

# 1/4" Multi-Turn Sealed Container Cermet Trimmers



Due to their square shape and small size  $(6.8 \times 6.8 \times 5 \text{mm})$ , the multi-turn trimmers of the T63 series are ideally suited for PCB use, enabling high density board mounting with reduced space requirement between cards.

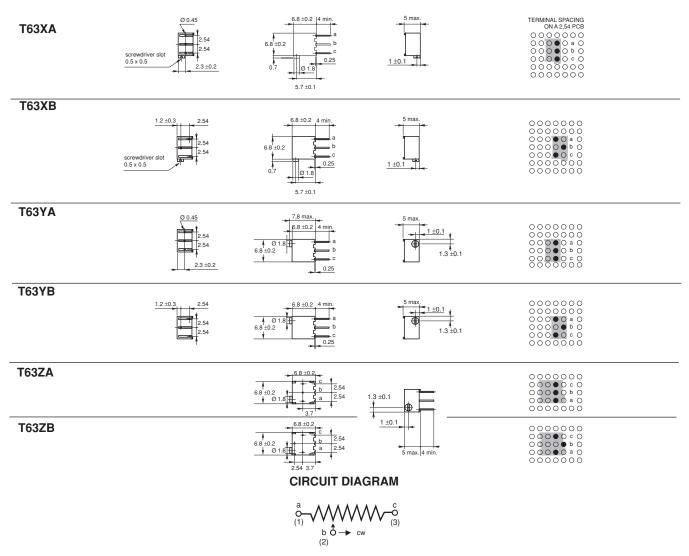
Four versions are available differing by the top or side position of the adjustment screw and by PC pins configuration.

The use of cermet for the resistive track ensures an excellent stability of nominal specifications throughout life.

## **DIMENSIONS** in millimeters

# FEATURES

- 0.25 Watt at 85°C
- Industrial Grade
- CECC 41 100
- MIL-R-22097
- Multi-turn operation
- A low contact resistance variation
- Tight tolerance
- · Low end contact resistance



Vishay Sfernice

# 1/4" Multi-Turn Fully Sealed Container Cermet Trimmers



| <b>ELECTRICAL SI</b>                  | PECIFICATIONS        |                                       |  |  |
|---------------------------------------|----------------------|---------------------------------------|--|--|
| Resistive Element                     |                      | cermet                                |  |  |
| Electrical Travel                     |                      | 13 turns ± 2                          |  |  |
| Resistance Range                      |                      | 10 $\Omega$ to 2.2M $\Omega$          |  |  |
| Standard Series and o                 | on Request Series E3 | 1 - 2 - 5 (1 - 2.2 - 4.7)             |  |  |
| Tolerance                             | Standard             | ± 10%                                 |  |  |
|                                       | On Request           | ± 5%                                  |  |  |
| Power Rating                          | Linear               | 0.25W at + 85°C                       |  |  |
| Temperature Coefficient               |                      | See Standard Resistance Element Table |  |  |
| Limiting Element Voltage (Linear Law) |                      | 250V                                  |  |  |
| Contact Resistance Va                 | ariation             | 2% Rn or 2Ω                           |  |  |
| End Resistance (Typic                 | cal)                 | 1Ω                                    |  |  |
| Dielectric Strength (R                | MS)                  | 1000V                                 |  |  |
| Insulation Resistance                 | (500VDC)             | 10 <sup>6</sup> ΜΩ                    |  |  |

# **MECHANICAL SPECIFICATIONS**

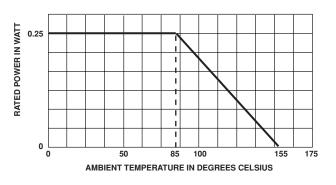
| Mechanical Travel           | 15 turns ± 5  |
|-----------------------------|---------------|
| Operating Torque (max. Ncm) | 1             |
| End Stop Torque             | clutch action |
| Unit Weight (max. g)        | 0.5           |

#### **ENVIRONMENTAL SPECIFICATIONS**

Temperature Range Climatic Category Sealing

- 55°C + 155°C 55/125/56 fully sealed container IP67

# **POWER RATING CHART**



| PERFORMANCE              |   |   |  |      |  |
|--------------------------|---|---|--|------|--|
| TESTS                    | CONDITIONS  | TYPICAL VALUES A  | AB1-2  | _    |  |
| Load Life                | 1000 hours at rated power<br>90'/30' - ambient temp. 85°C   | ± 1%<br>Contact res. variation: < 1% Rn   | F  | ± 2% |  |
| Climatic Sequence        | Phase A dry heat 125°C - 30% Pr<br>Phase B damp heat<br>Phase C cold – 55°C<br>Phase D damp heat 5 cycles | ± 0.5%  | ŧ  | ± 1% |  |
| Long Term Damp Heat      | 56 days   | $\pm$ 0.5%<br>Dielectric strength : 1000V RMS<br>Insulation resistance : > 10 <sup>4</sup> M $\Omega$ | F  | ± 1% |  |
| Rapid Temperature Change | 5 cycles<br>– 55°C to + 125°C   | ± 0.5%  | $\frac{\Delta V_{1-2}}{\Delta V_{1-3}} \leq \pm$   | ± 1% |  |
| Shock                    | 50 g at 11m secs<br>3 successive shocks<br>in 3 directions  | ± 0.1%  | ± C  | 0.2% |  |
| Vibration                | 10-55 Hz<br>0.75mm or 10 g<br>during 6 hours  | ± 0.1%  | $\frac{\Delta V_{1-2}}{\Delta V_{1-3}} \leq \pm 0$ | 0.2% |  |
| Rotational Life          | 200 cycles  | ± 2%<br>Contact res. variation: < 1% Rn   |  |      |  |

www.vishay.com 68 For technical questions, contact: sfer@vishay.com

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| STANDARD RESISTANCE ELEMENT DATA |                          |                            |                                 |                 |
|----------------------------------|--------------------------|----------------------------|---------------------------------|-----------------|
| STANDARD                         | W                        | T.C.                       |                                 |                 |
| RESISTANCE                       | MAX.<br>POWER<br>AT 85°C | MAX.<br>WORKING<br>VOLTAGE | MAX. CUR.<br>THROUGH<br>ELEMENT | -55°C<br>+125°C |
| Ω                                | W                        | V                          | mA                              | ppm/°C          |
| 10                               | 0.25                     | 1.58                       | 158                             |                 |
| 20                               |                          | 2.23                       | 112                             | 0               |
| 50                               |                          | 3.53                       | 77                              | +200            |
| 100                              |                          | 5                          | 50                              |                 |
| 200                              |                          | 7.07                       | 35                              |                 |
| 500                              |                          | 11.2                       | 22                              |                 |
| 1k                               |                          | 15.8                       | 15.8                            |                 |
| 2k                               |                          | 22.3                       | 11.2                            |                 |
| 5k                               |                          | 35.3                       | 7.1                             |                 |
| 10k                              |                          | 50                         | 5                               |                 |
| 20k                              |                          | 70.7                       | 3.5                             | ± 100           |
| 25k                              |                          | 79                         | 3.2                             | 100             |
| 50k                              |                          | 112                        | 2.2                             |                 |
| 100k                             |                          | 158                        | 1.6                             |                 |
| 200k                             | 0.25                     | 224                        | 1.1                             |                 |
| 250k                             | 0.25                     | 250                        | 1.1                             |                 |
| 500k                             | 0.13                     | 250                        | 0.50                            |                 |
| 1M                               | 0.06                     | 250                        | 0.25                            |                 |
| 2.2M                             | 0.03                     | 250                        | 0.125                           |                 |

### MARKING

- Printed:
- VISHAY trademark
- series
- style
- ohmic value (in  $\Omega$ , k $\Omega$ , M $\Omega$ )
- tolerance (in %)
- only if non standard,
- manufacturing date
- marking of terminal 3

### PACKAGING

- In magazine pack (tube) by 50 pieces code "TU50".

| ORDERING INFORMATION                                    |               |                      |                    |                          |  |
|---|---------------|----------------------|--------------------|--------------------------|--|
| T63<br>SERIES   | XA<br>VERSION | 100kΩ<br>Ohmic value | ± 10%<br>TOLERANCE | <b>TU50</b><br>PACKAGING |  |
| N.B.: On delivery the wiper is positioned at mid-travel |               |                      |                    | TU50 : Tube              |  |

| SAP PART NUMBERING GUIDELINES   |                      |                         |               |                            |                            |
|---------------------------------|----------------------|-------------------------|---------------|----------------------------|----------------------------|
| T 6 3<br>MODEL                  | X A<br>STYLE         | 1 0 4<br>OHMIC<br>VALUE | K<br>L<br>TOL | T 2 0<br>PACKAGING<br>CODE | SPECIAL<br>(IF APPLICABLE) |
| See the end of this data book f | for conversion table | es                      |               |                            |                            |

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