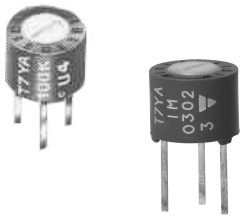
# Miniature Cermet Trimmers



The T7 trimmer is only 7 mm (0.275”) in diameter and fits almost anywhere.

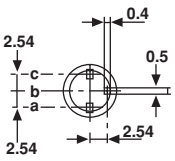
A sealed plastic case protecting a quality cermet track guarantees high performance and proven reliability. Adjustments are made easier by the clear scale readings. Competitively priced, the T7 is ideally suited to all industrial applications.

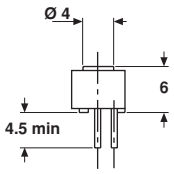
## FEATURES

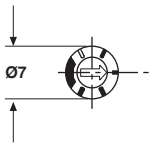
- Industrial grade
- 0.5 Watt at 85°C
- CECC 41100
- High stability
- Low temperature coefficient
- Wide resistance range
- Easy to read scale

## DIMENSIONS in millimeters

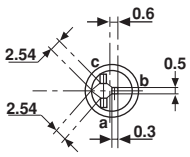
### T7 YA

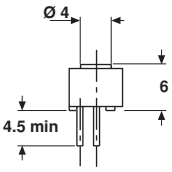


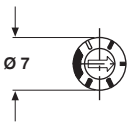




### T7 YB

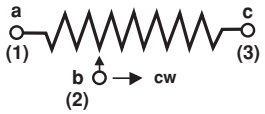



• **Tolerances unless otherwise specified ± 0.5mm**

### CIRCUIT DIAGRAM



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| ELECTRICAL SPECIFICATIONS | | |
|---|---|---|
| **Resistive Element** | | Cermet |
| **Electrical Travel** | | 270° ± 15° |
| **Resistance Range** | | 10Ω to 2.2MΩ |
| **Standard Series E3** | | 1 - 2.2 - 4.7 and on request 1 - 2 - 5 |
| **Tolerance Standard** | **Standard** | ± 20% |
| | **On Request** | ± 10% |
| **Power Rating** | **Linear** | 0.5W at 85°C |
| | **Logarithmic** | not applicable |
| **Temperature Coefficient** | | See Standard Resistance Element Data |
| **Limiting Element Voltage (Linear Law)** | | 250V |
| **Contact Resistance Variation** | | 3% or 3Ω |
| **End Resistance (Typical)** | | 1Ω |
| **Dielectric Strength (RMS)** | | 1000V |
| **Insulation Resistance** | | $10^6$MΩ |

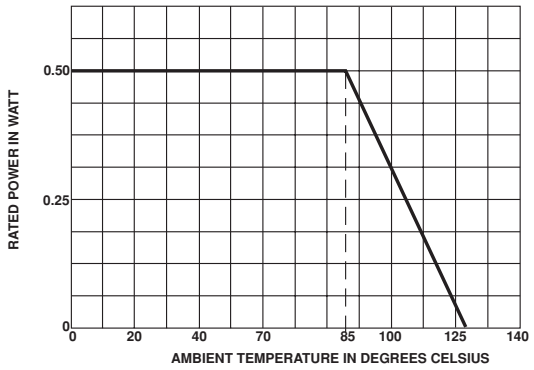
## MECHANICAL SPECIFICATIONS

| | |
|---|---|
| **Mechanical Travel** | 300° ± 5° |
| **Operating Torque (max. Ncm)** | 2 |
| **End Stop Torque (max. Ncm)** | 4 |
| **Unit Weight (max. g)** | 0.5 |

## ENVIRONMENTAL SPECIFICATIONS

| | |
|---|---|
| **Temperature Range** | – 55°C to + 125°C |
| **Climatic Category** | 55 / 100 / 56 |
| **Sealing** | enables cleaning except with water IP64 |

## POWER RATING CHART




| PERFORMANCE | | | |
|---|---|---|---|
| **TESTS** | **CONDITIONS** | **TYPICAL VALUES AND DRIFTS** | |
| | | $\frac{\Delta RT}{RT}$ (%) | $\frac{\Delta R_{1-2}}{R_{1-2}}$ (%) |
| **Load Life** | 1000 hours at rated power 90'/30' - ambient temperature 70°C | ± 3% | ± 4 %<br>Contact resistance variation: < 3% Rn |
| **Climatic Sequence** | Phase A dry heat 100°C<br>Phase B damp heat<br>Phase C cold –55°C<br>Phase D damp heat 5 cycles | ± 2 % | ± 3 % |
| **Long Term Damp Heat** | 56 days | ± 2 %<br>Dielectric strength: 1000 V RMS<br>Insulation resistance: > $10^4$ MΩ | ± 3 % |
| **Rapid Temperature Change** | 5 cycles – 55°C at + 125°C | ± 1 % | $\frac{\Delta V_{1-2}}{V_{1-3}}$ ≤ ± 2% |
| **Shock** | 50 g 11 ms<br>3 successive shocks<br>in 3 directions | ± 0.5 % | ± 1% |
| **Vibration** | 10 - 55 Hz<br>0.75 mm or 10 g<br>during 6 hours | ± 0.5 % | $\frac{\Delta V_{1-2}}{V_{1-3}}$ ≤ ± 1% |
| **Rotational Life** | 200 cycles | ± 3 %<br>Contact resistance variation: < 3% Rn | |

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## STANDARD RESISTANCE ELEMENT DATA

| STANDARD RESISTANCE VALUES | LINEAR LAW | | | T.C. –55°C +125°C |
|---|---|---|---|---|
| | MAX. POWER AT 85°C | MAX. WORKING VOLTAGE | MAX. CUR. THROUGH ELEMENT | |
| Ω | W | V | mA | ppm/°C |
| 10 | 0.5 | 2.2 | 224 | |
| 22 | | 3.3 | 150 | 0 |
| 47 | | 4.8 | 103 | + 200 |
| 100 | | 7 | 70 | |
| 220 | | 10.5 | 47 | |
| 470 | | 15.3 | 32 | |
| 1k | | 22.4 | 22 | |
| 2.2k | | 33.2 | 15 | |
| 4.7k | | 48.5 | 10 | |
| 10k | | 70.7 | 7 | |
| 22k | | 105 | 4.8 | ± 100 |
| 47k | | 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

Printed:
– VISHAY trademark
– series
– YA or YB style
– ohmic value (in Ω, kΩ, MΩ)
– manufacturing date
– marking of terminal: 3.

## SEALING

T7 trimming potentiometers are sealed against dust and PC boards cleaning (but not with water).

## PACKAGING

– In bulk (box of 200 pieces), code BO200
– On request in Tube, code TU50

## ORDERING INFORMATION

| **T7** | **YA** | **470KΩ** | **± 20%** | **BO200** |
|---|---|---|---|---|
| SERIES | STYLE | OHMIC VALUE | TOLERANCE | PACKAGING |
| | YA - YB | | | BO200<br>On request: TU50 |

## SAP PART NUMBERING GUIDELINES

| T | 7 | Y | A | 4 | 7 | 4 | M | B | 4 | 0 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | | STYLE | | OHMIC VALUE | | | TOL | PACKAGING CODE | | | SPECIAL (IF APPLICABLE) | | |

See the end of this data book for conversion tables



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