

# TCP70

## 70 Vdc Telecom fuses



### Agency information

- cURus Recognized Guide JDXY2, JDXY8, File E19180

### Part number system/ordering

**BK1/ TCP70- 5 -R**

- BK1/ = 1000 fuses packed in a cardboard carton
- TCP70- = Fuse series
- 5 = Amp rating
- -R = RoHS compliant

### Applications

- Telecommunication DC voltage circuits

### Product features:

- Designed to UL 248 and UL 248-14
- Halogen free, lead free, RoHS compliant
- Special design telecom circuit protection devices
- High inrush current withstanding capability reduces nuisance openings
- Fuseclip assembly method
- Rugged ceramic construction
- Excellent environmental integrity
- One time positive disconnect
- Economical solution with breaking characteristics similar to a circuit breaker

## Product specifications

| Part Number | Voltage Rating (Vdc) | Current Rating (A) | Interrupting Rating (A) <sup>1</sup> | Typical Cold Resistance (mΩ) <sup>2</sup> | Typical Voltage Drop (mV) | Typical Pre-Arcing I <sup>2</sup> t (A <sup>2</sup> s) <sup>3</sup> | Fuse Marking Color (text) |
|-------------|----------------------|--------------------|--------------------------------------|---|---------------------------|---|---------------------------|
| TCP70-5-R   | 70                   | 5                  | 2500                                 | 34.5                                      | 235                       | 50  | Red                       |
| TCP70-6-R   | 70                   | 6                  | 2500                                 | 20.1                                      | 165                       | 48  | Purple                    |
| TCP70-10-R  | 70                   | 10                 | 2500                                 | 10.5                                      | 148                       | 165   | Green                     |
| TCP70-15-R  | 70                   | 15                 | 2500                                 | 6.3                                       | 138                       | 460   | Blue                      |
| TCP70-30-R  | 70                   | 30                 | 2500                                 | 2.05                                      | 84                        | 4400  | Black                     |

1. DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source).

2. DC Cold Resistance are measured at <10% of rated current in ambient temperature of +20 °C.

3. Typical Pre-arcing I<sup>2</sup>t (A<sup>2</sup>s) are measured at 10I<sub>n</sub> and rated current.

## Electrical characteristics

| % of Amp Rating | Opening Time    |
|-----------------|-----------------|
| 100%            | 4 hours minimum |
| 150%            | <60 min         |
| 200%            | <2 min          |

## Environmental Data

- Operating temperature range: -55 °C to +125 °C (see derating curve)
- Altitude: <2000 m above sea level
- Humidity: 90% at +20 °C, 50% at +40 °C non-condensing

## Reliability

- Thermal shock test — MIL-STD-202G Method 107 G air-to-air, 100 cycles
- Temperature cycling — JESD22 Method A104, Condition B, 100 cycles
- Mechanical shock test — MIL-STD-002 Method 213B, 50g
- Mechanical vibration test — MIL-STD-202, Method 204D, condition D, 20 g, 10-500 Hz.

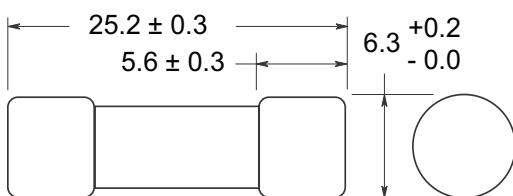
## Packaging

- 1000 fuses packed into a cardboard carton. Order with part number prefix BK1/. E.g., BK1/TCP70-5-R

## Recommended PCB fuseclips

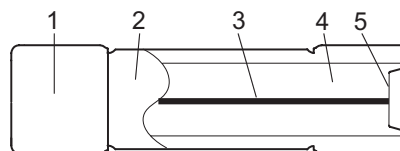
- 1Axxxx Series for 6.3 mm (1/4") fuses - see data sheet # 2131.

## Dimensions - mm



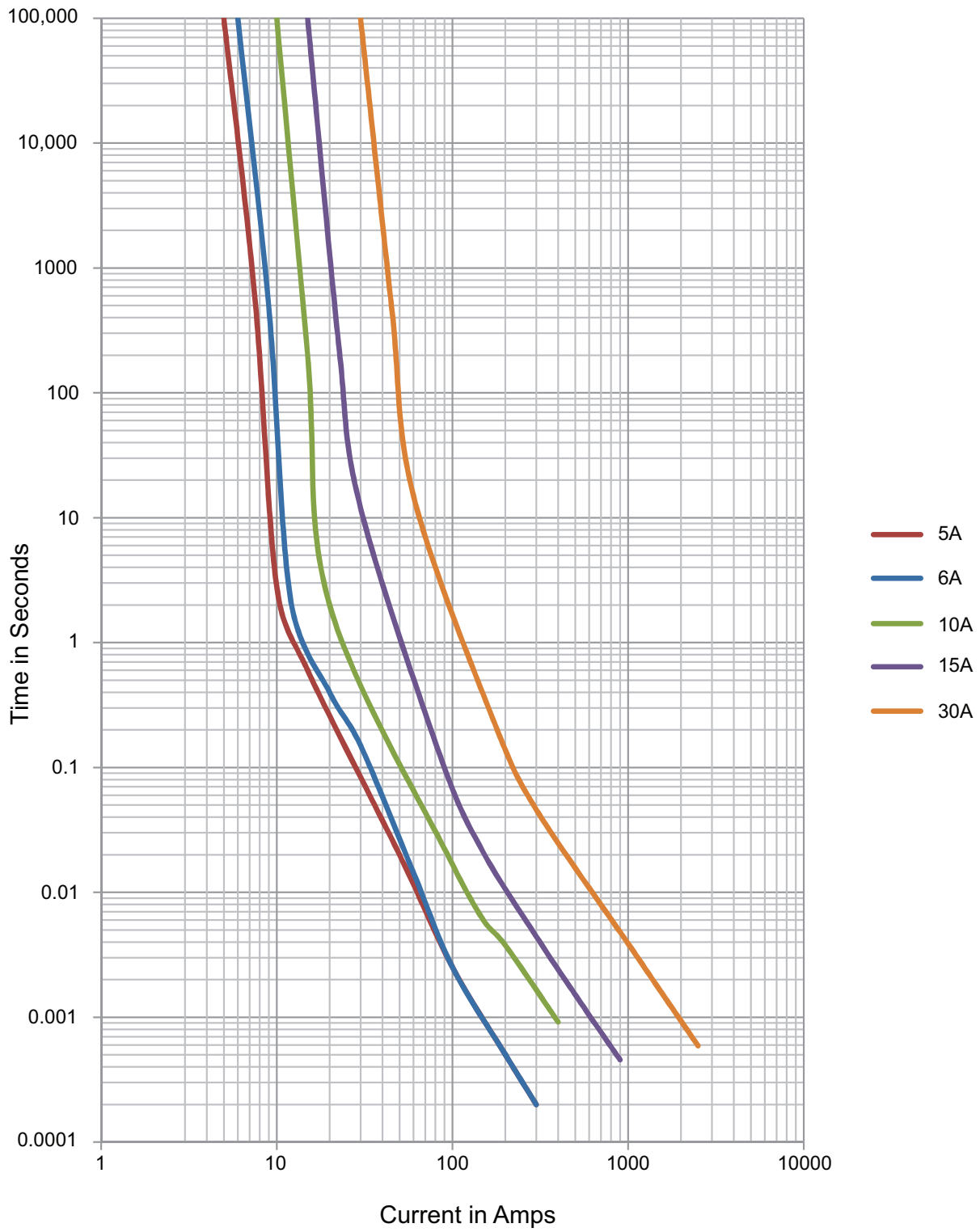
## Construction

Not to scale

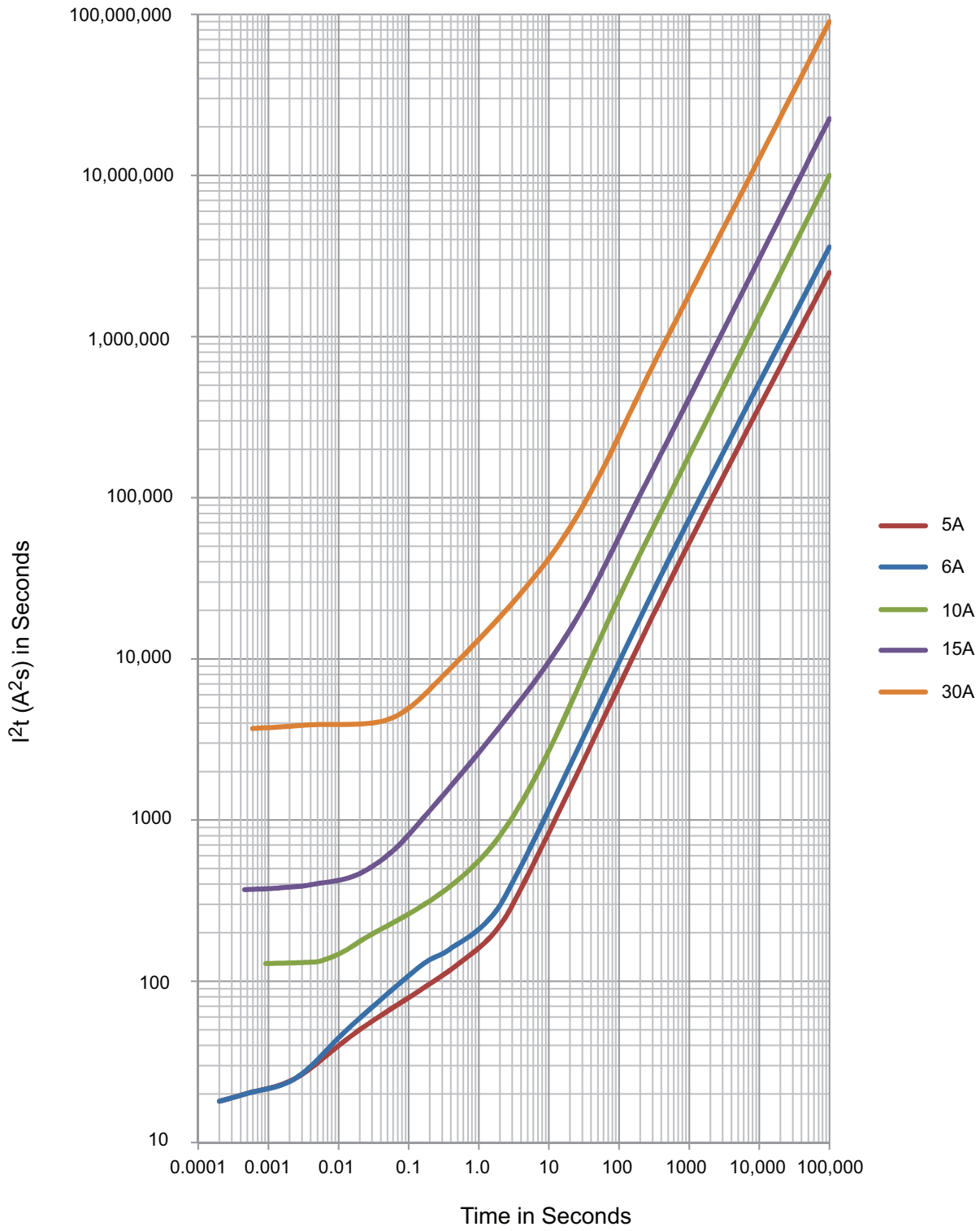


1. Tin-plated copper cap
2. Ceramic tube
3. Fuse element wire
4. Filler
5. Eyelet

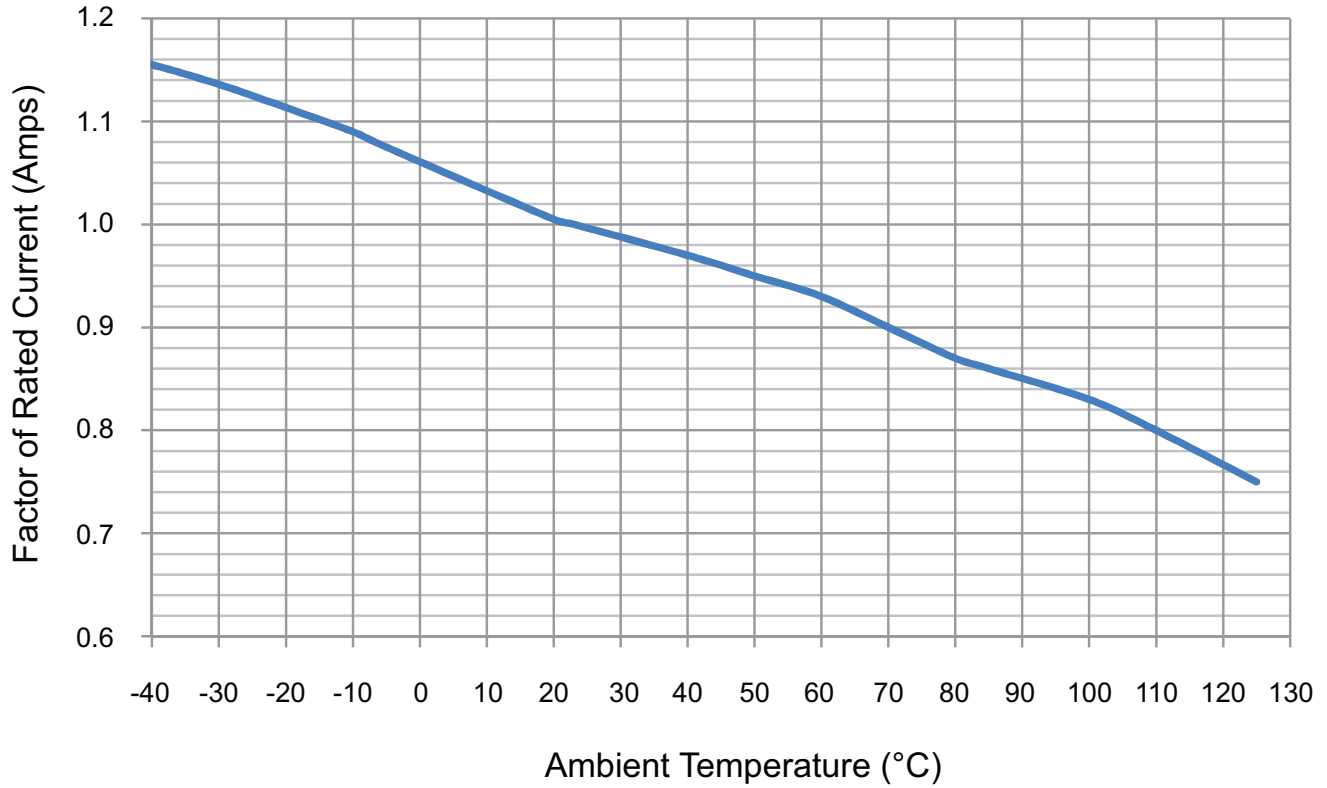
Time-current curves



**$I^2t$  (A<sup>2</sup>s) Curves**



**Thermal derating curve**



Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

**Eaton**  
**Electronics Division**  
1000 Eaton Boulevard  
Cleveland, OH 44122  
United States  
[www.eaton.com/electronics](http://www.eaton.com/electronics)

© 2017 Eaton  
All Rights Reserved  
Printed in USA  
Publication No. 10250 BU-SB14404  
June 2017

Eaton is a registered trademark.

All other trademarks are property of their respective owners.