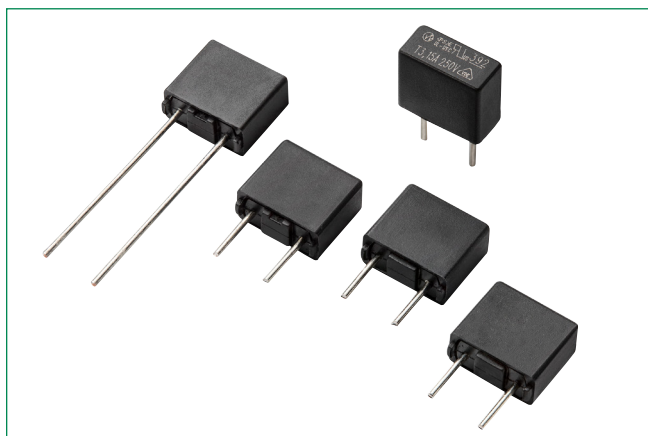


# 392 Series

## TE5 Time-Lag Fuse



### Description

The 392 Series is a TE5 Fuse. It is a time-lag fuse designed in accordance to IEC 60127-3, Standard Sheet 4.

### 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 and RoHS compliant
- Red Phosphorus Free
- Conforms to EN/IEC/J/K 60127-1 and EN/IEC/J/K 60127-3
- Conforms to GB/T 9364.1 and GB/T 9364.3
- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14

### Additional Information



Resources



Accessories



Samples

### Applications

- Battery Chargers
- Consumer Electronics
- Power supplies
- Industrial Controllers
- Power Adapters

### Agency Approvals

| Agency | Agency File Number   | Ampere Range  |
|--------|--|---|
|        | 126983   | 0.28 A - 6.3 A *                                      |
|        | E67006   | 0.28 A - 6.3 A  |
|        | N/A  | 0.28 A - 6.3 A  |
|        | 2020970207000069   | 0.5 A - 6.3 A   |
|        | NBK291021-JP1021   | 1 A - 5 A   |
|        | SU05024 - 7013A<br>SU05024 - 7014B<br>SU05024 - 7015B<br>SU05024 - 7016B<br>SU05024 - 7017B<br>SU05024 - 7018B | 0.8 A<br>1 A - 2.5 A<br>3.15 A<br>4 A<br>5 A<br>6.3 A |

\*Red Phosphorus Free from 0.28A to 5A.

### Electrical Characteristics for Series

| % of Ampere Rating | Opening Time                             |
|--------------------|--|
| 150%               | 1 Hour, <b>Min.</b>                      |
| 210%               | 120 s, <b>Max.</b>                       |
| 275%               | 400 ms <b>Min.</b> ; 10 Sec. <b>Max.</b> |
| 400%               | 150 ms <b>Min.</b> ; 3 Sec. <b>Max.</b>  |
| 1000%              | 20 ms <b>Min.</b> ; 150 ms <b>Max.</b>   |

### Electrical Characteristic Specifications by Item

| Rated Current | Amp Code | Voltage Rating | Breaking Capacity                                   | Nominal Cold Resistance (Ohms) <sup>3</sup> | Voltage Drop 1.0xI <sub>N</sub> max. (mV) | Power Dissipation 1.5xI <sub>N</sub> max. (mW) | Melting Integral 10xI <sub>N</sub> max. (A <sup>2</sup> s) | Agency Approvals |   |   |   |   |   |
|---------------|----------|----------------|---|---|---|--|--|------------------|---|---|---|---|---|
|               |          |                |   |   |   |  |  |                  |   |   |   |   |   |
| 280 mA        | 280      | 250 V          | 35A@250Vac <sup>1</sup><br>130A@250Vac <sup>2</sup> | 0.33  | 115                                       | 168  | 0.048  | x                | x | - | - | x | - |
| 500 mA        | 500      | 250 V          |   | 0.163                                       | 105                                       | 125  | 2.175  | x                | x | x | x | x | - |
| 800 mA        | 800      | 250 V          |   | 0.096                                       | 110                                       | 280  | 5.12   | x                | x | x | x | x | - |
| 1.0 A         | 1100     | 250 V          |   | 0.0715                                      | 115                                       | 400  | 8.0  | x                | x | x | x | x | x |
| 1.25 A        | 1125     | 250 V          |   | 0.0569                                      | 100                                       | 500  | 11.95  | x                | x | x | x | x | x |
| 1.6 A         | 1160     | 250 V          |   | 0.04  | 95  | 600  | 18.43  | x                | x | x | x | x | x |
| 2.0 A         | 1200     | 250 V          |   | 0.0298                                      | 90  | 700  | 29.0   | x                | x | x | x | x | x |
| 2.5 A         | 1250     | 250 V          | 40A@250Vac <sup>1</sup><br>50A@250Vac <sup>2</sup>  | 0.024                                       | 85  | 750  | 47.81  | x                | x | x | x | x | x |
| 3.15 A        | 1315     | 250 V          |   | 0.017                                       | 80  | 1100   | 78.39  | x                | x | x | x | x | x |
| 4.0 A         | 1400     | 250 V          |   | 0.0128                                      | 75  | 1200   | 126.4  | x                | x | x | x | x | x |
| 5.0 A         | 1500     | 250 V          |   | 0.0101                                      | 70  | 1000   | 106.25   | x                | x | x | x | x | x |
| 6.3 A         | 1630     | 250 V          |   | 0.0077                                      | 65  | 1200   | 160.74   | x                | x | x | x | x | - |

Note:

1. Per EN/IEC/J/K 60127-1 and EN/IEC/J/K 60127-3.

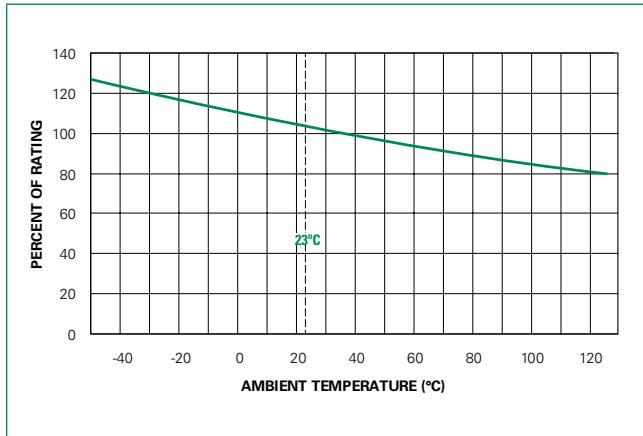
2. Per UL 248-1 and UL 248-14.

3. Resistance in measured at 10% of rated current, 25 °C.

# 392 Series

## TE5 Time-Lag Fuse

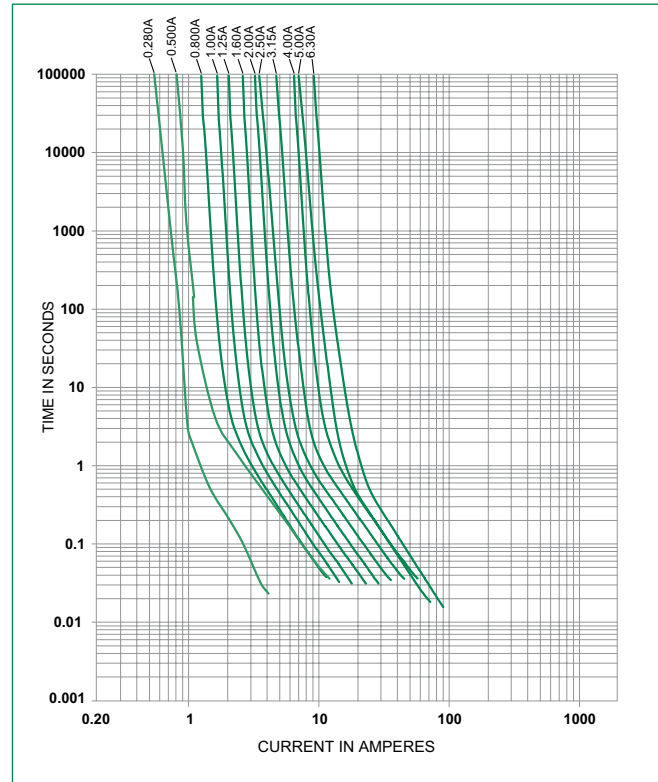
### Temperature Re-rating Curve



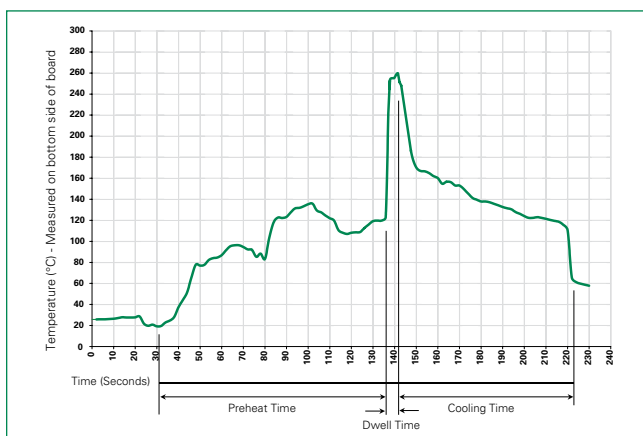
#### Note:

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.

# 392 Series

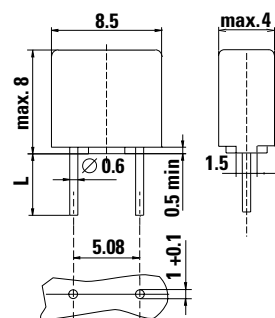
## TE5 Time-Lag Fuse

### Product Characteristics

|                                  |  |
|----------------------------------|--|
| <b>Materials</b>                 | Base/Cap: Thermoplastic<br>Polyamide PA 6.6, UL 94 V-0<br>Round Pins: Copper, Tin-plated |
| <b>Lead Pull Strength</b>        | 10 N (IEC 60068-2-21)  |
| <b>Solderability</b>             | 260 °C, ≤ 3 sec. (Wave)<br>350 °C, ≤ 3 sec. (Soldering iron)                             |
| <b>Soldering Heat Resistance</b> | 260 °C, 10 sec. (IEC 60068-2-20)<br>350 °C, ≤ 3 sec. (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, -2-78)   |
| <b>Stock Condition</b>       | +10 °C to +60 °C<br>Relative humidity ≤ 75% yearly average, without dew, maximum 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

Long Leads (L=18.8mm ±0.3)  
Short Leads (L=4.3mm ±0.3)

### Part Numbering System

|                       |   |             |             |
|-----------------------|---|-------------|-------------|
|                       | <b>392</b>  | <b>xxxx</b> | <b>0000</b> |
| <b>Series</b>         |   |             |             |
| <b>Amp Code</b>       |   |             |             |
|                       | Refer to Amp Code column of<br>Electrical Characteristics Table         |             |             |
| <b>Packaging Code</b> |   |             |             |
|                       | 0000 Tape/Ammopack (1,400 pcs.)<br>0440 Short Leads - Bulk (1,400 pcs.) |             |             |

### Packaging

| Packaging Option  | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|-------------------|-------------------------|----------|---------------------------|--------------|
| Tape and Ammopack | N/A                     | 1,400    | 0000                      | N/A          |
| Short Leads       | N/A                     | 1,400    | 0440                      | N/A          |

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