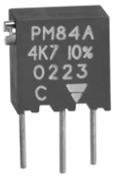
1/4" Multi-Turn Fully Sealed Container Cermet Trimmer



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.

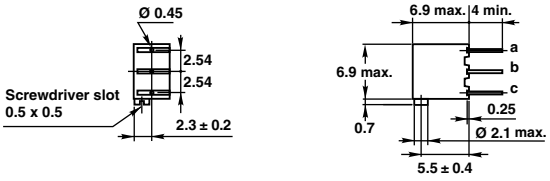
FEATURES

- 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 Ω to 2.2 MΩ
- Tests according to CECC 41000 or IEC 60393-1
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

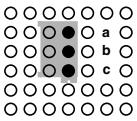
RoHS COMPLIANT

DIMENSIONS in millimeters (± 0.3 mm)

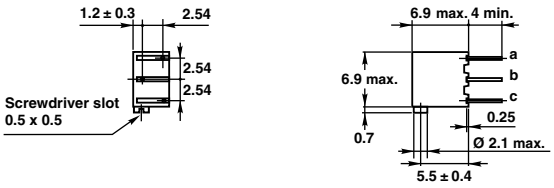
T6XA (PM 84) C

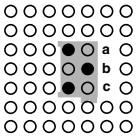


Terminal Spacing on a 2.54 PCB

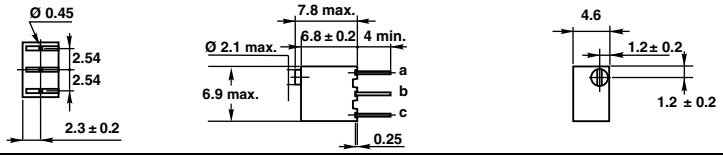


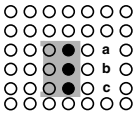
T6XB (PM 84) A



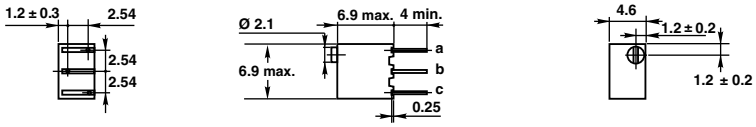


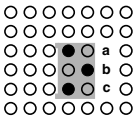
T6YA (PM 84) D



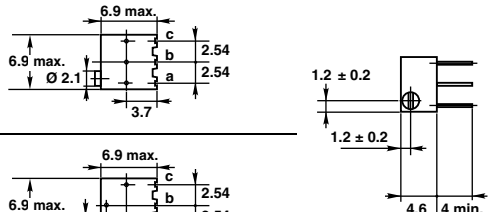


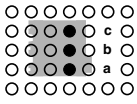
T6YB (PM 84) B



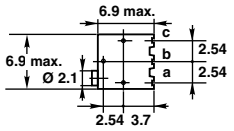


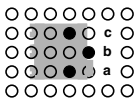
T6ZA





T6ZB





For technical questions, contact: sferpottrimmers@vishay.com

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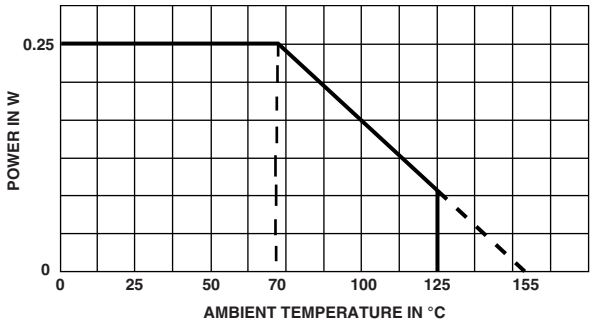
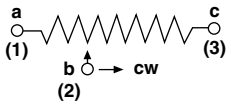
ELECTRICAL SPECIFICATIONS		
Resistive element		Cermet
Electrical travel		14 turns ± 2
Resistance range		10 Ω to 2.2 MΩ
Standard series E3		1 - 2.2 - 4.7 and on request 1 - 2 - 5
Tolerance	Standard	10 %
	On request	5 %
Power rating	Linear	0.25 W at +70 °C 
Circuit diagram		
Temperature coefficient		See 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
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

CECC 41100		REQUIREMENTS			TYPICAL VALUES AND DRIFTS		
TESTS	CONDITIONS	$\Delta R_T/R_T$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)	OTHER	$\Delta R_T/R_T$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)	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 V Insulation resistance: > 100 MΩ	± 0.5 %	± 1 %	Dielectric strength: > 1000 V Insulation resistance: > 10^4 MΩ
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 %	-	$\Delta V_{1-2}/V_{1-3}$ ≤ ± 1 %	± 0.5 %	-	$\Delta V_{1-2}/V_{1-3}$ < ± 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 *g* during 6 h	± 1 %	-	$\Delta V_{1-2}/V_{1-3}$ ± 2 %	± 0.1 %	-	$\Delta V_{1-2}/V_{1-3}$ < ± 0.2 %

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 CUR.	
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 Ω, kΩ, MΩ)
- Tolerance (in %)
- Manufacturing date
- Marking of terminal C

PACKAGING

- In tube of 50 pieces code T20 (TU50)

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ORDERING INFORMATION (part number)

T	6	X	A	4	7	4	K	T	2	0			

Model	STYLE	OHMIC VALUE	TOLERANCE	PACKAGING	SPECIAL NUMBER
T6	**XA** **XB** **YA** **YB** **ZA** **ZB**	From 10 Ω to 2.2 MΩ **474** = 470 kΩ	**K** = 10 % On request: **J** = 5 %	**T20** = tube 50 pieces	(If applicable) Given by Vishay for custom design

DESCRIPTION (for information only)

T6	XA	470K	10 %		TU	e3
MODEL	STYLE	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD FINISH

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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T6YA T6YA 10K 10% T6YA 4.7K 10% T6YB 10K 10%TU50 T6XB 10K 10% T6XB 2K 10% T6YA 22K 10% T6YA 47K 10% T6YA102KT20 T6YA223KT20 T6YA473KT20 T6ZB103KT20 T6YB103KT20 T6YA103KT20 T6YB102KT20 T6XB103KT20 T6YB503KT20 T6YA472KT20