

# 370 Series

## TR5® Fuse, Fast Acting



### Description

The 370 Series are sub-miniature TR5® fuses, fast acting type, 250V rated fuses, designed in accordance to IEC 60127-3.

### Features & Benefits

- Reduced PCB space requirements
- Direct solderable or plug-in versions
- Internationally approved
- Low internal resistance
- Shock safe casing
- Vibration resistant
- Lead-free, Halogen free and RoHS compliant
- Available from 0.040A to 6.3A
- UL Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14
- Conforms to EN/J 60127-1 and EN/J 60127-3
- Conforms to GB/T9364.1 and GB/T9364.3

### Additional Information



Resources



Accessories



Samples

### Applications

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

### Agency Approvals

| Agency   | Certificate Number | Ampere Range    |
|----------|--------------------|-----------------|
| CE UK CA | NA                 | 0.040A - 6.3A   |
| VDE      | 40021074           | 0.050A - 0.080A |
|          | 98941              | 0.100A - 5A     |
|          | 40005316           | 6.3A            |
| VDE      | 40024532           | 0.040A          |
| c UL US  | E67006             | 0.040A - 6.3A   |
| PS E     | NBK291021-JP1021   | 1A - 5A         |
| CCC      | 2020970207000050   | 0.050A - 6.3A   |

### Electrical Characteristics

| % of Ampere Rating | Opening Time                             |
|--------------------|------------------------------------------|
| 150%               | 1 Hour, <b>Min.</b>                      |
| 210%               | 30 Minutes, <b>Max.</b>                  |
| 275%               | 10 ms, <b>Min.</b> ; 3 Sec., <b>Max.</b> |
| 400%               | 3 ms, <b>Min.</b> ; 300 ms, <b>Max.</b>  |
| 1000%              | 20 ms, <b>Max.</b>                       |

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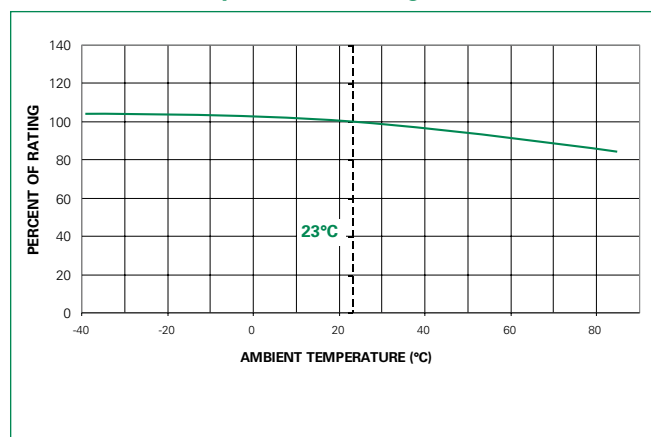
### Electrical Characteristics

| Amp Code | Rated Current | Voltage Rating | Breaking Capacity <sup>3</sup> | Nominal Cold Resistance (Ohms) <sup>2</sup> | Voltage Drop $1.0 \times I_N$ max. (mV) | Power Dissipation $1.5 \times I_N$ max. (mW) | Melting Integral $10 \times I_N$ max. (A <sup>2</sup> s) | Agency Approvals |    |     |     |     |    |     |
|----------|---------------|----------------|--------------------------------|---------------------------------------------|-----------------------------------------|----------------------------------------------|----------------------------------------------------------|------------------|----|-----|-----|-----|----|-----|
|          |               |                |                                |                                             |                                         |                                              |                                                          | UK CA            | CE | VDE | D'E | CUL | US | CCC |
| 0040     | 40mA          | 250V           | 35A @ 250VAC                   | 6.0000                                      | 900                                     | 100                                          | 0.0002                                                   | X                | X  | X   | -   | X   | -  | -   |
| 0050     | 50mA          | 250V           |                                | 4.0224                                      | 320                                     | 80                                           | 0.0004                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0063     | 63mA          | 250V           |                                | 2.6740                                      | 350                                     | 100                                          | 0.0005                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0080     | 80mA          | 250V           |                                | 2.0000                                      | 370                                     | 120                                          | 0.0014                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0100     | 100mA         | 250V           |                                | 4.6100                                      | 600                                     | 130                                          | 0.0038                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0125     | 125mA         | 250V           |                                | 3.2400                                      | 550                                     | 172                                          | 0.0066                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0160     | 160mA         | 250V           |                                | 2.2520                                      | 500                                     | 165                                          | 0.0140                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0200     | 200mA         | 250V           |                                | 1.6900                                      | 465                                     | 190                                          | 0.0300                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0250     | 250mA         | 250V           |                                | 1.3420                                      | 400                                     | 250                                          | 0.0510                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0315     | 315mA         | 250V           |                                | 0.9300                                      | 380                                     | 250                                          | 0.1000                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0400     | 400mA         | 250V           |                                | 0.1610                                      | 120                                     | 135                                          | 0.0250                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0500     | 500mA         | 250V           |                                | 0.1210                                      | 120                                     | 155                                          | 0.0420                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0630     | 630mA         | 250V           |                                | 0.0920                                      | 115                                     | 200                                          | 0.0760                                                   | X                | X  | -   | X   | X   | -  | X   |
| 0800     | 800mA         | 250V           |                                | 0.0760                                      | 120                                     | 310                                          | 0.1200                                                   | X                | X  | -   | X   | X   | -  | X   |
| 1100     | 1.00A         | 250V           |                                | 0.0676                                      | 110                                     | 310                                          | 0.2000                                                   | X                | X  | -   | X   | X   | X  | X   |
| 1125     | 1.25A         | 250V           |                                | 0.0518                                      | 100                                     | 360                                          | 0.3100                                                   | X                | X  | -   | X   | X   | X  | X   |
| 1160     | 1.60A         | 250V           |                                | 0.0420                                      | 100                                     | 600                                          | 0.5300                                                   | X                | X  | -   | X   | X   | X  | X   |
| 1200     | 2.00A         | 250V           |                                | 0.0325                                      | 85                                      | 500                                          | 0.9800                                                   | X                | X  | -   | X   | X   | X  | X   |
| 1250     | 2.50A         | 250V           |                                | 0.0246                                      | 80                                      | 660                                          | 1.8000                                                   | X                | X  | -   | X   | X   | X  | X   |
| 1315     | 3.15A         | 250V           | 40A / 250VAC                   | 0.0184                                      | 90                                      | 950                                          | 3.1000                                                   | X                | X  | -   | X   | X   | X  | X   |
| 1400     | 4.00A         | 250V           |                                | 0.0129                                      | 80                                      | 920                                          | 6.7000                                                   | X                | X  | -   | X   | X   | X  | X   |
| 1500     | 5.00A         | 250V           | 50A / 250VAC                   | 0.0105                                      | 80                                      | 1000                                         | 12.0000                                                  | X                | X  | -   | X   | X   | X  | X   |
| 1630     | 6.30A*        | 250V           | 63A / 250VAC                   | 0.0073                                      | 70                                      | 1200                                         | 24.0000                                                  | X                | X  | -   | X   | X   | -  | X   |

#### Notes:

- 1) 1.00 means the number one with two decimal places, 1,000 means the number one thousand.
- 2) Resistance is measured at 10% of rated current, 25°C.
- 3) Breaking Capacity may differ based on Agency Approval. See Agency Approval certificate for more details.

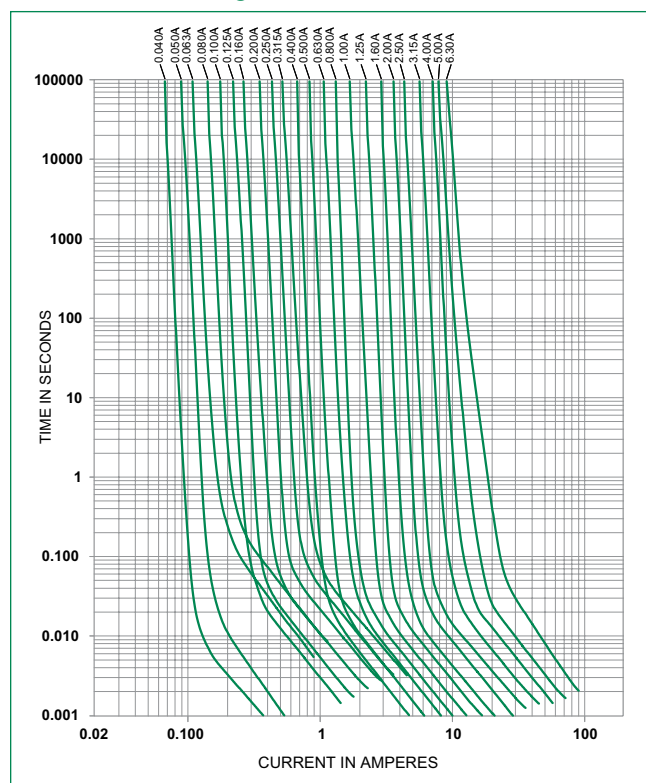
### Temperature Derating Curve



#### Note

1. Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

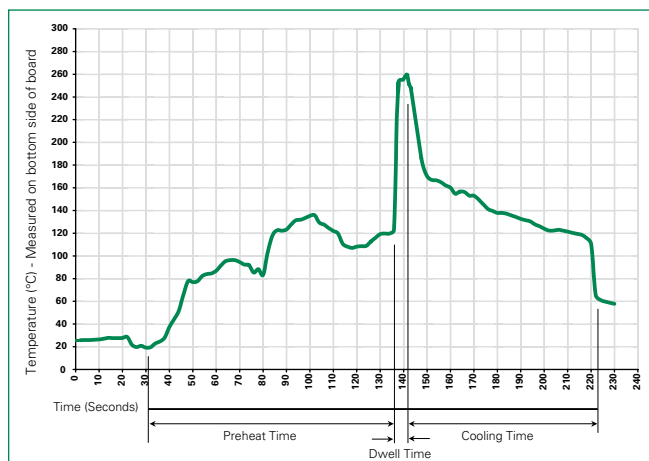
### Average Time Current Curves



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### 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.

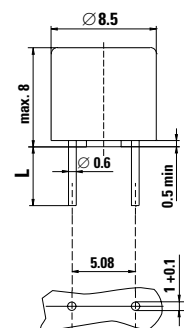
**Note:** These devices are not recommended for IR or Convection Reflow process.

### Product Characteristics

|                                  |                                                                                                |
|----------------------------------|------------------------------------------------------------------------------------------------|
| <b>Materials</b>                 | Base/Cap: Brown 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, ≤ 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 +85°C (consider de-rating)                                                                                 |
| <b>Climatic Category</b>     | -40°C to +85°C/21 days<br>(IEC 60068-1,-2-1,-2-2,-2-78)                                                             |
| <b>Stock Conditions</b>      | +10°C to +60°C<br>RH ≤ 75% yearly average, without dew,<br>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 10G acceleration |

### Dimensions (mm)



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

Löcher in der Leiterplatte  
Holes in the printed circuit board

Holes in PCB

### Part Numbering System

|                       |     |      |                                                                                                 |
|-----------------------|-----|------|-------------------------------------------------------------------------------------------------|
| <b>Series</b>         | 370 | xxxx | 0000                                                                                            |
| <b>Amp Code</b>       |     |      |                                                                                                 |
|                       |     |      | Refer to Amp Code column of<br>Electrical Characteristics Table                                 |
| <b>Packaging Code</b> |     |      |                                                                                                 |
|                       |     |      | 0000 Tape/Ammopack (1000 pcs)<br>0410 Tape/Ammopack (1000 pcs)<br>0430 Tape/Ammopack (1000 pcs) |

### Packaging

| Packaging Option  | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width |
|-------------------|-------------------------|----------|---------------------------|--------------|
| <b>370 Series</b> |                         |          |                           |              |
| Tape & Ammopack   | N/A                     | 1,000    | 0000                      | N/A          |
| Short Leads       | N/A                     | 1,000    | 0410/0430                 | N/A          |

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