

1/4" Multi-Turn Fully Sealed Container Cermet Trimmer



FEATURES

- Military and professional grade
- 0.25 W at 70 °C
- Product qualification according to CECC 41100-005 (A, B, C, D)
- Equivalent to MIL-R-22097 (RJ26)
- Low contact resistance variation 1 % typical
- Fully sealed
- Wide range of ohmic values from 10 Ω to 2.2 MΩ
- Tests according to CECC 41000 or IEC 60393-1
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

Due to their square shape and small size (6.8 mm x 6.8 mm x 5 mm), the multi-turn trimmers of the T6 series are ideally suited for PCB use, enabling high density board mounting with reduced space requirement between cards.

Six 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 (± 0.3 mm) | | | |
|---|--|--|--|
| T6XA (PM 84) C | | | |
| T6XB (PM 84) A | | | |
| T6YA (PM 84) D | | | |
| T6YB (PM 84) B | | | |
| T6ZA | | | |
| T6ZB | | | |

| ELECTRICAL SPECIFICATIONS | | |
|--|--|------------------|
| Resistive element | Cermet | |
| Electrical travel | 14 turns \pm 2 | |
| Resistance range | 10 Ω to 2.2 M Ω | |
| Standard series E3 | 1 - 2.2 - 4.7 and on request 1 - 2 - 5 | |
| Tolerance | Standard | 10 % |
| | On request | 5 % |
| Power rating | Linear | 0.25 W at +70 °C |
| | | |
| Circuit diagram | | |
| Temperature coefficient | See Standard Resistance Element table | |
| Limiting element voltage (linear law) | 250 V | |
| Contact resistance variation | 2 % R _n or 2 Ω | |
| End resistance (typical) | 1 Ω | |
| Dielectric strength (RMS) | 1000 V | |
| Insulation resistance (500 V _{DC}) | 10 ⁶ M Ω | |

| MECHANICAL SPECIFICATIONS | |
|----------------------------------|----------------------------|
| Mechanical travel | 15 turns \pm 5 |
| Operating torque (max. Ncm) | 1 |
| End stop torque | Clutch action |
| Net weight (max. g) | 0.5 |
| Wiper (actual travel) | Positioned at approx. 50 % |
| Terminals | Pure Sn (code e3) |

| ENVIRONMENTAL SPECIFICATIONS | |
|-------------------------------------|---------------------|
| Temperature range | -55 °C to +155 °C |
| Climatic category | 55/125/56 |
| Sealing | Fully sealed - IP67 |



| PERFORMANCES | | | | | | | |
|------------------------|--|-------------------------|---------------------------------|---|---------------------------|---------------------------------|--|
| CECC 41100 | | REQUIREMENTS | | | TYPICAL VALUES AND DRIFTS | | |
| TESTS | CONDITIONS | $\Delta R_T/R_T$ (%) | $\Delta R_{1-2}/R_{1-2}$ (%) | OTHER | $\Delta R_T/R_T$ (%) | $\Delta R_{1-2}/R_{1-2}$ (%) | OTHER |
| Electrical endurance | 1000 h at rated power 90'/30' - ambient temp. 70 °C | ± 2 % | ± 4 % | Contact res. variation: < 3 % Rn | ± 1 % | ± 2 % | Contact res. variation: < 1 % Rn |
| Climatic sequence | Phase A dry heat 125 °C Phase B damp heat Phase C cold -55 °C Phase D damp heat 5 cycles | ± 2 % | ± 3 % | - | ± 0.5 % | ± 1 % | - |
| Damp heat steady state | 56 days 40 °C, 93 % RH | ± 2 % | ± 3 % | Dielectric strength: > 250 V Insulation resistance: > 100 MΩ | ± 0.5 % | ± 1 % | Dielectric strength: > 1000 V Insulation resistance: > 10 ⁴ MΩ |
| Mechanical endurance | 200 cycles | ± 2 % | - | Contact res. variation: < 3 % Rn | ± (2 % + 3 Ω) | - | Contact res. variation: < 1 % Rn |
| Change of temperature | 5 cycles -55 °C to +125 °C | ± 1.5 % | - | $\Delta V_{1-2}/V_{1-3}$ ≤ ± 1 % | ± 0.5 % | - | $\Delta V_{1-2}/V_{1-3}$ < ± 1 % |
| Shock | 50 g at 11 ms 3 successive shocks in 3 directions | ± 1 % | ± 2 % | - | ± 0.1 % | ± 0.2 % | - |
| Vibration | 10 Hz to 55 Hz 0.75 mm or 10 g during 6 h | ± 1 % | - | $\Delta V_{1-2}/V_{1-3}$ ± 2 % | ± 0.1 % | - | $\Delta V_{1-2}/V_{1-3}$ < ± 0.2 % |

Note

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

| STANDARD RESISTANCE ELEMENT DATA | | | | |
|----------------------------------|---------------------|----------------------|-----------------|----------------------------------|
| STANDARD RESISTANCE VALUES | LINEAR LAW | | | TYPICAL TCR -55 °C +125 °C |
| | MAX. POWER AT 70 °C | MAX. WORKING VOLTAGE | MAX. WIPER CUR. | |
| Ω | W | V | mA | ppm/°C |
| 10 | 0.25 | 1.58 | 158 | ± 100 |
| 22 | 0.25 | 2.34 | 107 | |
| 47 | 0.25 | 3.53 | 73 | |
| 100 | 0.25 | 5 | 50 | |
| 220 | 0.25 | 7.42 | 34 | |
| 470 | 0.25 | 10.8 | 23 | |
| 1K | 0.25 | 15.8 | 15.8 | |
| 2.2K | 0.25 | 23.4 | 10.7 | |
| 4.7K | 0.25 | 34.3 | 7.3 | |
| 10K | 0.25 | 50 | 5 | |
| 22K | 0.25 | 74.2 | 3.37 | |
| 47K | 0.25 | 108.4 | 2.31 | |
| 100K | 0.25 | 158 | 1.58 | |
| 220K | 0.25 | 235 | 1.07 | |
| 470K | 0.13 | 250 | 0.53 | |
| 1M | 0.063 | 250 | 0.25 | |
| 2.2M | 0.028 | 250 | 0.11 | |

| MARKING |
|---|
| <ul style="list-style-type: none"> • Vishay trademark • Model • Style • Ohmic value (in Ω, kΩ, MΩ) • Tolerance (in %) • Manufacturing date • Marking of terminal C |

| PACKAGING |
|--|
| <ul style="list-style-type: none"> • In tube of 50 pieces code T20 (TU50) |



| ORDERING INFORMATION (Part Number) | | | | | | | | | | | | |
|------------------------------------|----------------------------------|---|--|---|---|------------------------------------|---|-------------------------|---|---|--|--|
| T | 6 | X | A | 4 | 7 | 4 | K | T | 2 | 0 | | |
| Model | STYLE | | OHMIC VALUE | | | TOLERANCE | | PACKAGING | | SPECIAL NUMBER | | |
| T6 | XA XB YA YB ZA ZB | | From 10 Ω to 2.2 MΩ 474 = 470 kΩ | | | K = 10 % On request: J = 5 % | | T20 = Tube 50 pieces | | (If applicable) Given by Vishay for custom design | | |

| DESCRIPTION (for information only) | | | | | | |
|------------------------------------|-------|-------|-----------|---------|-----------|-------------|
| T6 | XA | 470K | 10 % | | TU | e3 |
| MODEL | STYLE | VALUE | TOLERANCE | SPECIAL | PACKAGING | LEAD FINISH |



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