

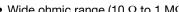
5 mm Through Hole Trimmer Single-Turn Cermet



The T53 trimming potentiometer volumetric efficiency (5 mm x 5 mm x 2.7 mm) with high performance and stability. The T53 design is suitable for both manual or automatic operation.

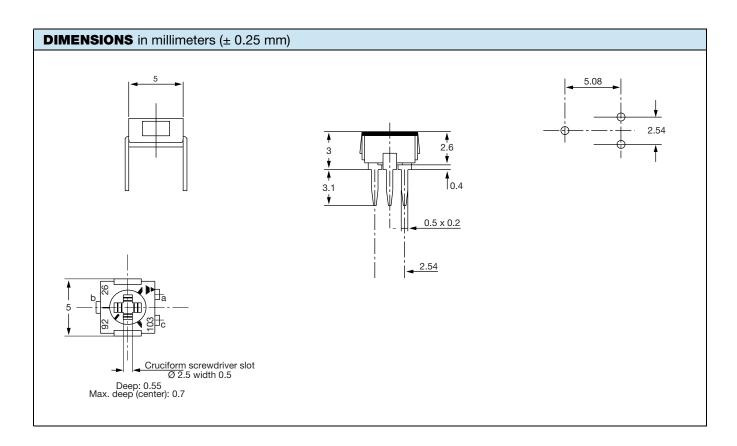
FEATURES

- · Fully sealed
- 0.25 W at 70 °C





- Wide ohmic range (10 Ω to 1 M Ω)
- Low contact resistance variation (2 % or 3 Ω)
- · Small size for optimum packaging density
- Suitable for both manual or automatic operation
- For SMD version see TS53Y series
- Tests according to CECC 41000 or IEC 60393-1
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



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ELECTRICAL SPECIFICATIONS				
Resistive element	Cermet			
Electrical travel	220° ± 15°			
Resistance range	10 Ω to 1 MΩ			
Standard series	1 - 2 - 5			
Standard	± 20 %			
Tolerance On request	± 10 %			
Linear	0.25 W at +70 °C			
Power rating	0.25 0.20 0.15 0.10 0.05 0.05 0.05 0.00			
Circuit diagram	a O—VVVV—O (1) b O→ cw (2)			
Temperature coefficient	See Standard Resistance Element Data table			
Limiting element voltage (linear law)	200 V			
Contact resistance variation	2 % or 3 Ω			
End resistance (typical)	0.1 % or 3 Ω			
Dielectric strength (RMS)	1000 V			
Insulation resistance	$10^6\mathrm{M}\Omega$			
Specification	In accordance with CECC 41100			

MECHANICAL SPECIFICATIONS		
Mechanical travel	270 ° ± 10°	
Operating torque (max. Ncm)	1.5	
End stop torque (max. Ncm)	3.5	
Unit weight (max. g)	0.15	
Terminals	Pure Sn (code e3)	

ENVIRONMENTAL SPECIFICATIONS		
Temperature range	-55 °C to +155 °C	
Climatic category	55/125/56	
Sealing	Enables cleaning - IP67	

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PERFORMANCES				
TECTO	COMPITIONS	TYPICAL VALUES AND DRIFTS		
TESTS	CONDITIONS	$\Delta R_{T}/R_{T}$ (%)	ΔR ₁₋₂ /R ₁₋₂ (%)	
Load life	1000 h at rated power 90'/30' - ambient temp. +70 °C	\pm 2 % Contact res. variation: $\Delta R <$ 1 % Rn	3 %	
Moisture resistance	MIL-STD 202 method 106 10 cycles of 24 h constituted with damp heat - cold - vibrations	$\pm~2~\%$ Dielectric strength: 1000 V_{RMS} Insulation resistance. $>10^4~M\Omega$	± 3 %	
Long term damp heat	Temperature 40 °C - RH 93 % 56 days	$\pm~2~\%$ Dielectric strength: 1000 V_{RMS} Insulation resistance: $>10^4~M\Omega$	± 3 %	
Thermal shock	-55 °C to +125 °C - 5 cycles	± 1 %	$\Delta V_{1-2}/V_{1-3} \le \pm 2 \%$	
Rotational life (electrical and mechanical)	100 cycles - rated power	± (3 % + 5 Ω)		
Shock	MIL-STD 202 method 213/1 100 g - 6 ms 3 successive shocks in 3 directions	± 1 %	$\Delta V_{1-2}/V_{1-3} \le \pm 1 \%$	
Vibration	MIL-STD 202 method 204/D 20 g - 12 h	± 1 %	$\Delta V_{1-2}/V_{1-3} \le \pm 1 \%$	

Note

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

STANDARD	LINEAR LAW			TYPICAL
RESISTANCE VALUES	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. WIPER CURRENT	TCR - 55 °C + 125 °C
Ω	W	٧	mA	ppm/°C
10	0.25	1.58	158	
20	0.25	2.24	112	
50	0.25	3.54	71	
100	0.25	5.00	50	
200	0.25	7.07	35	
500	0.25	11.2	22	
1K	0.25	15.8	16	
2K	0.25	22.4	11	± 100
5K	0.25	35.4	7	± 100
10K	0.25	50.0	5	
20K	0.25	70.7	3.5	
50K	0.25	112	2.2	
100K	0.25	158	1.6	
200K	0.20	200	1.0	
500K	0.08	200	0.4	
1M	0.04	200	0.2	



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MARKING

- Vishay trademark
- $\bullet \ \ \text{Ohmic value (in } \Omega, \ k\Omega, \ M\Omega) \ \text{is indicated by a three figure code, the first two are significant figures, the third one is a multiplier.}$

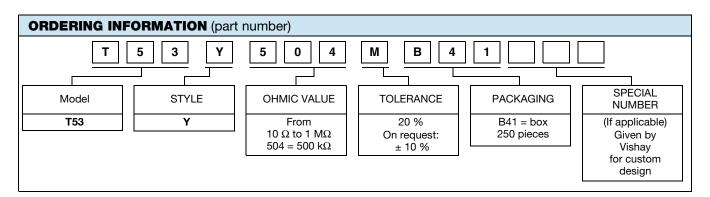
Example: $100 = 10 \Omega$

101 = 100 Ω 102 = 1000 Ω 503 = 50 000 Ω

• Manufacturing date is indicated by four digits, the first two for the year, the last for the week number.

PACKAGING

• In box of 250 pieces code B41 (B0250)



DESCRIPTION	N (for informatio	n only)				
T53	Υ	500K	20 %		В0	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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