

# 471 Series

## PICO® II Time-Lag Fuse



### Description

The 471 Series PICO® II Time-Lag Fuse is designed for applications that require moderate in-rush withstand and is in a space-saving subminiature package.

### Features & Benefits

- Moderate in-rush withstand
- Small size
- Wide range of current ratings available (0.500A to 5A)
- RoHS compliant
- Halogen-free available
- Wide operating temperature range
- Low temperature de-rating

### Additional Information



Resources



Accessories



Samples

### Applications

- Flat-panel display TV
- LCD monitor
- Lighting systems
- Medical equipments
- Industrial equipments

### Agency Approvals

| Agency | Agency File Number | Ampere Range |
|--------|--------------------|--------------|
|        | E10480             | 0.5A - 5A    |
|        | 29862              | 0.5A - 5A    |
|        | NBK200416-JP1021   | 1A - 5A      |
|        | NA                 | 0.5 - 5A     |

### Electrical Characteristics

| % of Ampere Rating | Opening Time             |
|--------------------|--------------------------|
| 100%               | 4 Hours, <b>Min.</b>     |
| 200%               | 120 Seconds, <b>Max.</b> |

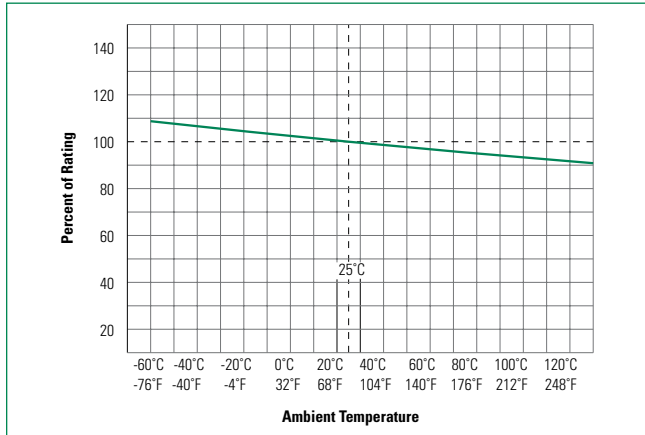
### Electrical Characteristics

| Ampere Rating(A) | Amp Code | Max Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting I²t (A² sec) | Agency Approvals |   |   |   |
|------------------|----------|------------------------|---------------------|--------------------------------|------------------------------|------------------|---|---|---|
|                  |          |                        |                     |                                |                              |                  |   |   |   |
| .500             | .500     | 125                    | 50A@125VAC/DC       | 0.1890                         | 0.159                        | -                | X | - | X |
| 1.00             | 001.     | 125                    |                     | 0.0851                         | 0.722                        | X                | X | X | X |
| 1.50             | 01.5     | 125                    |                     | 0.0535                         | 1.610                        | X                | X | X | X |
| 2.00             | 002.     | 125                    |                     | 0.0385                         | 2.500                        | X                | X | X | X |
| 2.50             | 02.5     | 125                    |                     | 0.0300                         | 4.390                        | X                | X | X | X |
| 3.00             | 003.     | 125                    |                     | 0.0231                         | 6.960                        | X                | X | X | X |
| 3.50             | 03.5     | 125                    |                     | 0.0180                         | 9.900                        | X                | X | X | X |
| 4.00             | 004.     | 125                    |                     | 0.0115                         | 10.600                       | X                | X | X | X |
| 5.00             | 005.     | 125                    |                     | 0.0084                         | 15.400                       | X                | X | X | X |

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## PICO® II Time-Lag Fuse

### Temperature Re-rating Curve



**Note:** Re-rating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

### Soldering Parameters

#### Recommended Process Parameters:

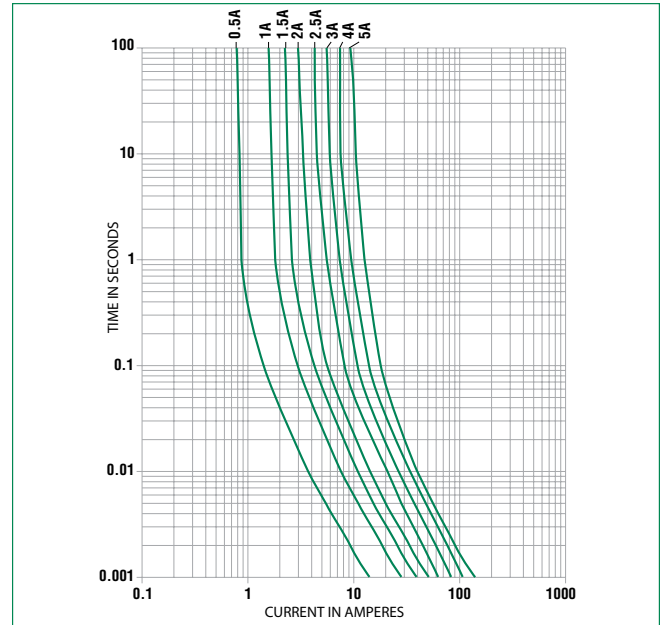
| Wave Parameter                                       | Lead-Free Recommendation          |
|------------------------------------------------------|-----------------------------------|
| Preheat:<br>(Depends on Flux Activation Temperature) | (Typical Industry Recommendation) |
| Temperature Minimum:                                 | 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.

### Average Time Current Curves



### Product Characteristics

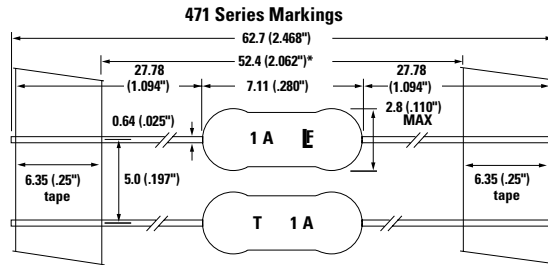
|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>Materials</b>           | Encapsulated, Epoxy-Coated Body; Solder Coated Copper wire leads; RoHS compliant Product: Pure Tin-coated Copper wire leads |
| <b>Flammability Rating</b> | UL 94V-0                                                                                                                    |
| <b>Solderability</b>       | MIL-STD-202, Method 208                                                                                                     |
| <b>Lead Pull Force</b>     | MIL-STD-202, Method 211, Test Condition A (will withstand a 7 lbs. axial pull test)                                         |

|                                     |                                                                                              |
|-------------------------------------|----------------------------------------------------------------------------------------------|
| <b>Operating Temperature</b>        | -55°C to +125°C (Consider re-rating)                                                         |
| <b>Shock</b>                        | MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds)                  |
| <b>Vibration</b>                    | MIL-STD-202, Method 201 (10-55 Hz); Method 204, Test Condition C (55-2000 Hz at 10 G's Peak) |
| <b>Moisture Resistance</b>          | MIL-STD-202, Method 106                                                                      |
| <b>Resistance to Soldering Heat</b> | Withstands 60 seconds above 200°C and up to 260°C, maximum                                   |

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## PICO® II Time-Lag Fuse

### Dimensions



### Part Numbering System

|                                                              | 0471 | xxxx | N | R | T1 | L |
|--------------------------------------------------------------|------|------|---|---|----|---|
| <b>Series</b>                                                |      |      |   |   |    |   |
| <b>Current Rating</b>                                        |      |      |   |   |    |   |
| Refer to Amp Code column of Electrical Characteristics Table |      |      |   |   |    |   |
| <b>Quantity</b>                                              |      |      |   |   |    |   |
| N = 5000                                                     |      |      |   |   |    |   |
| P = 2000                                                     |      |      |   |   |    |   |
| <b>Type of Packaging</b>                                     |      |      |   |   |    |   |
| R = Reel                                                     |      |      |   |   |    |   |
| A = Ammo Pack                                                |      |      |   |   |    |   |
| <b>Lead Length</b>                                           |      |      |   |   |    |   |
| T1: 52.4mm (2.062")*                                         |      |      |   |   |    |   |
| <b>Environmental Options</b>                                 |      |      |   |   |    |   |
| Blank = RoHS                                                 |      |      |   |   |    |   |
| L = RoHS + HF                                                |      |      |   |   |    |   |

### Packaging

| Packaging Option                   | Packaging Specification | Quantity & Packaging Code                                             |
|------------------------------------|-------------------------|-----------------------------------------------------------------------|
| *T1: 52.4mm (2.062") Tape and Reel | EIA 296                 | Please refer to available quantities above in "Part Numbering System" |

#### Notes:

\* - T1 dimension is defined as the length of the component between the two tapes. The full component length is 62.7mm (2.468").