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.

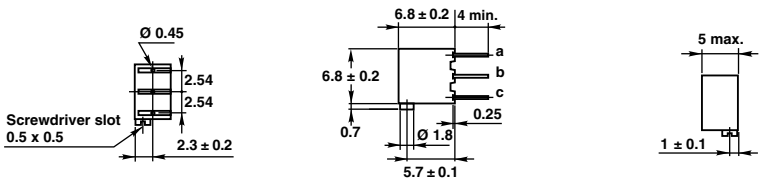
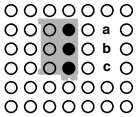
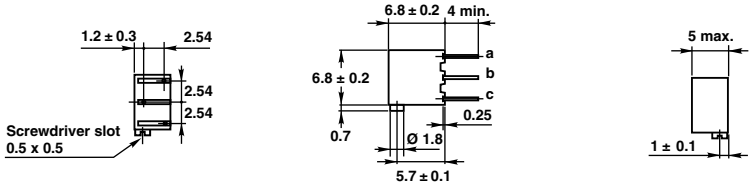
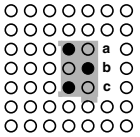
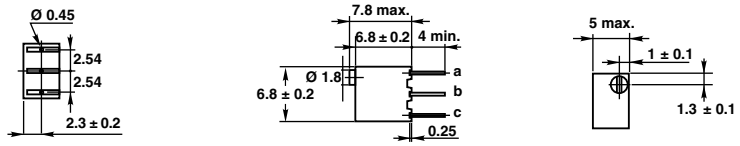
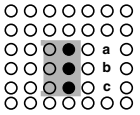
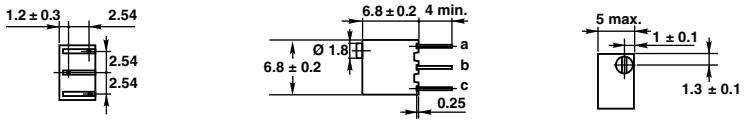
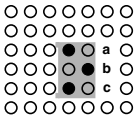
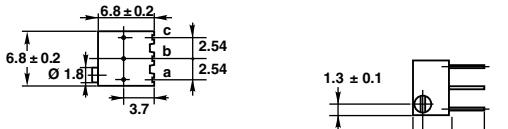
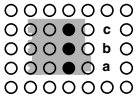
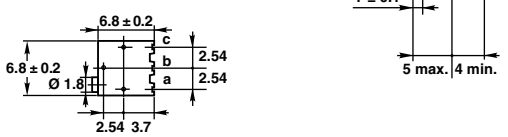
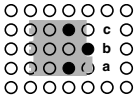
The use of cermet for the resistive track ensures an excellent stability of nominal specifications throughout life.

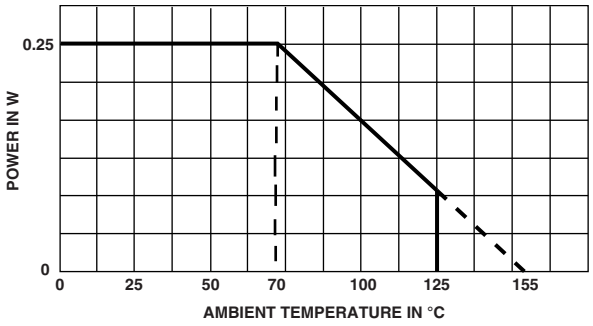
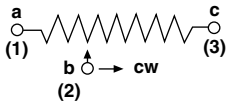
FEATURES

- 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

RoHS COMPLIANT

DIMENSIONS in millimeters (± 0.5 mm)

		Terminal Spacing on a 2.54 PCB
T63XA		
T63XB		
T63YA		
T63YB		
T63ZA		
T63ZB		

ELECTRICAL SPECIFICATIONS	
Resistive element	Cermet
Electrical travel	14 turns ± 2
Resistance range	10 Ω to 2.2 MΩ
Standard series and on request series E3	1 - 2 - 5 (1 - 2.2 - 4.7)
Tolerance — Standard	± 10 %
Tolerance — On request	± 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 % Rn or 2 Ω
End resistance (typical)	1 Ω
Dielectric strength (RMS)	1000 V
Insulation resistance (500 V_{DC})	10^6 MΩ

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

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_{RMS} Insulation resistance: > 10^4 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	
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	

MARKING

- Vishay trademark
- Model
- Style
- Ohmic value (in Ω, kΩ, MΩ)
- Tolerance (in %) only if non standard
- Manufacturing date
- Marking of terminal 3

PACKAGING

- In tube of 50 pieces code T20 (TU50)

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	www.vishay.com/doc?51001
Guidelines for Vishay Sfernice Resistive and Inductive Components	www.vishay.com/doc?52029

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