

# 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.

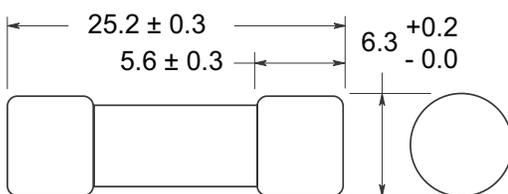
## Packaging

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

## Recommended PCB fuseclips

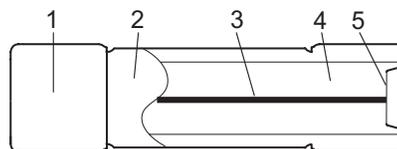
- 1Axxxx Series for 6.3 mm (1/4") fuses - see data sheet # 2131.

## Dimensions - mm



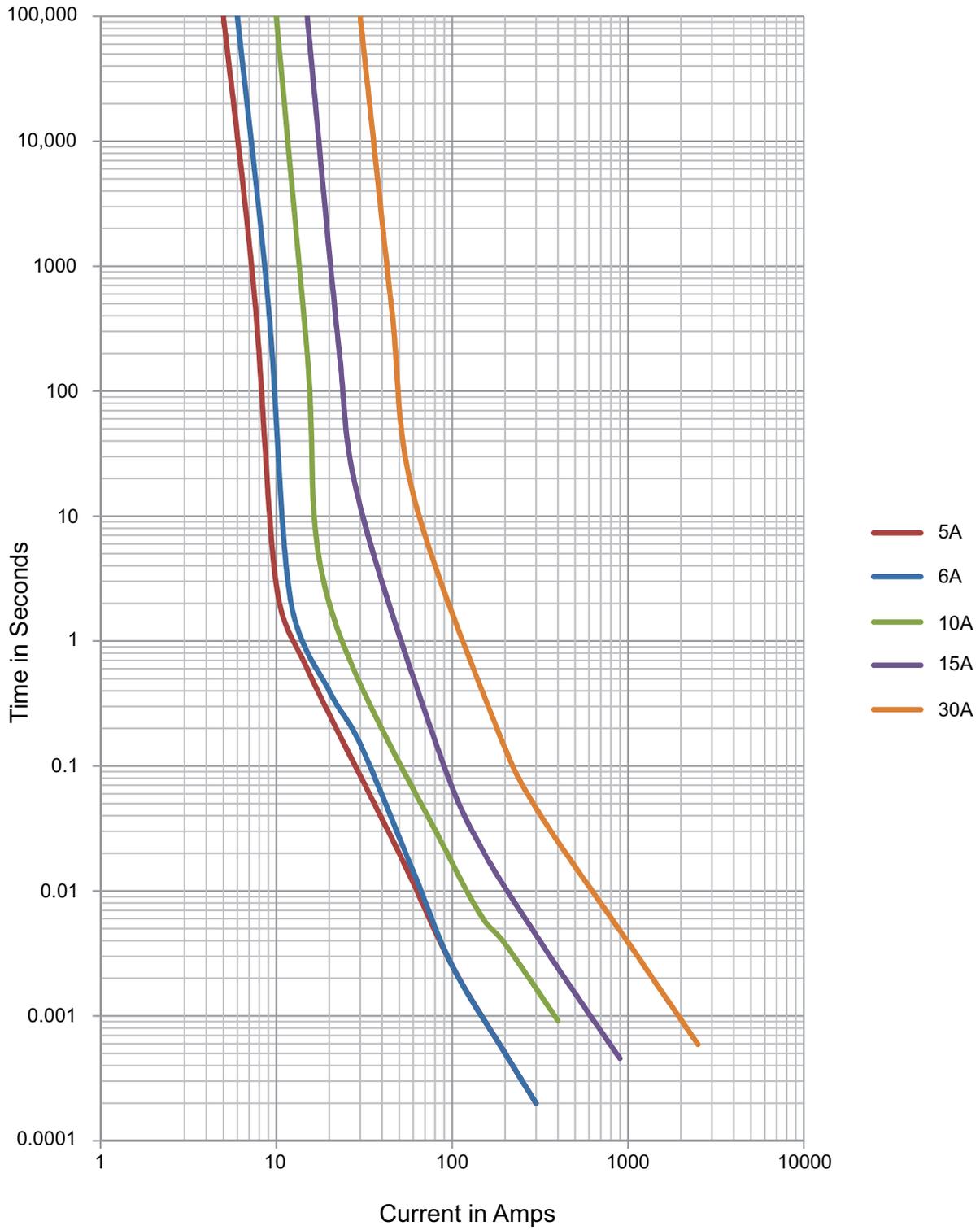
## Construction

Not to scale

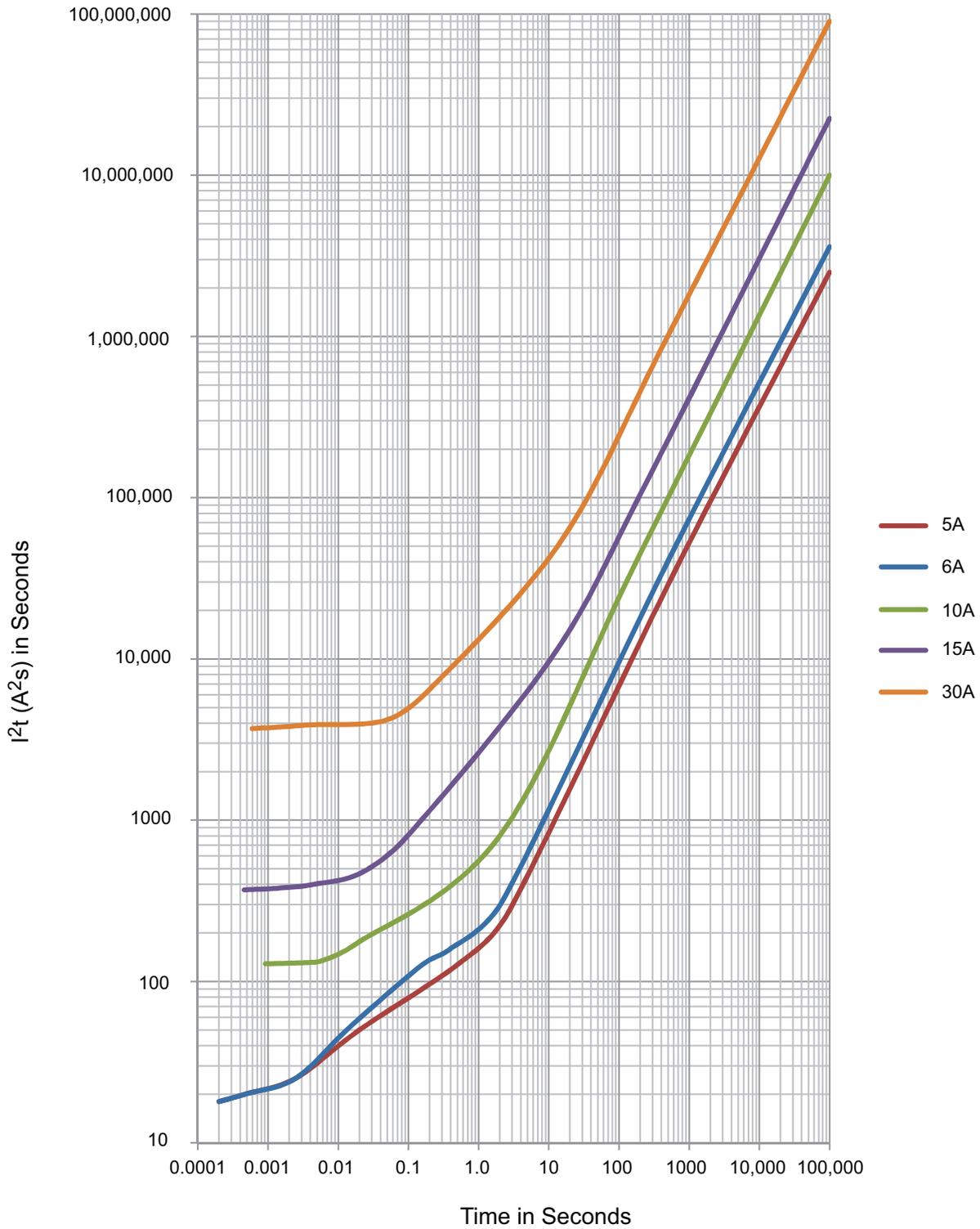


1. Tin-plated copper cap
2. Ceramic tube
3. Fuse element wire
4. Filler
5. Eyelet

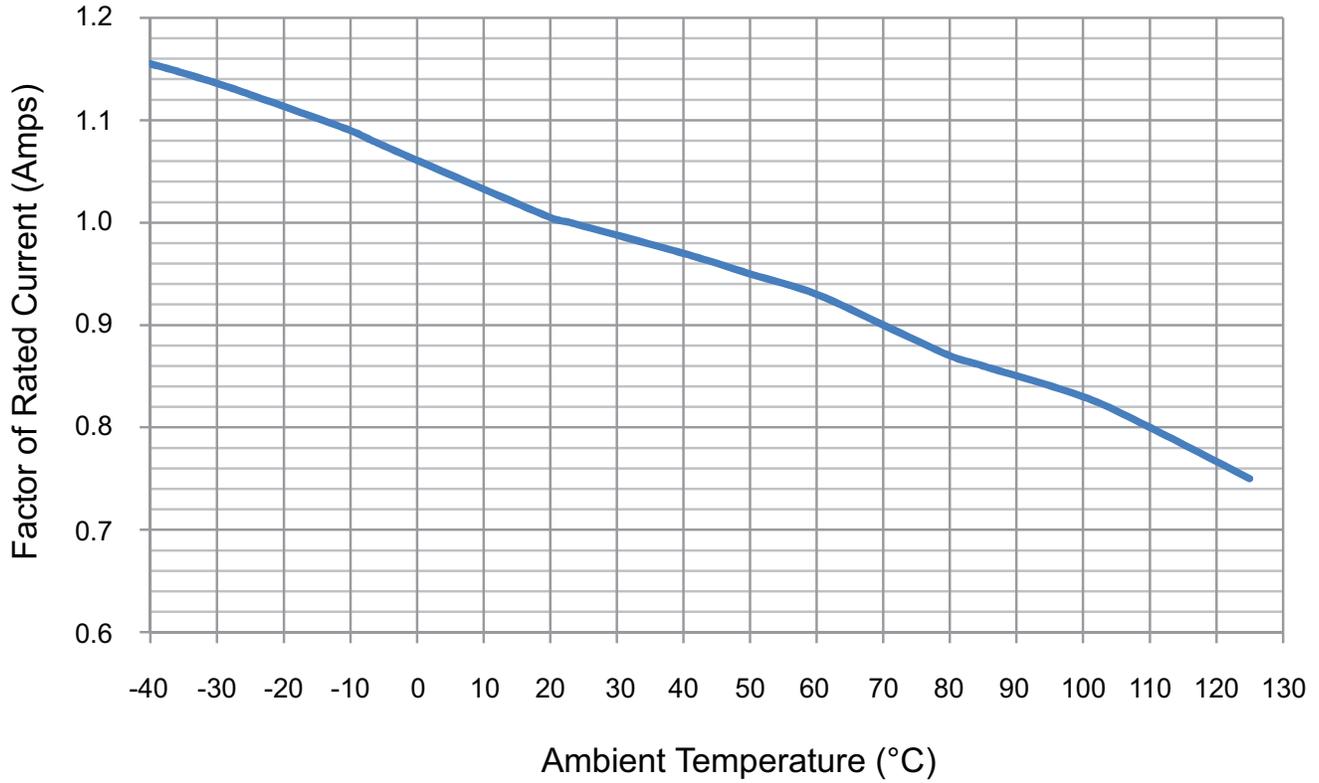
Time-current curves



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



**Thermal derating curve**



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