Average Time Current Curves



### Soldering Parameters - Wave Soldering



### Recommended Process Parameters:

| Wave Parameter                                       | Lead-Free Recommendation          |
|------------------------------------------------------|-----------------------------------|
| Preheat:<br>(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.

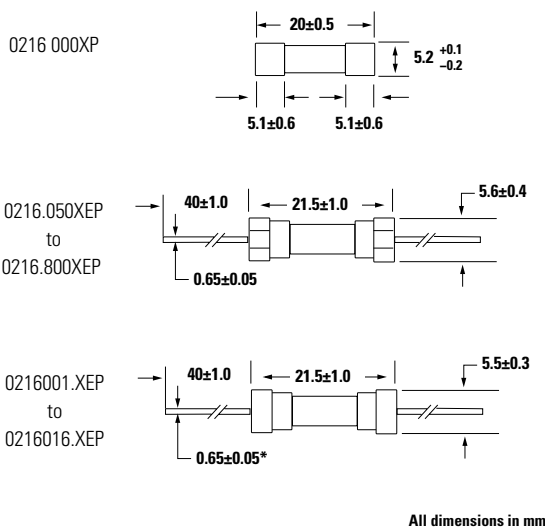
**Note:** These devices are not recommended for IR or Convection Reflow process.

### Product Characteristics

|                          |                                                                                                   |
|--------------------------|---------------------------------------------------------------------------------------------------|
| <b>Material</b>          | Body: Ceramic<br>Cap: Nickel-plated brass<br>Leads: Tin-plated Copper<br>Filler (160mA-16A): Sand |
| <b>Terminal Strength</b> | MIL-STD-202, Method 211, Test Condition A                                                         |
| <b>Solderability</b>     | MIL-STD-202 Method 208                                                                            |
| <b>Product Marking</b>   | Cap 1: Brand logo, current and<br>volAge rating<br>Cap 2: Agency approval markings                |
| <b>Packaging</b>         | Available in Bulk (M=1000 pcs/pkg) or on Tape/Reel<br>(MRET1=1000 pcs/reel)                       |

|                              |                                                                                                               |
|------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Operating Temperature</b> | -55°C to +125°C                                                                                               |
| <b>Thermal Shock</b>         | MIL-STD-202, Method 107, Test Condition B: (5<br>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.<br>high RH (95%) and elevated temperature (40°C)<br>for 240 hours. |
| <b>Salt Spray</b>            | MIL-STD-202, Method 101, Test<br>Condition B                                                                  |

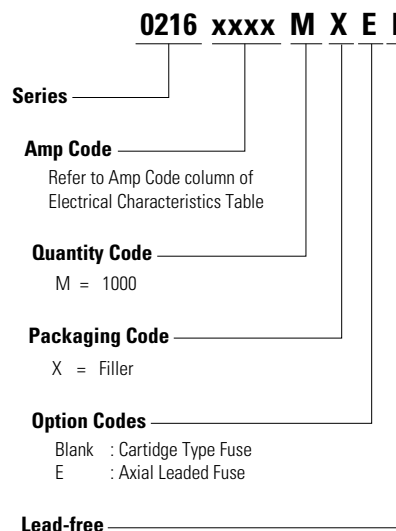
### Dimensions



#### Notes:

\* Ratings above 6.3 A have 0.8 ± 0.05 diameter lead.

### Part Numbering System



### Packaging

| Packaging Option  | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width     |
|-------------------|-------------------------|----------|---------------------------|------------------|
| <b>216 Series</b> |                         |          |                           |                  |
| Bulk              | N/A                     | 1000     | MX                        | N/A              |
| Bulk              | N/A                     | 1000     | MXE                       | N/A              |
| Reel and Tape     | EIA 296-E               | 1000     | MRET1                     | T1=53mm (2.087") |
| Bulk              | N/A                     | 1000     | MXG                       | N/A              |
| Bulk              | N/A                     | 1000     | MXB                       | N/A              |
| Bulk              | N/A                     | 100      | HX                        | N/A              |

### Recommended Accessories

| Accessory Type | Series                  | Description                                                               | Max Application Voltage | Max Application Amperage |
|----------------|-------------------------|---------------------------------------------------------------------------|-------------------------|--------------------------|
| Holder         | <a href="#">345_ISF</a> | Panel Mount Shock-Safe Fuseholder                                         | 250                     | 10                       |
|                | <a href="#">345</a>     | Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options |                         | 20A                      |
|                | <a href="#">830</a>     | PC Mount Shock-Safe Miniature Fuseholder                                  |                         | 16                       |
| Block          | <a href="#">520</a>     | Metric OMNI-BLOCK® Fuse Block                                             |                         | 10                       |
|                | <a href="#">646</a>     | PC Mount Miniature Fuse Block                                             |                         | 6.3                      |
|                | <a href="#">658</a>     | Surface Mount Miniature Fuse Block                                        |                         | 10                       |
| Clip           | <a href="#">520_W</a>   | PC Mount Miniature Fuse Clip                                              |                         | 6.3                      |
|                | <a href="#">111</a>     | PC Board Mount Fuse Clip                                                  |                         | 10                       |
|                | <a href="#">445</a>     | PC Board Mount Fuse Clip                                                  |                         | 10                       |

#### Notes:

1. Do not use in applications above rating.
2. Please refer to fuseholder data sheet for specific re-rating information.
3. Please contact Littelfuse for applications greater than the max voltage and amperage shown.