

# 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
- 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 [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS  
COMPLIANT

DIMENSIONS in millimeters ( $\pm 0.5$ mm)			Terminal Spacing on a 2.54 PCB
<p><b>T63XA</b></p>			
<p><b>T63XB</b></p>			
<p><b>T63YA</b></p>			
<p><b>T63YB</b></p>			
<p><b>T63ZA</b></p>			
<p><b>T63ZB</b></p>			

<b>ELECTRICAL SPECIFICATIONS</b>		
Resistive element	Cermet	
Electrical travel	14 turns $\pm$ 2	
Resistance range	10 $\Omega$ to 2.2 M $\Omega$	
Standard series and on request series E3	1 - 2 - 5 (1 - 2.2 - 4.7)	
Tolerance	Standard	$\pm$ 10 %
	On request	$\pm$ 5 %
Power rating	Linear	0.25 W at 70 °C
Circuit diagram		
Temperature coefficient	See Standard Resistance Element table	
Limiting element voltage (linear law)	250 V	
Contact resistance variation	2 % R <sub>n</sub> or 2 $\Omega$	
End resistance (typical)	1 $\Omega$	
Dielectric strength (RMS)	1000 V	
Insulation resistance (500 V <sub>DC</sub> )	10 <sup>6</sup> M $\Omega$	

<b>MECHANICAL SPECIFICATIONS</b>	
Mechanical travel	15 turns $\pm$ 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)

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



PERFORMANCES				
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS		
		$\Delta R_T/R_T$	$\Delta R_{1-2}/R_{1-2}$	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 <sub>RMS</sub> Insulation resistance: > 10 <sup>4</sup> MΩ
Rapid temperature change	5 cycles -55 °C to +125 °C	± 0.5 %	-	$\Delta V_{1-2}/V_{1-3} \leq \pm 1 \%$
Shock	50 g at 11 ms 3 successive shocks in 3 directions	± 0.1 %	± 0.2 %	-
Vibration	10 Hz to 55 Hz 0.75 mm or 10 g during 6 h	± 0.1 %	-	$\Delta V_{1-2}/V_{1-3} \leq \pm 0.2 \%$
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 RESISTANCE VALUES	LINEAR LAW			TYPICAL TCR -55 °C +125 °C
	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. WIPER CURRENT	
Ω	W	V	mA	ppm/°C
10	0.25	1.58	158	± 100
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	
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	

MARKING
<ul style="list-style-type: none"> <li>• Vishay trademark</li> <li>• Model</li> <li>• Style</li> <li>• Ohmic value (in Ω, kΩ, MΩ)</li> <li>• Tolerance (in %) only if non standard</li> <li>• Manufacturing date</li> <li>• Marking of terminal 3</li> </ul>

PACKAGING
<ul style="list-style-type: none"> <li>• In tube of 50 pieces code T20 (TU50)</li> </ul>



ORDERING INFORMATION (part number)														
T	6	3	X	A	1	0	4	K	T	2	0			
MODEL	STYLE			OHMIC VALUE			TOLERANCE		PACKAGING		SPECIAL NUMBER			
T63	XA XB YA YB ZA ZB			From 10 Ω to 2.2 MΩ 104 = 100 kΩ			K = 10 % on request J = 5 %		T20 = tube 50 pieces		(If applicable) Given by Vishay for custom design			

DESCRIPTION (for information only)						
T63	XA	100K	10 %		TU	e3
MODEL	STYLE	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD (Pb)-FREE

RELATED DOCUMENTS	
APPLICATION NOTES	
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>



## **Disclaimer**

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.