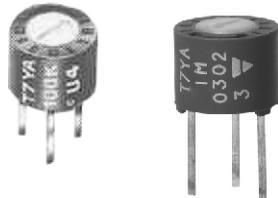


## 7 mm Diameter Miniature Cermet Trimmer



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

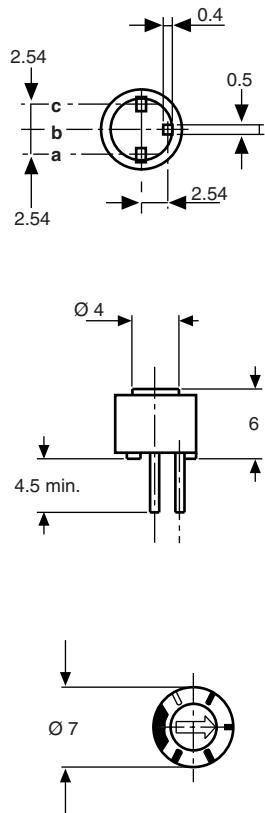
- Industrial grade
- 0.5 W at 70 °C
- Tests according to CECC 41100 or IEC 60393-1
- Low temperature coefficient (100 ppm/K typical)
- Wide resistance range (10 Ω to 2.2 MΩ)
- Easy to read scale
- 7 mm (0.275") diameter
- Compliant to RoHS Directive 2002/95/EC



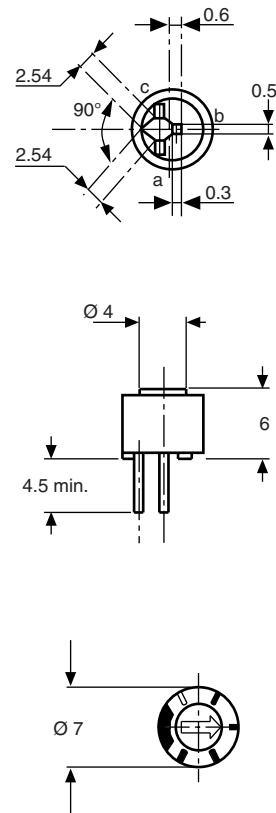
**RoHS**  
COMPLIANT

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

**T7 YA**



**T7 YB**



**ELECTRICAL SPECIFICATIONS**

Resistive element	Cermet	
Electrical travel	$270^\circ \pm 15^\circ$	
Resistance range	$10 \Omega$ to $2.2 \text{ M}\Omega$	
Standard series E3	1 - 2.2 - 4.7 and on request 1 - 2 - 5	
Tolerance standard	standard	$\pm 20 \%$
	on request	$\pm 10 \%$
Power rating	linear	<p>0.5 W at <math>85^\circ \text{C}</math></p> <p>POWER IN WATT</p> <p>AMBIENT TEMPERATURE IN DEGREES CELSIUS</p>
Circuit diagram		
Temperature coefficient	See Standard Resistance Element Data	
Limiting element voltage (linear law)	250 V	
Contact resistance variation	3 % or $3 \Omega$	
End resistance (typical)	$1 \Omega$	
Dielectric strength (RMS)	1000 V	
Insulation resistance	$10^6 \text{ M}\Omega$	

**MECHANICAL SPECIFICATIONS**

Mechanical travel	$300^\circ \pm 5^\circ$
Operating torque (max. Ncm)	2
End stop torque (max. Ncm)	4
Unit weight (max. g)	0.5
Terminals	SnAg alloy (code e2)

**ENVIRONMENTAL SPECIFICATIONS**

Temperature range	- $55^\circ \text{C}$ to + $125^\circ \text{C}$
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	
		$\Delta R_T/R_T$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)
<b>Load life</b>	1000 h at rated power 90°/30° - ambient temperature 70 °C	± 3 % Contact resistance variation: < 3 % Rn	± 4 %
<b>Climatic sequence</b>	Phase A dry heat 100 °C Phase B damp heat Phase C cold - 55 °C Phase D damp heat 5 cycles	± 2 %	± 3 %
<b>Long term damp heat</b>	56 days	± 2 % Dielectric strength: 1000 V <sub>RMS</sub> Insulation resistance: > 10 <sup>4</sup> MΩ	± 3 %
<b>Rapid temperature change</b>	5 cycles - 55 °C at + 125 °C	± 1 %	$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 2 %
<b>Shock</b>	50 g - 11 ms 3 successive shocks in 3 directions	± 0.5 %	± 1 %
<b>Vibration</b>	10 Hz to 55 Hz 0.75 mm or 10 g during 6 h	± 0.5 %	$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 1 %
<b>Rotational life</b>	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	
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	± 100
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

- Vishay trademark
- Model
- YA or YB style
- Ohmic value (in  $\Omega$ ,  $k\Omega$ ,  $M\Omega$ )
- Manufacturing date
- Marking of terminal: 3

### PACKAGING

- In box of 200 pieces, code B40
- On request: In tube of 50 pieces, code T20 (TU50)

### ORDERING INFORMATION (part number)

<b>T</b>	<b>7</b>	<b>Y</b>	<b>A</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>M</b>	<b>B</b>	<b>4</b>	<b>0</b>	<b> </b>	<b> </b>	<b> </b>
MODEL	STYLE			OHMIC VALUE			TOLERANCE		PACKAGING CODE		SPECIAL NUMBER		
T7	YA YB X			From 10 $\Omega$ to 2.2 M $\Omega$ <b>103</b> = 10K			<b>M</b> = 20 % On request: <b>K</b> = 10 %		<b>B40</b> = Box 200 pieces On request: <b>T20</b> = 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

## Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.