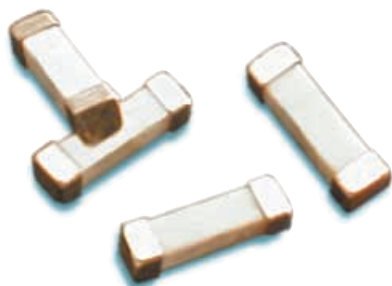
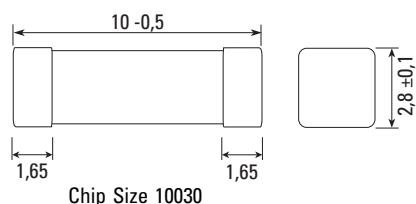




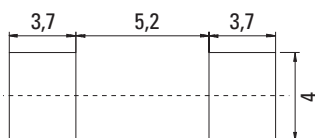
## TTP / No. 457



## Dimensions (mm)



## Pad Layout



## Telecom Tube Protector

## Overcurrent Protection for Telecom Equipment

## Time-Current Characteristic

Transient Tolerant

## Applicable Standards

UL 1950/60950 3rd Edition  
 Telcordia (Bellcore) GR-1089  
 FCC 47 CFR Part 68  
 ITU-T K. 20, K.21 and K.45.

## Approvals

cULus Recognized: File No. E 67006

## Features

Surge proof for telecom line applications  
 No need for series resistors (1.25A & 2.00A)  
 Reduced PCB space requirements  
 Lead-free construction  
 Flame resistant ceramic housing  
 Irreversible physical separation under fault  
 Highly defined cut-off times  
 Low internal resistance minimizes line losses

## WebLinks

## Data Sheet - latest version

[www.wickmannusa.com/products/457.pdf](http://www.wickmannusa.com/products/457.pdf)

## Approval Certificates

[www.wickmannusa.com/approvals](http://www.wickmannusa.com/approvals)

## Packaging

[www.wickmannusa.com/pack](http://www.wickmannusa.com/pack)

## Telcom Standards

[www.wickmannusa.com/download/teleguide.pdf](http://www.wickmannusa.com/download/teleguide.pdf)

## Specifications

## Packaging Code and Info

000: 2500 pcs./330mm reel (Blister Tape)  
 001: 500 pcs./178mm reel (Blister Tape)

## Materials

Housing: Ceramic tube  
 Element: Wire  
 Terminals: Copper, nickel & silver plated

## Operating Temperature

-40°C to +125°C (consider de-rating)

## Climatic Test

Damp heat, steady state  
 40°C/93%/21 days (IEC 60068-2-3)

## Stock Conditions

+10°C to +60°C  
 relative humidity ≤ 75% yearly average,  
 without dew, maximum value for 30 days - 95%

## Recommended Soldering

260°C, 3 sec. (Wave)  
 240°C, 30 sec. (Reflow)

## Solderability

acc. to IEC 60068-2-58  
 235°C, 2 sec.

## Soldering Heat Resistance

260°C, 10 sec. (IEC 60068-2-58)  
 280°C, 5 sec. (IEC 60068-2-58)

## Recommended Solder Glue

Grace Amicon 125 F or equivalent

## Minimum Cross Section, Copper

Conducting path - 0.175mm<sup>2</sup>  
 Path thickness - 0.035mm

## Mounting

Avoid circuit traces below the 457.  
 457 should not be enclosed in potting materials.

## Marking

Logo, Current Rating

## Unit Weight

0.25g (approx.)

## Operating Conditions

| Type (I)        | 100% x I | 250% x I   |
|-----------------|----------|------------|
| 500mA ... 2.00A | > 4h     | 1 ... 120s |

## Permissible continuous operating current is ≤ 80% at ambient temperature of 23°C (73.4°F).

| Type Code | Current | Voltage Rating | Interrupting Rating<br>50-60Hz, cos φ = 1.0<br>250VAC 600VAC | Voltage Drop<br>1.0 x I <sub>Rated</sub><br>max. (mV) | Cold Resistance<br>0.1 x I <sub>Rated</sub><br>max. (mΩ) | Melting Integral<br>10 x I <sub>Rated</sub><br>typ. (A²s) | Approval<br>cURus |
|-----------|---------|----------------|--------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------|-------------------|
| 0500      | 500mA   | 250VAC         | 50A 60A                                                      | 450                                                   | 640                                                      | 2                                                         | •                 |
| 1250      | 1.25A   | 250VAC         | 50A 60A                                                      | 250                                                   | 150                                                      | 16                                                        | •                 |
| 1251      | 2.00A   | 250VAC         | 50A 60A                                                      | 375                                                   | 115                                                      | 18                                                        | •                 |

## AC Power Fault Ratings

| UL 1950/60950 3rd Edition |                      |                    |                       |                          | Telcordia GR-1089 (2nd Level) |                   |                   |                      |
|---------------------------|----------------------|--------------------|-----------------------|--------------------------|-------------------------------|-------------------|-------------------|----------------------|
| Type Code                 | Test M1<br>600V/1.5s | Test M2<br>600V/5s | Test M3<br>600V/30min | Test M3<br>Max. Δ T (°C) | Test 1<br>277V/15min          | Test 2<br>600V/5s | Test 3<br>600V/5s | Test 4<br>600V/15min |
| 0500                      | 40A                  | 7A                 | 2.2A                  | --                       | 25A                           | 60A               | 7A                | 2.2A                 |
| 1250                      | 40A                  | 7A                 | 2.2A                  | 120                      | 25A                           | 60A               | 7A                | 2.2A                 |
| 1251                      | 40A                  | 7A                 | 2.2A                  | 50                       | 25A                           | 60A               | 7A                | 2.2A                 |

## Lightning Surge Ratings

| FCC 47 CFR Part 68 |                                           |                                                |  | Telcordia GR-1089 (1st Level)       |                                  |
|--------------------|-------------------------------------------|------------------------------------------------|--|-------------------------------------|----------------------------------|
| Type Code          | Type A Metallic<br>800V/10x560μs/2 pulses | Type A Longitudinal<br>1500V/10x160μs/2 pulses |  | Test 3<br>1000V/10x1000μs/50 pulses | Test 4<br>2500V/2x10μs/20 pulses |
| 0500               | 45A                                       | 70A                                            |  | 30A                                 | N/A                              |
| 1250 <sup>1</sup>  | 115A                                      | 160A                                           |  | 100A                                | 500A                             |
| 1251 <sup>1</sup>  | 115A                                      | 160A                                           |  | 100A                                | 500A                             |

<sup>1</sup> Contact WICKMANN for lightning surge test data per European telecom equipment standards - ITU-T K. 20, K.21 and K.45.

## Order Information

| Qty. | Order-Number | Series | Type Code | Pack. Code |
|------|--------------|--------|-----------|------------|
|      |              | 457    |           |            |

Specifications are subject to change without notice.

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