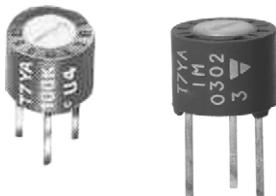


## 7 mm Diameter Miniature Single-Turn Cermet Trimmer



### LINKS TO ADDITIONAL RESOURCES



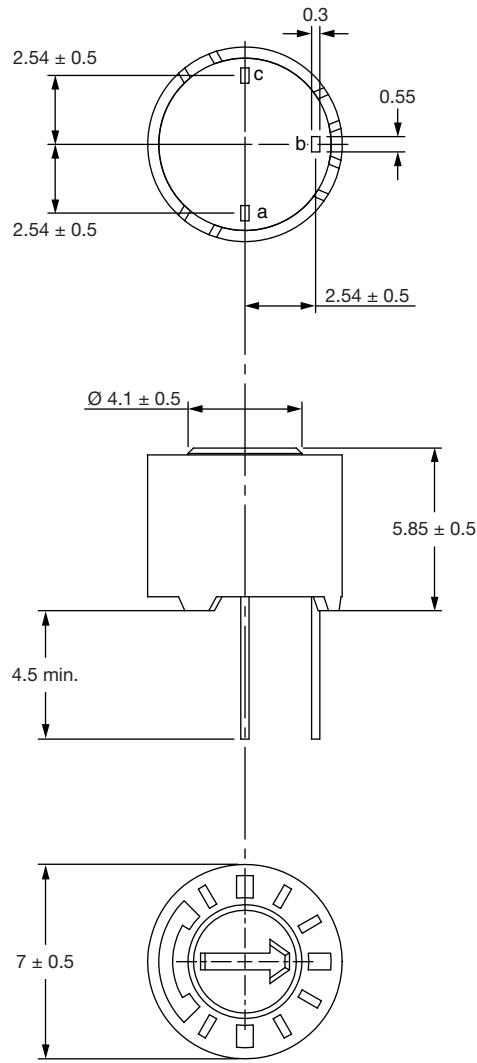
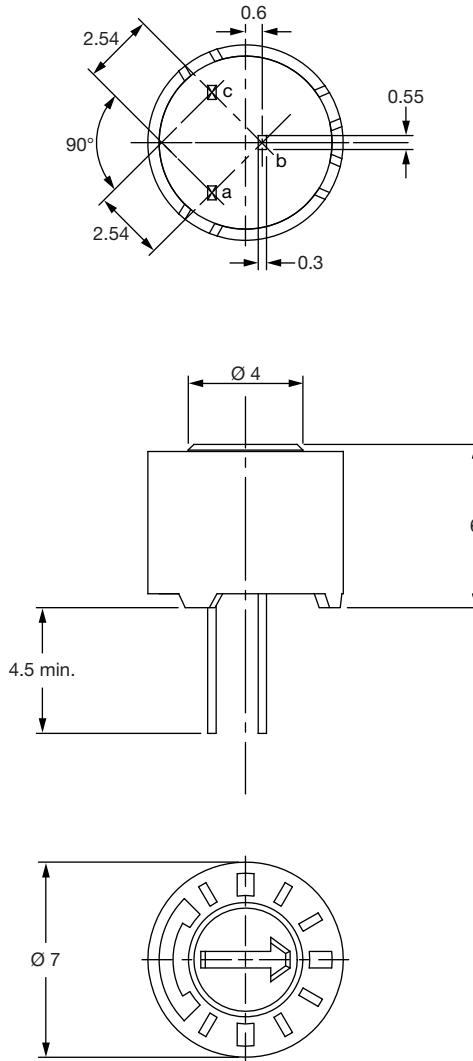
A dust sealed plastic case protecting a quality cermet track guarantees high performance and proven reliability. Adjustments are made easier by the clear scale readings. T7 is ideally suited to all industrial applications.

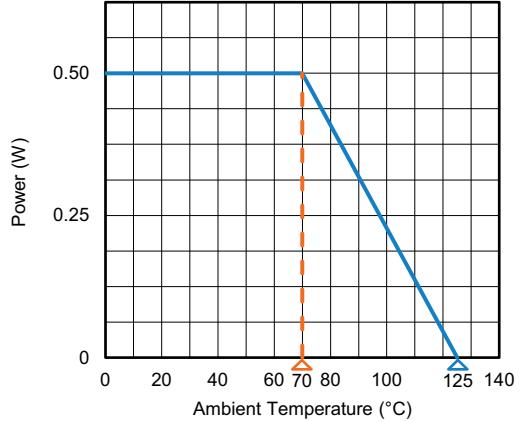
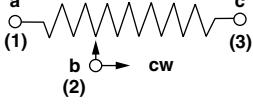
### FEATURES

- 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  $\Omega$  to 2.2 M $\Omega$ )
- Easy to read scale
- 7 mm (0.275") diameter
- Construction: sealed
- Industrial grade
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

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

**T7 YA**

**T7 YB**


<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	Linear	<p>0.5 W at 70 °C</p>  <table border="1"> <caption>Data points from Power vs. Temperature graph</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>Power (W)</th> </tr> </thead> <tbody> <tr><td>0 - 70</td><td>0.50</td></tr> <tr><td>70 - 125</td><td>0.25</td></tr> <tr><td>125 - 140</td><td>0.00</td></tr> </tbody> </table>	Ambient Temperature (°C)	Power (W)	0 - 70	0.50	70 - 125	0.25	125 - 140	0.00
Ambient Temperature (°C)	Power (W)									
0 - 70	0.50									
70 - 125	0.25									
125 - 140	0.00									
Circuit diagram										
Temperature coefficient		± 100 ppm/°C								
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	± 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 VRMS Insulation resistance: > $10^4$ MΩ	± 3 %
Rapid temperature change	5 cycles -55 °C at +125 °C	± 1 %	$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 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 %	$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 1 %
Rotational life	200 cycles	± 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 70 °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
<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**

- 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										
T7	YA YB	From 10 $\Omega$ to 2.2 M $\Omega$ 103 = 10K	M = 20 % On request: K = 10 %										

PACKAGING CODE  
**B40** = box 200 pieces  
 On request:  
**T20** = tube 50 pieces

SPECIAL NUMBER  
 (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**
**APPLICATION NOTES**

Potentiometers and Trimmers	<a href="http://www.vishay.com/doc?251001">www.vishay.com/doc?251001</a>
Guidelines for Vishay Sfernice Resistive and Inductive Components	<a href="http://www.vishay.com/doc?52029">www.vishay.com/doc?52029</a>
Selector guide	<a href="http://www.vishay.com/doc?49286">www.vishay.com/doc?49286</a>

**ACCESSORIES**

Screwdrivers (to order separately)	<a href="http://www.vishay.com/doc?57015">www.vishay.com/doc?57015</a>
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