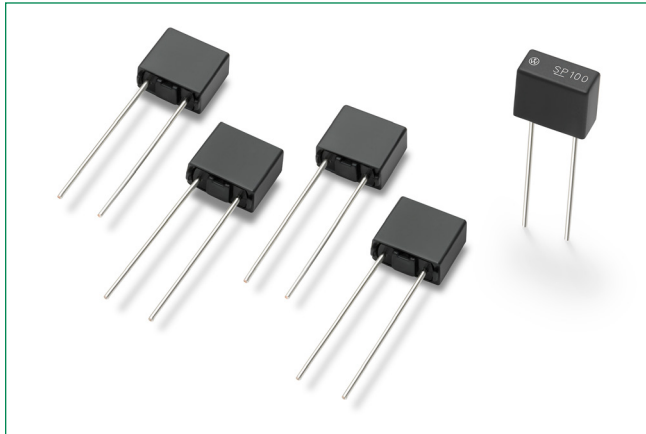


# 391 Series

## TE5® Fast-Acting Fuse



### Description

The 391 Series are TE5® short circuit protector, fast-acting type, 65V rated fuses. For Short Circuit Protection of Sensitive Electronic Components and Assemblies.

### Features & Benefits

- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14
- Reduced PCB space requirements
- Highly defined cut-off times
- Low internal resistance
- Flame resistant encapsulated casing
- RoHS-compliant and Lead-free
- Available from 0.125A to 4A.

### Additional Information



Resources



Accessories



Samples

### Applications

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

### Electrical Characteristics

| % of Ampere Rating | Opening Time           |
|--------------------|------------------------|
| 300                | 2 Seconds, <b>Max.</b> |

### Agency Approvals

| Agency | Agency File Number | Ampere Range |
|--------|--------------------|--------------|
| UL US  | E67006             | 0.125A - 4A  |
| UK CA  | NA                 | 0.125A - 4A  |

### Electrical Characteristics

| Amp Code | Rated Current | Marking Code* | Voltage Rating | Breaking Capacity | Nominal Cold Resistance (Ohms) | Cold Resistance $0.1 \times I_N$ max. (mΩ) | Power Dissipation $1.0 \times I_N$ max. (mW) | Melting Integral $10 \times I_N$ max. (A <sup>2</sup> s) | Agency Approvals |       |
|----------|---------------|---------------|----------------|-------------------|--------------------------------|--------------------------------------------|----------------------------------------------|----------------------------------------------------------|------------------|-------|
|          |               |               |                |                   |                                |                                            |                                              |                                                          | UK CA            | UL US |
| 0125     | 125 mA        | SP13          | 65 V           | 50A<br>@65VAC/VDC | 3.4000                         | 3400                                       | 190                                          | 0.006                                                    | x                | x     |
| 0160     | 160 mA        | SP16          | 65 V           |                   | 2.4800                         | 2450                                       | 210                                          | 0.011                                                    | x                | x     |
| 0200     | 200 mA        | SP20          | 65 V           |                   | 1.7500                         | 1750                                       | 240                                          | 0.020                                                    | x                | x     |
| 0250     | 250 mA        | SP25          | 65 V           |                   | 0.1950                         | 195                                        | 52                                           | 0.012                                                    | x                | x     |
| 0315     | 315 mA        | SP32          | 65 V           |                   | 0.1850                         | 155                                        | 65                                           | 0.018                                                    | x                | x     |
| 0400     | 400 mA        | SP40          | 65 V           |                   | 0.1200                         | 120                                        | 85                                           | 0.038                                                    | x                | x     |
| 0500     | 500 mA        | SP50          | 65 V           |                   | 0.0950                         | 95                                         | 105                                          | 0.063                                                    | x                | x     |
| 0630     | 630 mA        | SP63          | 65 V           |                   | 0.0750                         | 75                                         | 135                                          | 0.105                                                    | x                | x     |
| 0800     | 800 mA        | SP80          | 65 V           |                   | 0.0580                         | 58                                         | 170                                          | 0.170                                                    | x                | x     |
| 1100     | 1.00 A        | SP100         | 65 V           |                   | 0.0460                         | 46                                         | 220                                          | 0.280                                                    | x                | x     |
| 1125     | 1.25 A        | SP125         | 65 V           |                   | 0.0370                         | 37                                         | 270                                          | 0.450                                                    | x                | x     |
| 1160     | 1.60 A        | SP160         | 65 V           |                   | 0.0290                         | 29                                         | 350                                          | 0.832                                                    | x                | x     |
| 1200     | 2.00 A        | SP200         | 65 V           |                   | 0.0236                         | 23                                         | 440                                          | 1.060                                                    | x                | x     |
| 1250     | 2.50 A        | SP250         | 65 V           |                   | 0.0180                         | 18                                         | 550                                          | 2.219                                                    | x                | x     |
| 1315     | 3.15 A        | SP315         | 65 V           |                   | 0.0140                         | 14                                         | 700                                          | 3.870                                                    | x                | x     |
| 1400     | 4.00 A        | SP400         | 65 V           |                   | 0.0115                         | 12                                         | 900                                          | 6.500                                                    | x                | x     |

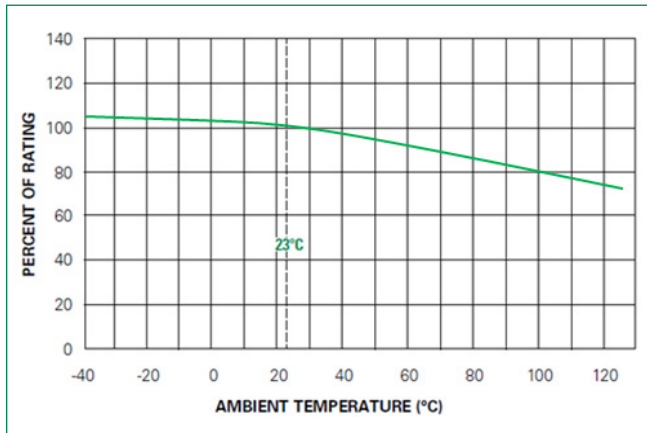
#### Notes:

- \* Physical Marking on top of the device.
- Resistance is measured at 10% of rated current, 25°C.

# 391 Series

## TE5® Fast-Acting Fuse

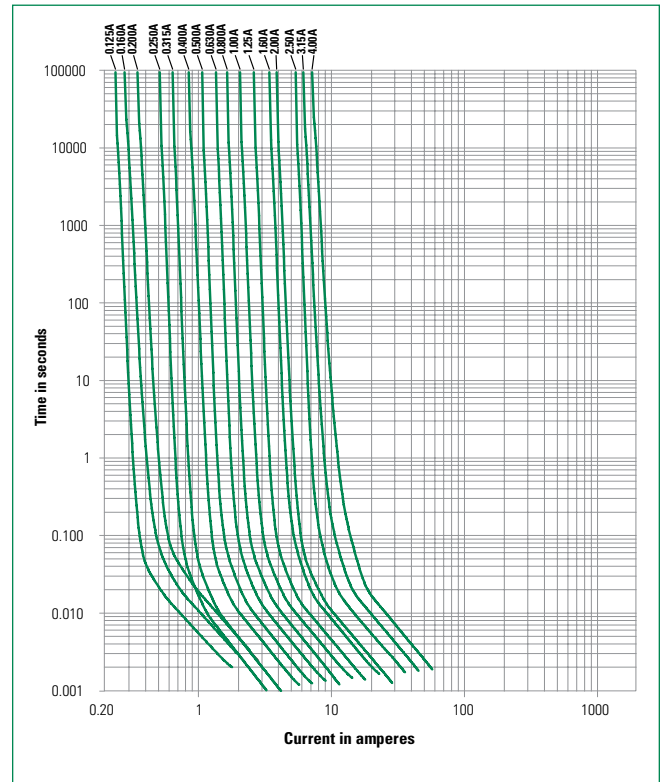
### Temperature Re-rating Curve



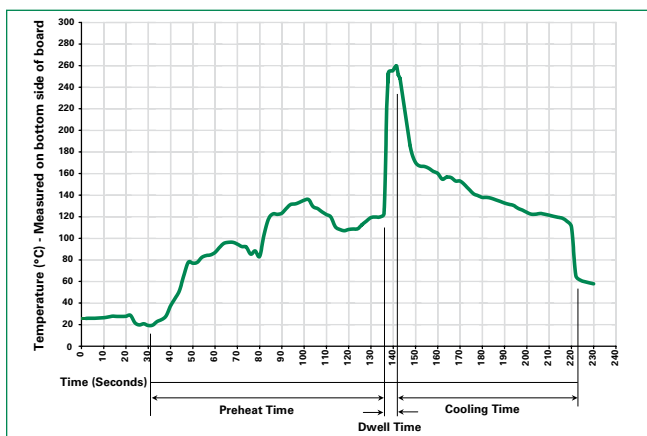
#### Note:

1. 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          |
|------------------------------------------------------|-----------------------------------|
| 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.

# 391 Series

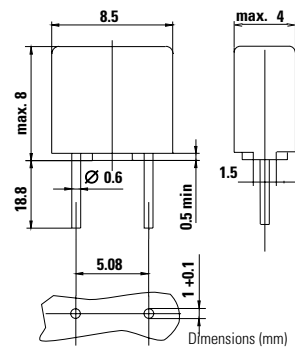
## TE5® Fast-Acting Fuse

### Product Characteristics

|                                  |                                                                                         |
|----------------------------------|-----------------------------------------------------------------------------------------|
| <b>Materials</b>                 | Base/Cap: Thermoplastic<br>Polyamide PA 6.6, UL 94V-0<br>Round Pins: Copper, 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)                             |

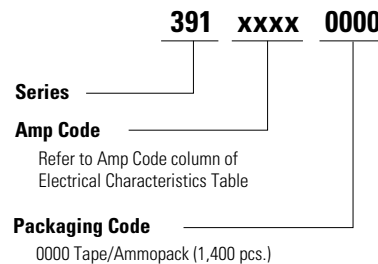
|                              |                                                                                                                      |
|------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Operating Temperature</b> | -40°C to +125°C (consider re-rating)                                                                                 |
| <b>Climatic Category</b>     | -40°C to +85°C/21 days<br>(IEC 60068-1,-2-1,-2-2,-78)                                                                |
| <b>Stock Conditions</b>      | +10 °C to +60 °C RH,<br>≤ 75% yearly average, without dew, maximum<br>value for 30 days-95%                          |
| <b>Vibration Resistance</b>  | 24 cycles at 15 min. each<br>(IEC 60068-2-6)<br>10 - 60 Hz at 0.75 mm amplitude<br>60 - 2000 Hz at 10 g acceleration |

### Dimensions



Holes in the printed circuit board

### Part Numbering System



### Packaging

| Packaging Option  | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|-------------------|-------------------------|----------|---------------------------|--------------|
| <b>391 Series</b> |                         |          |                           |              |
| Tape & Ammopack   | N/A                     | 1,400    | 0000                      | N/A          |

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