



## 303 Series, TR3®, Fast-Acting Fuse



### Agency Approvals

| Agency                                                                            | Agency File Number | Ampere Range |
|-----------------------------------------------------------------------------------|--------------------|--------------|
|  | E67006             | 50mA-5A      |
|  | 051378             | 50mA-5A      |

### Electrical Characteristics

| % of Ampere Rating | Opening Time        |
|--------------------|---------------------|
| 200                | 60 Seconds, Maximum |

### Description

The 303 Series are TR3®, fast-acting type, 125V rated fuses designed in accordance to UL 248-14.

### Features

- Reduced PCB space requirements
- Direct solderable or plug-in versions
- Internationally approved
- Low internal resistance
- Shock safe casing
- Vibration resistant
- Halogen free
- Lead-free
- Available from 50mA to 5A

### Applications

- Battery chargers
- Consumer electronics
- Power supplies
- Industrial controllers

### Additional Information



[Datasheet](#)





[Resources](#)



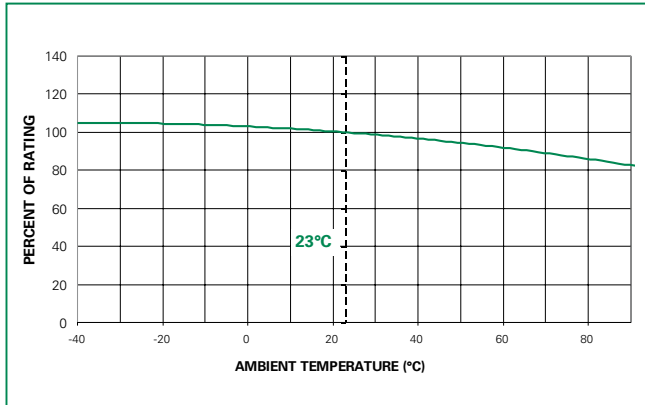
[Samples](#)

### Electrical Characteristics

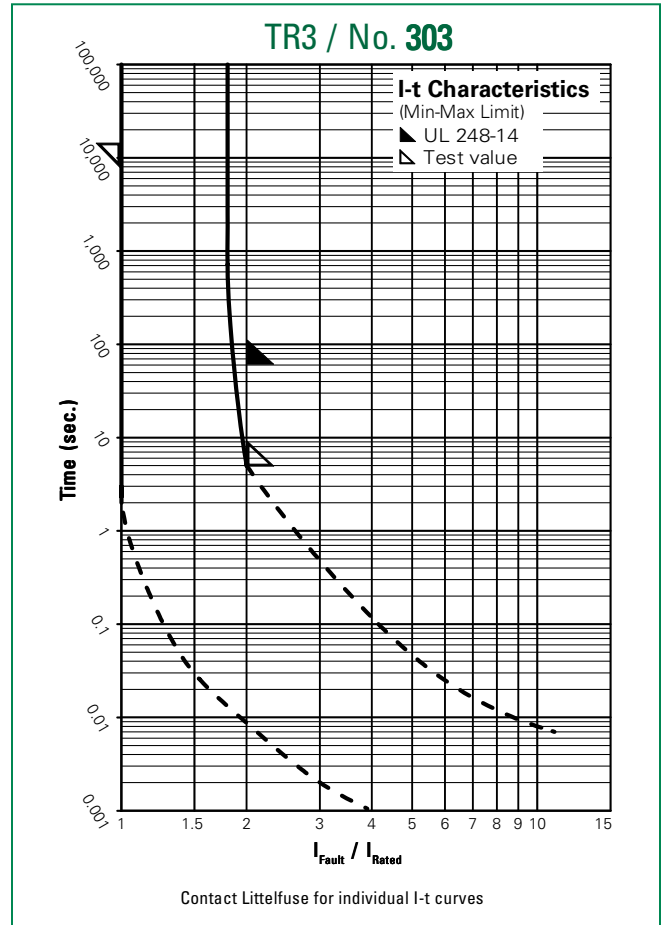
| Amp Code | Rated Current | Voltage Rating | Breaking Capacity                                      | Voltage Drop<br>1.0xI <sub>N</sub><br>max. (mV) | Power Dissipation<br>1.0xI <sub>N</sub><br>max. (mW) | Melting Integral<br>10xI <sub>N</sub><br>max. (A²s) | Approvals                                                                             |                                                                                       |
|----------|---------------|----------------|--------------------------------------------------------|-------------------------------------------------|------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|          |               |                |                                                        |                                                 |                                                      |                                                     |  |  |
| 0050     | 50mA          | 125V           | 50A / 125VAC<br>60-60 Hz/cos φ - 1<br><br>50A / 63 VDC | 800                                             | 40                                                   | 0.00007                                             | X                                                                                     | X                                                                                     |
| 0063     | 63mA          | 125V           |                                                        | 780                                             | 50                                                   | 0.00013                                             | X                                                                                     | X                                                                                     |
| 0080     | 80mA          | 125V           |                                                        | 730                                             | 60                                                   | 0.0002                                              | X                                                                                     | X                                                                                     |
| 0100     | 100mA         | 125V           |                                                        | 700                                             | 70                                                   | 0.0004                                              | X                                                                                     | X                                                                                     |
| 0125     | 125mA         | 125V           |                                                        | 650                                             | 85                                                   | 0.0022                                              | X                                                                                     | X                                                                                     |
| 0160     | 160mA         | 125V           |                                                        | 600                                             | 100                                                  | 0.0029                                              | X                                                                                     | X                                                                                     |
| 0200     | 200mA         | 125V           |                                                        | 550                                             | 110                                                  | 0.0042                                              | X                                                                                     | X                                                                                     |
| 0250     | 250mA         | 125V           |                                                        | 500                                             | 125                                                  | 0.0082                                              | X                                                                                     | X                                                                                     |
| 0315     | 315mA         | 125V           |                                                        | 450                                             | 145                                                  | 0.015                                               | X                                                                                     | X                                                                                     |
| 0400     | 400mA         | 125V           |                                                        | 400                                             | 160                                                  | 0.025                                               | X                                                                                     | X                                                                                     |
| 0500     | 500mA         | 125V           |                                                        | 380                                             | 190                                                  | 0.042                                               | X                                                                                     | X                                                                                     |
| 0630     | 630mA         | 125V           |                                                        | 160                                             | 100                                                  | 0.015                                               | X                                                                                     | X                                                                                     |
| 0800     | 800mA         | 125V           |                                                        | 155                                             | 125                                                  | 0.025                                               | X                                                                                     | X                                                                                     |
| 1100     | 1.00A         | 125V           |                                                        | 150                                             | 155                                                  | 0.039                                               | X                                                                                     | X                                                                                     |
| 1125     | 1.25A         | 125V           |                                                        | 145                                             | 185                                                  | 0.059                                               | X                                                                                     | X                                                                                     |
| 1160     | 1.60A         | 125V           |                                                        | 140                                             | 225                                                  | 0.11                                                | X                                                                                     | X                                                                                     |
| 1200     | 2.00A         | 125V           |                                                        | 130                                             | 260                                                  | 0.17                                                | X                                                                                     | X                                                                                     |
| 1250     | 2.50A         | 125V           |                                                        | 125                                             | 315                                                  | 0.23                                                | X                                                                                     | X                                                                                     |
| 1315     | 3.15A         | 125V           |                                                        | 120                                             | 380                                                  | 0.45                                                | X                                                                                     | X                                                                                     |
| 1400     | 4.00A         | 125V           |                                                        | 110                                             | 440                                                  | 1.0                                                 | X                                                                                     | X                                                                                     |
| 1500     | 5.00A         | 125V           | 105                                                    | 525                                             | 1.5                                                  | X                                                   | X                                                                                     |                                                                                       |

Note: 1.00 means the number one with two decimal places. 1,000 means the number one thousand.

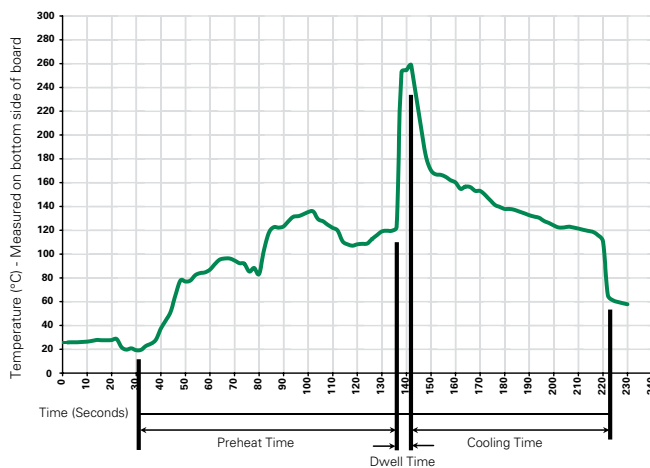
**Temperature Rerating Curve**



**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.

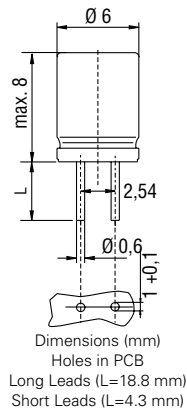
**Note: These devices are not recommended for IR or Convection Reflow process.**

## Product Characteristics

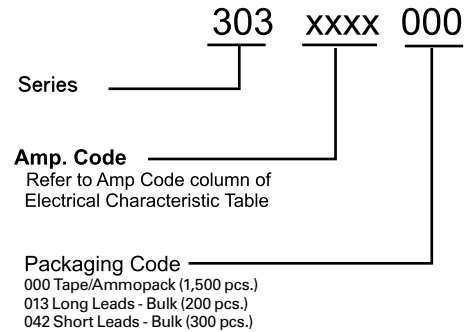
|                                  |                                                                                                                                      |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Materials</b>                 | Base/Cap: Black Thermoplastic Base<br>Polyamide PA 6.6, UL 94V-0<br>Brass, Nickel-plated Cap<br>Round Pins: Copper alloy, Tin-plated |
| <b>Lead Pull Strength</b>        | 10 N (EN 60068-2-21)                                                                                                                 |
| <b>Solderability</b>             | 260°C, ≤ 3s. (Wave)<br>350°C, ≤ 1s. (Soldering Iron)                                                                                 |
| <b>Soldering Heat Resistance</b> | 260°C, 10s. (IEC 60068-2-20)<br>350°C, 3s. (Soldering Iron)                                                                          |

|                              |                                                                                                                   |
|------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Operating Temperature</b> | -25°C to +70°C (consider de-rating)                                                                               |
| <b>Climatic Category</b>     | -25°C/+70°C/21 days<br>(EN 60068-1..3)                                                                            |
| <b>Stock Conditions</b>      | +10°C to +60°C RH,<br>≤75% yearly average, without dew                                                            |
| <b>Vibration Resistance</b>  | 24 cycles at 15 min. each<br>(EN 60068-6)<br>10 - 60 Hz at 0.75 mm amplitude<br>60 - 2000 Hz at 10 g acceleration |

## Dimensions



## Part Numbering System



## Packaging

| Packaging Option  | Packaging Specification | Quantity | Quantity & Packaging Code | Reel Size |
|-------------------|-------------------------|----------|---------------------------|-----------|
| <b>303 Series</b> |                         |          |                           |           |
| Tape & Ammopack   | N/A                     | 1,500    | 000                       | N/A       |
| Long Leads        | N/A                     | 200      | 013                       | N/A       |
| Short Leads       | N/A                     | 300      | 042                       | N/A       |