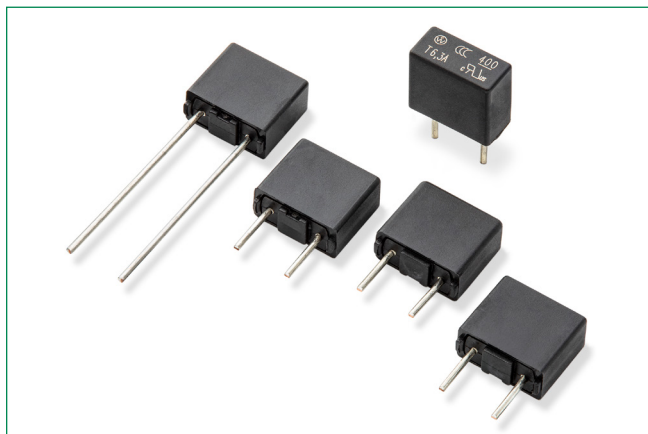


# 400 Series

## TE5® Time-Lag Fuse



### Additional Information



Resources



Accessories



Samples

### Electrical Characteristics

| % of Ampere Rating | Opening Time                       |
|--------------------|------------------------------------|
| 150%               | 1 Hour, Minimum                    |
| 210%               | 120 Secs., Maximum                 |
| 275%               | 400 ms, Minimum; 10 Secs., Maximum |
| 400%               | 150 ms, Minimum; 3 Secs., Maximum  |
| 1000%              | 20 ms, Minimum; 150 ms, Maximum    |

### Description

The 400 Series TE5® Fuse is a Time-Lag type subminiature fuse that is designed for overcurrent protection. It is rated 250V and meets the requirements of IEC 60127-3.

### Features & Benefits

- Halogen free, Lead-free and RoHS compliant
- Reduced PCB space requirements
- Direct solderable or plug-in versions
- Low internal resistance
- Shock safe casing
- Vibration resistant
- High Breaking Capacity up to 130A at 250VAC
- Internationally approved
- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14
- Conforms to IEC/EN/J/K 60127-1 and EC/EN/J/K 60127-3

### Applications

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

### Agency Approvals

| Agency | Agency File Number                                                            | Ampere Range                                           |
|--------|-------------------------------------------------------------------------------|--------------------------------------------------------|
|        | E67006                                                                        | 0.50A – 6.3A                                           |
|        | JD 60161567                                                                   | 1A - 6.3A                                              |
|        | 50532159                                                                      | 0.50A – 6.3A                                           |
|        | N/A                                                                           | 0.5A - 6.3A                                            |
|        | 2020970207000059                                                              | 0.50A – 6.3A                                           |
|        | SU05024-9004<br>SU05024-9003<br>SU05024-9001<br>SU05024-10003<br>SU05024-9002 | 0.50A – 0.80A<br>1A – 2.5A<br>3.15A<br>4A – 5A<br>6.3A |
|        | N/A                                                                           | 0.5A - 6.3A                                            |

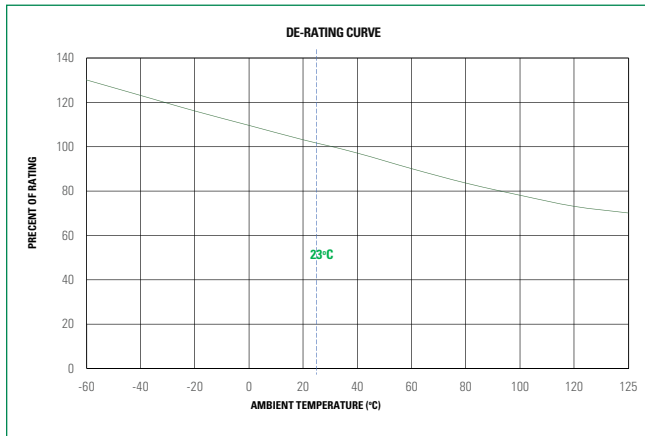
### Electrical Characteristics

| Amp Code | Rated Current | Rated Voltage (V) | Breaking Capacity | Nominal Cold Resistance (Ohms) | Voltage Drop 1.0I <sub>N</sub> max. (mV) | Power Dissipation 1.0I <sub>N</sub> max. (mW) | Melting Integral 10xI <sub>N</sub> max. (A²s) | Agency Approvals |   |   |   |   |   |   |
|----------|---------------|-------------------|-------------------|--------------------------------|------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------|---|---|---|---|---|---|
|          |               |                   |                   |                                |                                          |                                               |                                               |                  |   |   |   |   |   |   |
| 0.5      | 0.5A          | 250               | 130A @250VAC      | 0.1950                         | 165                                      | 297                                           | 2.170                                         | x                | - | x | x | x | x | x |
| 0800     | 0.8A          | 250               |                   | 0.1003                         | 116                                      | 387                                           | 6.720                                         | x                | - | x | x | x | x | x |
| 1100     | 1.00A         | 250               |                   | 0.0808                         | 89                                       | 432                                           | 10.70                                         | x                | x | x | x | x | x | x |
| 1125     | 1.25A         | 250               |                   | 0.0562                         | 76                                       | 411                                           | 14.44                                         | x                | x | x | x | x | x | x |
| 1160     | 1.60A         | 250               |                   | 0.0384                         | 76                                       | 601                                           | 21.75                                         | x                | x | x | x | x | x | x |
| 1200     | 2.00A         | 250               |                   | 0.0292                         | 75                                       | 758                                           | 46.00                                         | x                | x | x | x | x | x | x |
| 1250     | 2.50A         | 250               |                   | 0.0216                         | 61                                       | 683                                           | 61.94                                         | x                | x | x | x | x | x | x |
| 1315     | 3.15A         | 250               |                   | 0.0167                         | 55                                       | 921                                           | 101.61                                        | x                | x | x | x | x | x | x |
| 1400     | 4.00A         | 250               |                   | 0.0124                         | 65                                       | 936                                           | 133.40                                        | x                | x | x | x | x | x | x |
| 1500     | 5.00A         | 250               |                   | 0.0098                         | 56                                       | 948                                           | 216.50                                        | x                | x | x | x | x | x | x |
| 1630     | 6.30A         | 250               |                   | 0.0072                         | 48                                       | 926                                           | 323.08                                        | x                | x | x | x | x | x | x |

# 400 Series

## TE5® Time-Lag Fuse

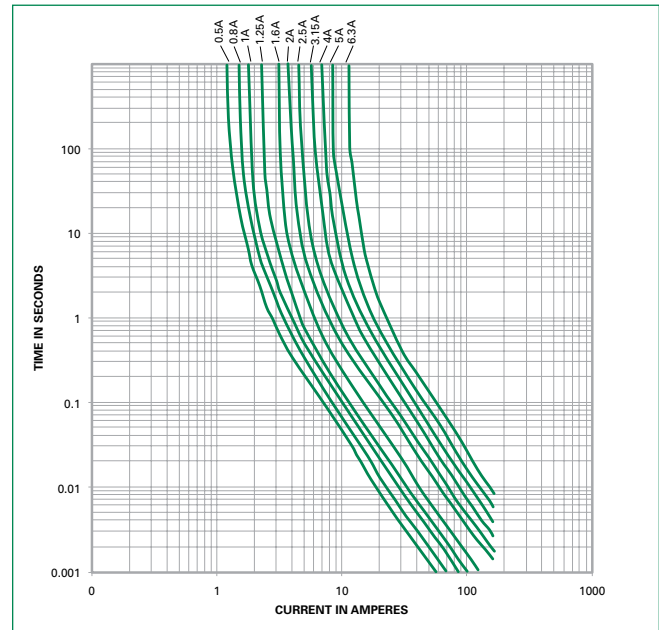
### Temperature Re-rating Curve



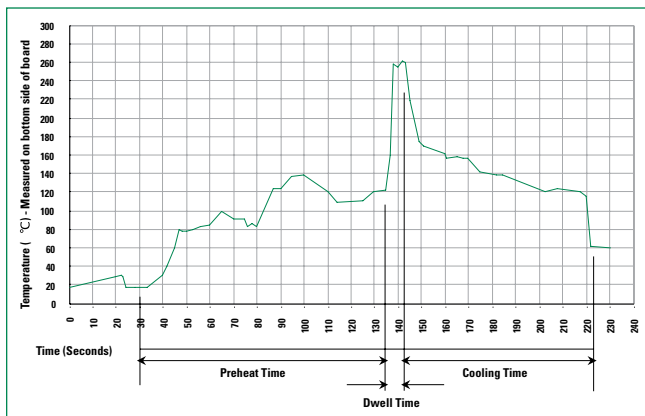
#### Note

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.

# 400 Series

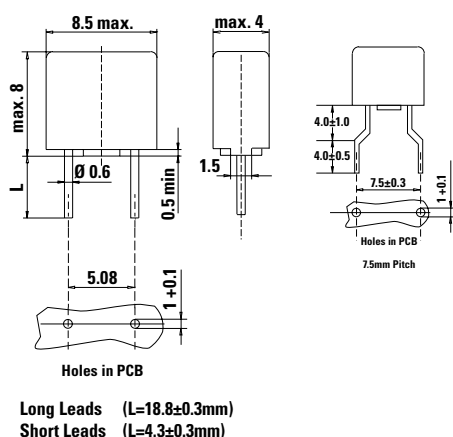
## TE5® Time-Lag Fuse

### Product Characteristics

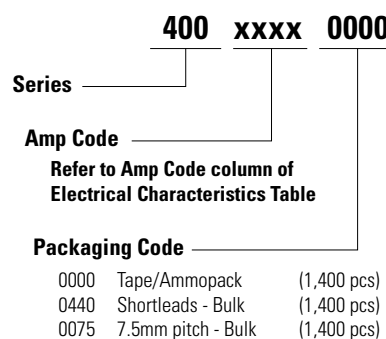
|                                  |                                                                                   |
|----------------------------------|-----------------------------------------------------------------------------------|
| <b>Materials</b>                 | Base/Cap: Thermoplastic<br>Polyamide, 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, ≤ 3s. (Wave)<br>350°C, ≤ 3s. (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 +125°C/21 days<br>(IEC 60068-1, -2-1, -2-2, -2-78)                                               |
| <b>Stock Conditions</b>      | +10°C to +60°C relative humidity 75% yearly average, without dew, maximum value for 30 days – 95%         |
| <b>Vibration Resistance</b>  | 24 cycles at 15 min. each (IEC 60028-2-6)<br>10–60Hz at 0.75mm amplitude<br>20–2000Hz at 10g acceleration |

### Dimensions



### Part Numbering System



### Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|------------------|-------------------------|----------|---------------------------|--------------|
| 400 Series       |                         |          |                           |              |
| Tape & Ammopack  | N/A                     | 1,400    | 0000                      | N/A          |
| Short Leads      | N/A                     | 1,400    | 0440                      | N/A          |
| 7.5 mm Pitch     | N/A                     | 1,400    | 0075                      | N/A          |

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