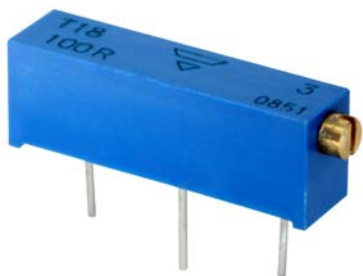


## 3/4" Rectangular Multi-Turn Cermet Trimmer

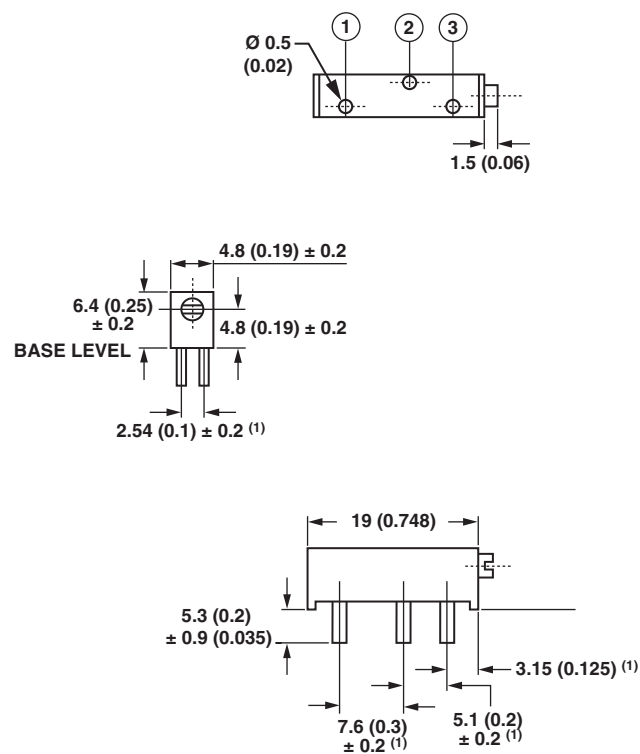


### FEATURES

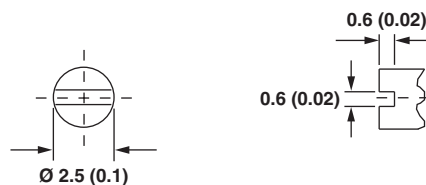
- 0.75 W at 70 °C
- Wide ohmic range (10  $\Omega$  to 5 M $\Omega$ )
- Multi-finger wiper for better CRV
- Tests according to CECC 41000 or IEC 60393-1
- Industrial grade
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### DIMENSIONS in millimeters ( $\pm 0.5$ mm)

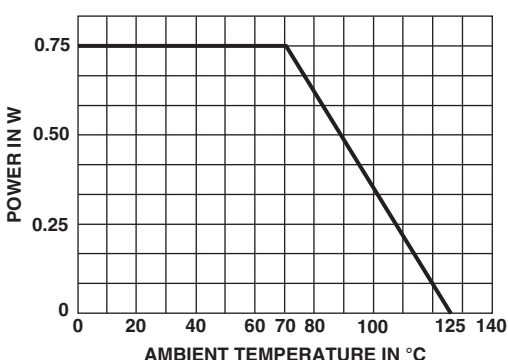
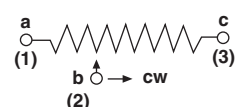


### SHAFT



#### Note

<sup>(1)</sup> To be measured at base level

| ELECTRICAL SPECIFICATIONS                    |                                                                                                                                                                   |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Resistive element                            | Cermet                                                                                                                                                            |
| Electrical travel                            | 15 turns $\pm$ 1                                                                                                                                                  |
| Resistance range                             | 10 $\Omega$ to 5 M $\Omega$                                                                                                                                       |
| Standard series E3                           | 1 - 2.2 - 4.7 and 1 - 2 - 5                                                                                                                                       |
| Tolerance                                    | $\pm$ 10 %                                                                                                                                                        |
| Power rating                                 | <div> <div>Standard</div> <div>Linear</div> </div> <div>0.75 W at +70 °C</div>  |
| Circuit diagram                              |                                                                                 |
| Temperature coefficient                      | See Standard Resistance Element table                                                                                                                             |
| Limiting element voltage (linear law)        | 400 V                                                                                                                                                             |
| Contact resistance variation                 | 1 % R <sub>n</sub> or 1 $\Omega$ max.                                                                                                                             |
| End resistance                               | 1 % or 2 $\Omega$                                                                                                                                                 |
| Dielectric strength (RMS)                    | 1000 V                                                                                                                                                            |
| Insulation resistance (500 V <sub>DC</sub> ) | 10 <sup>3</sup> M $\Omega$ min.                                                                                                                                   |

| MECHANICAL SPECIFICATIONS   |                            |
|-----------------------------|----------------------------|
| Mechanical travel           | 18 turns $\pm$ 5           |
| Operating torque (max. Ncm) | 3.5                        |
| End stop torque             | Clutch action              |
| Net weight (max. g)         | 1.2                        |
| Wiper (actual travel)       | Positioned at approx. 50 % |
| Terminals                   | e3: Pure Sn                |

| ENVIRONMENTAL SPECIFICATIONS |                     |
|------------------------------|---------------------|
| Temperature range            | -55 °C to +125 °C   |
| Climatic category            | 55/125/4            |
| Sealing                      | Fully sealed - IP67 |

| PERFORMANCES           |                                                         |                           |                              |                                                                              |
|------------------------|---------------------------------------------------------|---------------------------|------------------------------|------------------------------------------------------------------------------|
| TESTS                  | CONDITIONS                                              | TYPICAL VALUES AND DRIFTS |                              |                                                                              |
|                        |                                                         | $\Delta R_T/R_T$ (%)      | $\Delta V_{1-2}/V_{1-3}$ (%) | OTHER                                                                        |
| Load life              | 1000 h at rated power<br>90°/30° - ambient temp. 70 °C  | ± 4 %                     | -                            | -                                                                            |
| Damp heat steady state | 4 days                                                  | ± 3 %                     | -                            | Dielectric strength: 1000 V <sub>RMS</sub><br>Insulation resistance: > 20 MΩ |
| Rapid temp. change     | 5 cycles<br>-55 °C to +125 °C                           | ± 0.5 %                   | ± 2 %                        | -                                                                            |
| Shock                  | 50 g at 11 ms<br>3 successive shocks<br>in 3 directions | ± 2 %                     | ± 2 %                        | -                                                                            |
| Vibration              | 10 Hz to 55 Hz<br>0.75 mm or 10 g<br>during 6 h         | ± 2 %                     | ± 2 %                        | -                                                                            |
| Rotational life        | 200 cycles                                              | ± (3 % + 1 Ω)             | -                            | Contact res. variation: < 1 % R <sub>n</sub>                                 |

**Note**

- Nothing stated herein shall be construed as a guarantee of quality or durability.

| STANDARD RESISTANCE ELEMENT DATA |                           |                            |                          |                                        |
|----------------------------------|---------------------------|----------------------------|--------------------------|----------------------------------------|
| STANDARD<br>RESISTANCE<br>VALUES | LINEAR LAW                |                            |                          | TYPICAL<br>TCR<br>-55 °C to<br>+125 °C |
|                                  | MAX.<br>POWER<br>AT 70 °C | MAX.<br>WORKING<br>VOLTAGE | MAX.<br>WIPER<br>CURRENT |                                        |
| Ω                                | W                         | V                          | mA                       | ppm/°C                                 |
| 10                               | 0.75                      | 2.74                       | 274                      | ± 100                                  |
| 22                               | 0.75                      | 4.06                       | 185                      |                                        |
| 47                               | 0.75                      | 5.94                       | 126                      |                                        |
| 100                              | 0.75                      | 8.66                       | 87                       |                                        |
| 220                              | 0.75                      | 12.8                       | 58                       |                                        |
| 470                              | 0.75                      | 18.8                       | 40                       |                                        |
| 1K                               | 0.75                      | 27.4                       | 27                       |                                        |
| 2.2K                             | 0.75                      | 40.6                       | 18                       |                                        |
| 4.7K                             | 0.75                      | 59.4                       | 13                       |                                        |
| 10K                              | 0.75                      | 86.6                       | 8.7                      |                                        |
| 22K                              | 0.75                      | 128                        | 5.8                      |                                        |
| 47K                              | 0.75                      | 188                        | 4                        |                                        |
| 100K                             | 0.75                      | 274                        | 2.7                      |                                        |
| 220K                             | 0.75                      | 400                        | 1.8                      |                                        |
| 470K                             | 0.34                      | 400                        | 0.85                     |                                        |
| 1M                               | 0.16                      | 400                        | 0.4                      |                                        |
| 2.2M                             | 0.07                      | 400                        | 0.18                     |                                        |
| 4.7M                             | 0.03                      | 400                        | 0.09                     |                                        |

**MARKING**

- Vishay trademark
- Vishay part number or model and ohmic value (in Ω, kΩ, MΩ)
- Manufacturing date
- Marking of terminal 3

**PACKAGING**

- In tube of 25 pieces code T10 (TU25)



**ORDERING INFORMATION** (Part Number)

|       |   |                                                             |   |   |           |   |                         |   |   |                                                         |  |  |
|-------|---|-------------------------------------------------------------|---|---|-----------|---|-------------------------|---|---|---------------------------------------------------------|--|--|
| T     | 1 | 8                                                           | 2 | 2 | 4         | K | T                       | 1 | 0 |                                                         |  |  |
| Model |   | OHMIC VALUE                                                 |   |   | TOLERANCE |   | PACKAGING               |   |   | SPECIAL NUMBER                                          |  |  |
| T18   |   | From<br>10 $\Omega$ to 5 M $\Omega$<br>224 = 220 k $\Omega$ |   |   | K = 10 %  |   | T10 = Tube<br>25 pieces |   |   | (If applicable)<br>Given by Vishay<br>for custom design |  |  |

**DESCRIPTION** (for information only)

|       |       |             |           |             |
|-------|-------|-------------|-----------|-------------|
| T18   | 220K  | $\pm 10 \%$ | TU25      | e3          |
| MODEL | VALUE | TOLERANCE   | PACKAGING | LEAD FINISH |



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## Material Category Policy

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.**

**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.**