

## 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 T63 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.

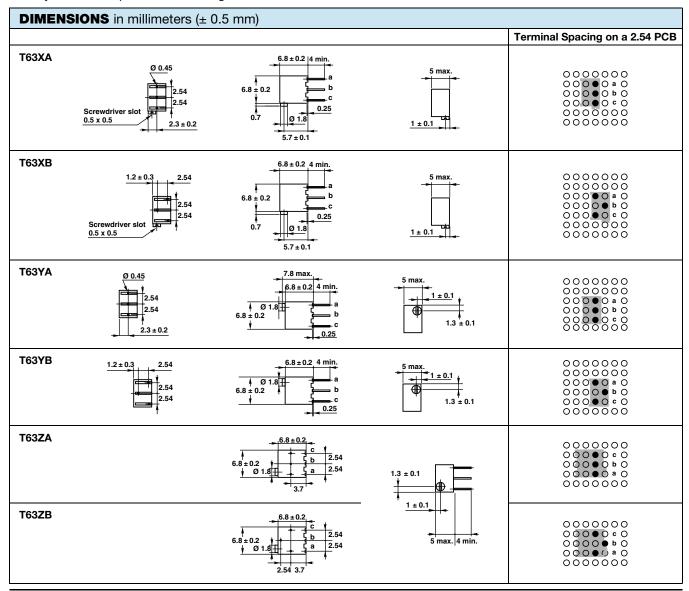
#### **FEATURES**

- 0.25 W at 70 °C
- · Industrial grade



ROHS

- Tests according to CECC 41000 or IEC 60393-1
- Multi-turn operation
- Low contact resistance variation < 2 %
- Material categorization: for definitions of compliance please see <a href="https://www.vishay.com/doc?99912"><u>www.vishay.com/doc?99912</u></a>



# Vishay Sfernice

Resistive element		Cermet				
Electrical travel		14 turns ± 2				
Resistance range		10 Ω to 2.2 MΩ				
Standard series and on req	uest series E3	1 - 2 - 5 (1 - 2.2 - 4.7)				
<del>-</del> .	Standard	± 10 %				
Tolerance	On request	± 5 %				
	Linear	0.25 W at 70 °C				
Power rating		0.25  M I U U U U U U U U U U U U U U U U U U				
Circuit diagram		$ \begin{array}{c} a \\ \bigcirc \\ (1) \end{array} $ $ \begin{array}{c} c \\ \bigcirc \\ (3) \end{array} $ $ \begin{array}{c} b \\ \bigcirc \\ \rightarrow cw \end{array} $ $ \begin{array}{c} (2) \end{array} $				
Temperature coefficient		See Standard Resistance Element table				
Limiting element voltage (lir	ear law)	250 V				
Contact resistance variatior	1	2 % Rn or 2 $\Omega$				
End resistance (typical)		1 Ω				
Dielectric strength (RMS)		1000 V				
Insulation resistance (500 V	\	$10^6\mathrm{M}\Omega$				

MECHANICAL SPECIFICATIONS			
Mechanical travel	15 turns ± 5		
Operating torque (max. Ncm)	1.5		
End stop torque	Clutch action		
Unit 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					
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS			
12313	CONDITIONS	$\Delta R_{T}/R_{T}$	$\Delta R_{1-2}/R_{1-2}$	OTHER	
Electrical endurance	1000 h at rated power 90'/30' - ambient temperature 70 °C	± 1 %	± 2 %	Contact res. variation: < 1 % Rn	
Climatic sequence	Phase A dry heat 125 °C - 30 % Pr Phase B damp heat Phase C cold -55 °C Phase D damp heat 5 cycles	± 0.5 %	± 1 %	-	
Damp heat, steady state	56 days 40 °C, 93 % RH	± 0.5 %	± 1 %	Dielectric strength: 1000 $V_{RMS}$ Insulation resistance: > $10^4~M\Omega$	
Rapid temperature change	5 cycles -55 °C to +125 °C	± 0.5 %	-	$\Delta V_{1-2}/V_{1-3} \le \pm 1 \%$	
Shock	50 <i>g</i> at 11 ms 3 successive shocks in 3 directions	± 0.1 %	± 0.2 %	-	
Vibration	10 Hz to 55 Hz 0.75 mm or 10 <i>g</i> during 6 h	± 0.1 %	-	$\Delta V_{1-2}/V_{1-3} \le \pm \ 0.2 \%$	
Mechanical endurance	200 cycles	± (2 % + 3 Ω)	-	Contact res. variation: < 1 % Rn	

#### Note

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

STANDARD RESISTANCE ELEMENT DATA				
STANDARD		TYPICAL		
RESISTANCE VALUES	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. WIPER CURRENT	TCR -55 °C +125 °C
Ω	W	V	mA	ppm/°C
10	0.25	1.58	158	
20	0.25	2.23	112	
50	0.25	3.5	77	
100	0.25	35	50	
200	0.25	7.07	35	
500	0.25	11.2	22	
1K	0.25	15.8	15.8	
2K	0.25	22.3	11.2	
5K	0.25	35.3	7.1	
10K	0.25	50	5	± 100
20K	0.25	70.7	3.5	
25K	0.25	79	3.2	
50K	0.25	112	2.2	
100K	0.25	158	1.6	
200K	0.25	224	1.1	
250K	0.25	250	1.1	
500K	0.13	250	0.5	
1M	0.06	250	0.25	
2.2M	0.03	250	0.125	

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- · Vishay trademark
- Model
- Style
- Ohmic value (in  $\Omega,$   $k\Omega,$   $M\Omega)$
- Tolerance (in %) only if non standard
- Manufacturing date
- Marking of terminal 3

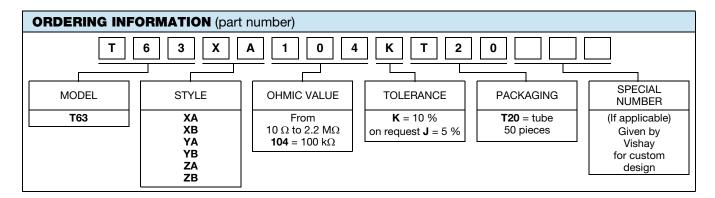
#### **PACKAGING**

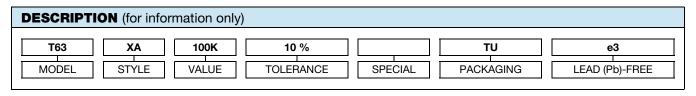
• In tube of 50 pieces code T20 (TU50)



www.vishay.com

# 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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