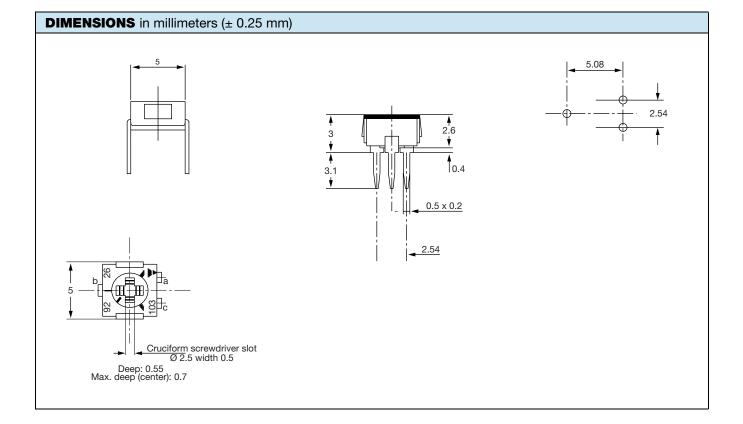
Vishay Sfernice

5 mm Through Hole Trimmer Single-Turn Cermet

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 <u>www.vishay.com/doc?99912</u>





www.vishay.com

SHA

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.



T53



Vishay Sfernice

T53

Resistive element		Cermet			
Electrical travel		220° ± 15°			
Resistance range		10 Ω to 1 MΩ			
Standard series		1 - 2 - 5			
T . 1	Standard	± 20 %			
Tolerance	On request	± 10 %			
	Linear	0.25 W at +70 °C			
		0.25			
		0.20			
		N 0.15 N 0.10 N 0.10			
Power rating					
		0.05			
		0 20 40 60 70 100 120 140 155			
		AMBIENT TEMPERATURE IN °C			
Circuit diagram					
		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 ΜΩ			
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		

2



Vishay Sfernice

T53

PERFORMANCES					
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS			
12515	CONDITIONS	Δ 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: ΔR < 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				
MIL-STD 202 method 213/1 Shock 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			
RESISTANCE VALUES	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. WIPER CURRENT	TCR - 55 °C + 125 °C	
Ω	W	V	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		

3



T53

MARKING

• Vishay trademark

• Ohmic value (in Ω , k Ω , M Ω) is indicated by a three figure code, the first two are significant figures, the third one is a multiplier. Example: 100 = 10 Ω

 $101 = 100 \ \Omega$

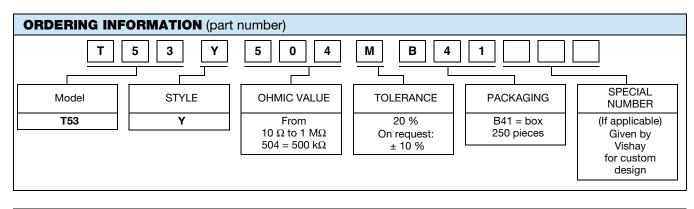
 $102 = 1000 \Omega$

 $503 = 50\ 000\ \Omega$

• 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 (for information only)						
T53	Y	500K	20 %		B0	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			



Vishay

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