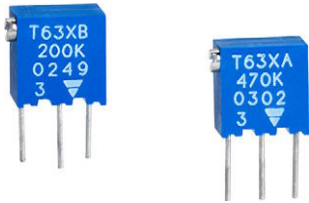




**THE DATASHEET OF  
T63YA103KT20**



# 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
<b>T63XA</b> 			
<b>T63XB</b> 			
<b>T63YA</b> 			
<b>T63YB</b> 			
<b>T63ZA</b> 			
<b>T63ZB</b> 			

<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															
		<table border="1"> <caption>Power Rating vs Ambient Temperature</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>Power (W)</th> </tr> </thead> <tbody> <tr><td>0</td><td>0.25</td></tr> <tr><td>25</td><td>0.25</td></tr> <tr><td>50</td><td>0.25</td></tr> <tr><td>70</td><td>0.25</td></tr> <tr><td>100</td><td>0.167</td></tr> <tr><td>125</td><td>0.083</td></tr> <tr><td>155</td><td>0</td></tr> </tbody> </table>	Ambient Temperature (°C)	Power (W)	0	0.25	25	0.25	50	0.25	70	0.25	100	0.167	125	0.083	155
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155	0																
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	
<b>APPLICATION NOTES</b>	
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>

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



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