

7 mm Diameter Miniature Cermet Trimmer



A dust sealed plastic case protecting a quality cermet track guarantees high performance and proven reliability. Adjustments are made easier by the clear scale readings. T7 is ideally suited to all industrial applications.

FEATURES

- Industrial grade
- 0.5 W at 70 °C
- Tests according to CECC 41100 or IEC 60393-1
- Low temperature coefficient (100 ppm/K typical)
- Wide resistance range (10 Ω to 2.2 MΩ)
- Easy to read scale
- 7 mm (0.275") diameter
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

DIMENSIONS in millimeters (± 0.5 mm)

T7 YA



T7 YB



| ELECTRICAL SPECIFICATIONS | | |
|---------------------------------------|--|--------|
| Resistive element | Cermet | |
| Electrical travel | 270° ± 15° | |
| Resistance range | 10 Ω to 2.2 MΩ | |
| Standard series E3 | 1 - 2.2 - 4.7 and on request 1 - 2 - 5 | |
| Tolerance standard | standard | ± 20 % |
| | on request | ± 10 % |
| Power rating | linear 0.5 W at 85 °C | |
| Circuit diagram | | |
| Temperature coefficient | See Standard Resistance Element Data | |
| Limiting element voltage (linear law) | 250 V | |
| Contact resistance variation | 3 % or 3 Ω | |
| End resistance (typical) | 1 Ω | |
| Dielectric strength (RMS) | 1000 V | |
| Insulation resistance | 10 ⁶ MΩ | |

| MECHANICAL SPECIFICATIONS | |
|----------------------------------|----------------------|
| Mechanical travel | 300° ± 5° |
| Operating torque (max. Ncm) | 1.5 |
| End stop torque (max. Ncm) | 3 |
| Unit weight (max. g) | 0.5 |
| Terminals | SnAg alloy (code e2) |

| ENVIRONMENTAL SPECIFICATIONS | |
|-------------------------------------|---|
| Temperature range | - 55 °C to + 125 °C |
| Climatic category | 55/100/56 |
| Sealing | IP64 For board cleaning, Vishay recommends testing before usage. Water immersion is forbidden. Ultrasonic may cause component damage or failure. |



| PERFORMANCES | | | |
|--------------------------|--|--|---|
| TESTS | CONDITIONS | TYPICAL VALUES AND DRIFTS | |
| | | $\Delta R_T/R_T$ (%) | $\Delta R_{1-2}/R_{1-2}$ (%) |
| Load life | 1000 h at rated power 90'/30' - ambient temperature 70 °C | ± 3 % Contact resistance variation: < 3 % Rn | ± 4 % |
| Climatic sequence | Phase A dry heat 100 °C Phase B damp heat Phase C cold - 55 °C Phase D damp heat 5 cycles | ± 2 % | ± 3 % |
| Long term damp heat | 56 days | ± 2 % Dielectric strength: 1000 V _{RMS} Insulation resistance: > 10 ⁴ M Ω | ± 3 % |
| Rapid temperature change | 5 cycles - 55 °C at + 125 °C | ± 1 % | $\Delta V_{1-2}/\Delta V_{1-3}$ $\leq \pm 2$ % |
| Shock | 50 g - 11 ms 3 successive shocks in 3 directions | ± 0.5 % | ± 1 % |
| Vibration | 10 Hz to 55 Hz 0.75 mm or 10 g during 6 h | ± 0.5 % | $\Delta V_{1-2}/\Delta V_{1-3}$ $\leq \pm 1$ % |
| Rotational life | 200 cycles | ± 3 % Contact resistance variation: < 3 % Rn | |

| STANDARD RESISTANCE ELEMENT DATA | | | | |
|----------------------------------|---------------------|----------------------|--------------------|------------------------------------|
| STANDARD RESISTANCE VALUES | LINEAR LAW | | | TYPICAL TCR - 55 °C to + 125 °C |
| | MAX. POWER AT 85 °C | MAX. WORKING VOLTAGE | MAX. WIPER CURRENT | |
| Ω | W | V | mA | ppm/°C |
| 10 | 0.5 | 2.2 | 224 | ± 100 |
| 22 | 0.5 | 3.3 | 150 | |
| 47 | 0.5 | 4.8 | 103 | |
| 100 | 0.5 | 7.0 | 70 | |
| 220 | 0.5 | 10.5 | 47 | |
| 470 | 0.5 | 15.3 | 32 | |
| 1K | 0.5 | 22.4 | 22 | |
| 2.2K | 0.5 | 33.2 | 15 | |
| 4.7K | 0.5 | 48.5 | 10 | |
| 10K | 0.5 | 70.7 | 7.0 | |
| 22K | 0.5 | 105 | 4.8 | |
| 47K | 0.5 | 153 | 3.2 | |
| 100K | 0.5 | 224 | 2.2 | |
| 220K | 0.28 | 250 | 1.1 | |
| 470K | 0.13 | 250 | 1.53 | |
| 1M | 0.06 | 250 | 0.25 | |
| 2.2M | 0.028 | 250 | 0.11 | |

| MARKING |
|---|
| <ul style="list-style-type: none"> • Vishay trademark • Model • YA or YB style • Ohmic value (in Ω, kΩ, MΩ) • Manufacturing date • Marking of terminal: 3 |



| PACKAGING |
|---|
| <ul style="list-style-type: none"> In box of 200 pieces, code B40 On request: In tube of 50 pieces, code T20 (TU50) |

| ORDERING INFORMATION (part number) | | | | | | | | | | | | | | |
|------------------------------------|---------------|---|-------------------------------------|---|---|-------------------------------------|---|---|---|---|--|--|--|--|
| T | 7 | Y | A | 4 | 7 | 4 | M | B | 4 | 0 | | | | |
| MODEL | STYLE | | OHMIC VALUE | | | TOLERANCE | | PACKAGING CODE | | | SPECIAL NUMBER | | | |
| T7 | YA YB X | | From 10 Ω to 2.2 MΩ 103 = 10K | | | M = 20 % On request: K = 10 % | | B40 = Box 200 pieces On request: T20 = Tube 50 pieces | | | (If applicable) Given by Vishay for custom design | | | |

| DESCRIPTION (for information only) | | | | | | |
|------------------------------------|-------|-------|-----------|---------|-----------|-------------|
| T7 | YA | 470K | 20 % | | BO | e2 |
| MODEL | STYLE | VALUE | TOLERANCE | SPECIAL | PACKAGING | LEAD FINISH |



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