COMPLIANT



### 1/4" Multi-Turn Fully Sealed Container Cermet Trimmer



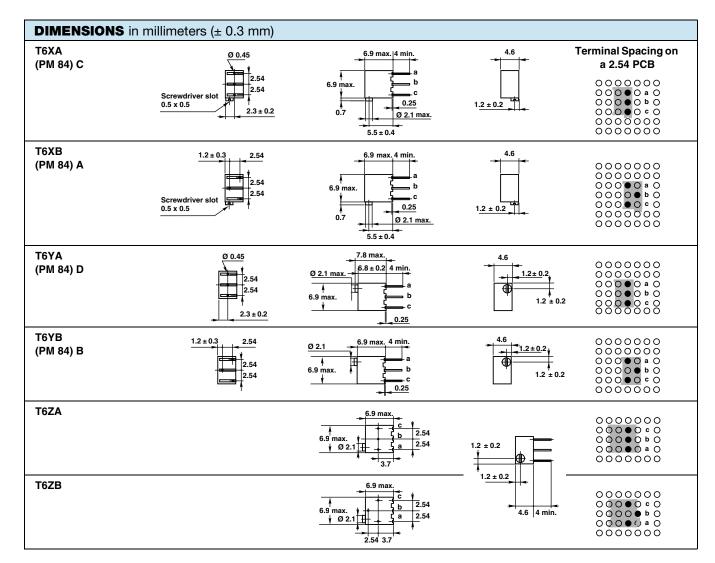
Due to their square shape and small size (6.8 mm x 6.8 mm x 5 mm), the multi-turn trimmers of the T6 series are ideally suited for PCB use, enabling high density board mounting with reduced space requirement between cards.

Six versions are available differing by the top or side position of the adjustment screw and by PC pins configuration.

The use of cermet for the resistive track ensures an excellent stability of nominal specifications throughout life.

#### **FEATURES**

- · Military and professional grade
- 0.25 W at 70 °C
- Product qualification according to CECC 41100-005 (A, B, C, D)
- Equivalent to MIL-R-22097 (RJ26)
- Low contact resistance variation < 2 %
- · Fully sealed
- Wide range of ohmic values from 10  $\Omega$  to 2.2 M $\Omega$
- Tests according to CECC 41000 or IEC 60393-1
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912





# Vishay Sfernice

Resistive element	Cermet				
Electrical travel	14 turns ± 2				
Resistance range	10 Ω to 2.2 MΩ				
Standard series E3	1 - 2.2 - 4.7 and on request 1 - 2 - 5				
Standard	10 %				
Tolerance On request	5 %				
Linear	0.25 W at +70 °C				
Power rating	0.25 N N N N N N N N N N N N N				
Circuit diagram	$ \begin{array}{c} \overset{\mathbf{a}}{\bigcirc} - \bigvee \bigvee \bigvee \bigvee \bigcirc \overset{\mathbf{c}}{\bigcirc} \\ (1) & \overset{\mathbf{b}}{\triangleright} \xrightarrow{\bullet}  cw \\ (2) & & & & \\ \end{array} $				
Temperature coefficient	See Standard Resistance Element table				
Limiting element voltage (linear law)	250 V				
Contact resistance variation	2 % Rn or 2 $\Omega$				
End resistance (typical)	1 Ω				
Dielectric strength (RMS)	1000 V				
Insulation resistance (500 V <sub>DC</sub> )	$10^6\mathrm{M}\Omega$				

MECHANICAL SPECIFICATIONS				
Mechanical travel	15 turns ± 5			
Operating torque (max. Ncm)	1			
End stop torque	Clutch action			
Net weight (max. g)	0.5			
Wiper (actual travel)	Positioned at approx. 50 %			
Terminals	Pure Sn (code e3)			

ENVIRONMENTAL SPECIFICATIONS		
Temperature range	-55 °C to +155 °C	
Climatic category	55/125/56	
Sealing	Fully sealed - IP67	



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PERFORMANCES							
C	ECC 41100	REQUIREMENTS		TYPICAL VALUES AND DRIFTS			
TESTS	CONDITIONS	∆R <sub>T</sub> /R <sub>T</sub> (%)	∆R <sub>1-2</sub> /R <sub>1-2</sub> (%)	OTHER	∆R <sub>T</sub> /R <sub>T</sub> (%)	ΔR <sub>1-2</sub> /R <sub>1-2</sub> (%)	OTHER
Electrical endurance	1000 h at rated power 90'/30' - ambient temp. 70 °C	± 2 %	± 4 %	Contact res. variation: < 3 % Rn	± 1 %	± 2 %	Contact res. variation: < 1 % Rn
Climatic sequence	Phase A dry heat 125 °C Phase B damp heat Phase C cold -55 °C Phase D damp heat 5 cycles	± 2 %	± 3 %	-	± 0.5 %	± 1 %	-
Damp heat steady state	56 days 40 °C, 93 % RH	± 2 %	± 3 %	Dielectric strength: $> 250 \text{ V}$ Insulation resistance: $> 100 \text{ M}\Omega$	± 0.5 %	± 1 %	Dielectric strength: > 1000  V Insulation resistance: $> 10^4 \text{ M}\Omega$
Mechanical endurance	200 cycles	± 2 %	-	Contact res. variation: < 3 % Rn	± (2 % + 3 Ω)	-	Contact res. variation: < 1 % Rn
Change of temperature	5 cycles -55 °C to +125 °C	± 1.5 %	-	$\begin{array}{l} \Delta V_{1\text{-}2}/V_{1\text{-}3} \\ \leq \pm \ 1 \ \% \end{array}$	± 0.5 %	-	ΔV <sub>1-2</sub> /V <sub>1-3</sub> < ± 1 %
Shock	50 g at 11 ms 3 successive shocks in 3 directions	±1%	± 2 %	-	± 0.1 %	± 0.2 %	-
Vibration	10 Hz to 55 Hz 0.75 mm or 10 <i>g</i> during 6 h	±1%	-	ΔV <sub>1-2</sub> /V <sub>1-3</sub> ± 2 %	± 0.1 %	-	$\Delta V_{1-2}/V_{1-3} < \pm 0.2 \%$

#### Note

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

STANDAR	STANDARD RESISTANCE ELEMENT DATA				
STANDARD		TYPICAL			
RESISTANCE VALUES	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. WIPER CUR.	TCR -55 °C +125 °C	
Ω	W	V	mA	ppm/°C	
10	0.25	1.58	158		
22	0.25	2.34	107		
47	0.25	3.53	73		
100	0.25	5	50		
220	0.25	7.42	34		
470	0.25	10.8	23		
1K	0.25	15.8	15.8		
2.2K	0.25	23.4	10.7		
4.7K	0.25	34.3	7.3	± 100	
10K	0.25	50	5		
22K	0.25	74.2	3.37		
47K	0.25	108.4	2.31		
100K	0.25	158	1.58		
220K	0.25	235	1.07		
470K	0.13	250	0.53		
1M	0.063	250	0.25		
2.2M	0.028	250	0.11		

#### **MARKING**

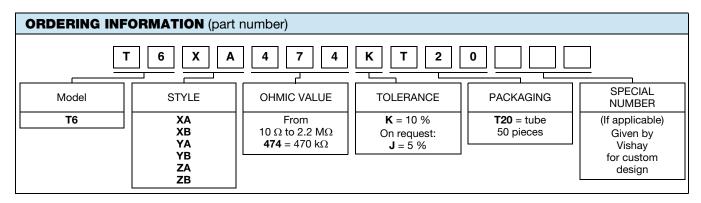
- Vishay trademark
- Model
- Style
- Ohmic value (in  $\Omega$ ,  $k\Omega$ ,  $M\Omega$ )
- Tolerance (in %)
- Manufacturing date
- Marking of terminal C

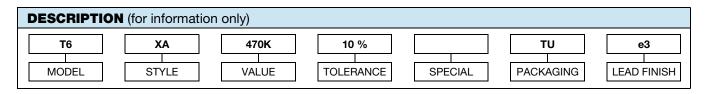
#### **PACKAGING**

• In tube of 50 pieces code T20 (TU50)



### Vishay Sfernice





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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