7 mm Diameter Miniature Single-Turn Cermet Trimmer



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#### **DESIGN SUPPORT TOOLS**



**ISHA** 

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



Revision: 11-Feb-2019

For technical questions, contact: sferpottrimmers@vishay.com

Document Number: 51015

RoHS COMPLIANT

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ELECTRICAL SPECIFIC	CATIONS			
Resistive element		Cermet		
Electrical travel		270° ± 15°		
Resistance range		10 $\Omega$ to 2.2 M $\Omega$		
Standard series E3		1 - 2.2 - 4.7 and on request 1 - 2 - 5		
Toloronoo atondard	standard	± 20 %		
Tolerance standard	on request	± 10 %		
Power rating	linear	0.5 W at 85 °C		
Circuit diagram		$ \begin{array}{c} a \\ (1) \\ b \\ (2) \end{array} $		
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> ΜΩ		

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.	

Revision: 11-Feb-2019

2

Document Number: 51015



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PERFORMANCES				
теете	CONDITIONS	TYPICAL VALUES AND DRIFTS		
TESTS	CONDITIONS	∆ <b>R⊺/R⊺ (%)</b>	∆ <b>R<sub>1-2</sub>/R<sub>1-2</sub> (%)</b>	
Load life	1000 h at rated power 90'/30' - ambient temperature 70 °C	± 3 % Contact resistance variation: < 3 % Rn	±4%	
	Phase A dry heat 100 °C			
Climatic sequence	Phase B damp heat	+ 2.%	. 2.0/	
Climatic sequence	Phase C cold -55 °C	± 2 %	± 3 70	
	Phase D damp heat 5 cycles			
Long term damp heat	56 days	$\pm$ 2 % Dielectric strength: 1000 V_{RMS} Insulation resistance: $> 10^4 \ M\Omega$	±3 %	
Rapid temperature change	5 cycles -55 °C at +125 °C	± 1 %	$\begin{array}{l} \Delta V_{1\text{-}2} / \Delta V_{1\text{-}3} \\ \leq \pm 2 \ \% \end{array}$	
	50 g - 11 ms			
Shock	3 successive shocks	± 0.5 %	±1%	
	in 3 directions			
Vibration	10 Hz to 55 Hz 0.75 mm or 10 g during 6 h	± 0.5 %	$\begin{array}{l} \Delta V_{1\text{-}2} / \Delta V_{1\text{-}3} \\ \leq \pm 1 \% \end{array}$	
		± 3 %		
Rotational life	200 cycles	Contact resistance variation: < 3 % Rn		

#### Note

• Nothing stated herein shall be construed as a guarantee of quality or durability

STANDARD RESISTANCE ELEMENT DATA				
STANDARD	LINEAR LAW			TYPICAL TCR
RESISTANCE VALUES	MAX. POWER AT 85 °C	MAX. WORKING VOLTAGE	MAX. WIPER CURRENT	-55 °C to +125 °C
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 Ω, kΩ, MΩ)

Manufacturing date

• Marking of terminal: 3

Revision: 11-Feb-2019

3

Document Number: 51015



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Τ7

### PACKAGING

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



DESCRIPTIO	N (for informatio	n only)				
<b>T</b> 7	YA	470K	20 %		ВО	e2
MODEL	STYLE	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD FINISH

RELATED DOCUMENTS				
APPLICATION NOTES				
Potentiometers and Trimmers	www.vishay.com/doc?51001			
Guidelines for Vishay Sfernice Resistive and Inductive Components	www.vishay.com/doc?52029			



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