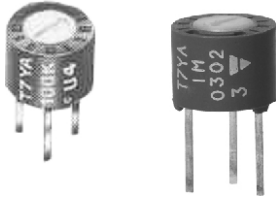


# 7 mm Diameter Miniature Single-Turn Cermet Trimmer



RoHS  
COMPLIANT

## FEATURES

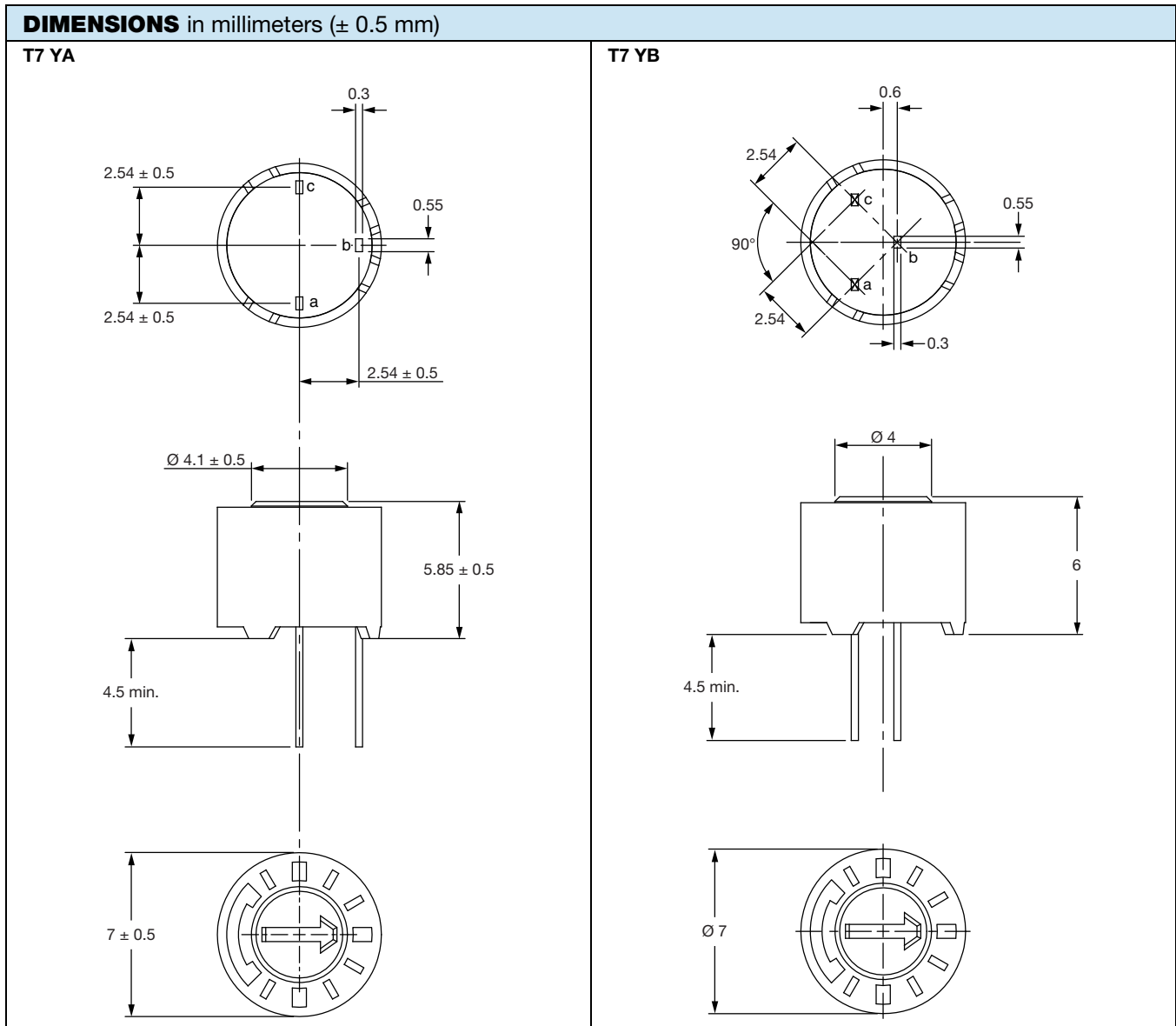
- Industrial grade
- 0.5 W at 70 °C
- Tests according to CECC 41100 or IEC 60393-1
- Low temperature coefficient (100 ppm/K typical)
- Wide resistance range (10 Ω to 2.2 MΩ)
- Easy to read scale
- 7 mm (0.275") diameter
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

## DESIGN SUPPORT TOOLS

[click logo to get started](#)

**3D**  
Models  
Available

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.



<b>ELECTRICAL SPECIFICATIONS</b>																					
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	0.5 W at 85 °C																				
linear	<table border="1"> <caption>Power Rating vs Ambient Temperature</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>Power (Watt)</th> </tr> </thead> <tbody> <tr><td>0</td><td>0.50</td></tr> <tr><td>20</td><td>0.50</td></tr> <tr><td>40</td><td>0.50</td></tr> <tr><td>60</td><td>0.50</td></tr> <tr><td>80</td><td>0.50</td></tr> <tr><td>85</td><td>0.50</td></tr> <tr><td>100</td><td>0.375</td></tr> <tr><td>120</td><td>0.25</td></tr> <tr><td>125</td><td>0</td></tr> </tbody> </table>	Ambient Temperature (°C)	Power (Watt)	0	0.50	20	0.50	40	0.50	60	0.50	80	0.50	85	0.50	100	0.375	120	0.25	125	0
Ambient Temperature (°C)	Power (Watt)																				
0	0.50																				
20	0.50																				
40	0.50																				
60	0.50																				
80	0.50																				
85	0.50																				
100	0.375																				
120	0.25																				
125	0																				
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 <sup>6</sup> MΩ																				

<b>MECHANICAL SPECIFICATIONS</b>	
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)

<b>ENVIRONMENTAL SPECIFICATIONS</b>	
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	$\pm 3$ % Contact resistance variation: < 3 % Rn	$\pm 4$ %
Climatic sequence	Phase A dry heat 100 °C Phase B damp heat Phase C cold -55 °C Phase D damp heat 5 cycles	$\pm 2$ %	$\pm 3$ %
Long term damp heat	56 days	$\pm 2$ % Dielectric strength: 1000 V <sub>RMS</sub> Insulation resistance: > 10 <sup>4</sup> MΩ	$\pm 3$ %
Rapid temperature change	5 cycles -55 °C at +125 °C	$\pm 1$ %	$\Delta V_{1-2}/\Delta V_{1-3}$ $\leq \pm 2$ %
Shock	50 g - 11 ms 3 successive shocks in 3 directions	$\pm 0.5$ %	$\pm 1$ %
Vibration	10 Hz to 55 Hz 0.75 mm or 10 g during 6 h	$\pm 0.5$ %	$\Delta V_{1-2}/\Delta V_{1-3}$ $\leq \pm 1$ %
Rotational life	200 cycles	$\pm 3$ % Contact resistance variation: < 3 % Rn	

**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 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	$\pm 100$
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"> <li>• Vishay trademark</li> <li>• Model</li> <li>• YA or YB style</li> <li>• Ohmic value (in Ω, kΩ, MΩ)</li> <li>• Manufacturing date</li> <li>• Marking of terminal: 3</li> </ul>



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

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		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

RELATED DOCUMENTS	
<b>APPLICATION NOTES</b>	
Potentiometers and Trimmers	<a href="http://www.vishay.com/doc?51001">www.vishay.com/doc?51001</a>
Guidelines for Vishay Sfernice Resistive and Inductive Components	<a href="http://www.vishay.com/doc?52029">www.vishay.com/doc?52029</a>



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