

3/8" Square Multi-Turn Cermet Trimmer



FEATURES

- Industrial grade
- 0.5 W at 70 °C
- Tests according to CECC 41000 or IEC 60393-1
- Contact resistance variation < 2 %
- Material categorization: for definitions of compliance please see www.vishay.com/doc/799912



DESIGN SUPPORT TOOLS

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3D
Models
Available

The T93 is a small size trimmer - 3/8" x 3/8" x 3/16" - answering PC board mounting requirements. Five versions are available which differ by the position of the control screw in relation to the PC board plane and by the spacing of the terminals. Excellent operational stability is provided by the use of a cermet element.

DIMENSIONS in millimeters (± 0.5 mm)			
T93XA			
T93XB			
T93YA			
T93YB			
T93Z			

Note
(1) To be measured at base level

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For technical questions, contact: sferpotttrimmers@vishay.com
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STANDARD RESISTANCE ELEMENT DATA			
STANDARD RESISTANCE VALUES	LINEAR LAW		
	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CURRENT THROUGH WIPER
Ω	W	V	mA
10	0.5	2.2	224
22	0.5	3.3	150
47	0.5	4.8	103
100	0.5	7	70
220	0.5	10.5	47
470	0.5	15.3	32
1K	0.5	22.4	22
2.2K	0.5	33.2	15
4.7K	0.5	48.5	10
10K	0.5	70.7	7
22K	0.5	105	4.8
47K	0.5	153	3.2
100K	0.5	224	2.2
220K	0.28	250	1.1
470K	0.13	250	0.53
1M	0.06	250	0.25
2.2M	0.028	250	0.11

PERFORMANCES		
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS
		$\Delta R_1/R_1$ (%)
Load life	1000 h at rated power 90°/30° - ambient temp. 70 °C	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 %
Long term damp heat	56 days 40 °C, 93 % RH	± 0.5 %
Rapid temperature change	5 cycles -55 °C to +125 °C	± 0.5 %
Shock	50 g at 11 ms 3 successive shocks in 3 directions	± 0.1 %
Vibration	10 Hz to 55 Hz 0.15 mm or 10 g during 6 h	± 0.1 %
Rotational life	200 cycles	Contact res. variation: < 1 % Rn

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

MARKING
<ul style="list-style-type: none"> Vishay trademark Model Style Climatic value (in Ω, KΩ, MΩ) Tolerance (in %) Manufacturing date Marking of terminal 3

ELECTRICAL SPECIFICATIONS	
Resistive element	Cermet
Electrical travel	21 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	10 %
Standard On request	5 %
Power rating	0.5 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 VDC)	10 ⁹ MΩ

MECHANICAL SPECIFICATIONS	
Mechanical travel	23 turns ± 5
Operating torque (max. Ncm)	1.5
End stop torque	Clutch action
Net weight	Approx. 0.82 g
Wiper (actual travel)	Positioned at approx. 50 %
Terminals	Pure Sn (code e3)

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

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PACKAGING	
• In tube of 50 pieces code T20 (TU50)	
ORDERING INFORMATION (part number)	
DESCRIPTION (for information only)	
RELATED DOCUMENTS	
APPLICATION NOTES Potentiometers and Trimmers www.vishay.com/doc/751001 Guidelines for Vishay Sfernice Resistive and Inductive Components www.vishay.com/doc/752029	

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