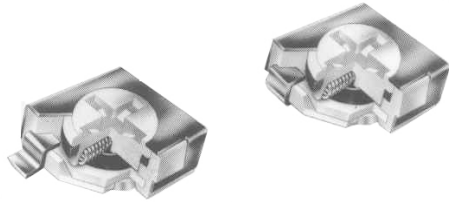


Surface Mount Miniature Trimmers Single Turn Cermet Sealed

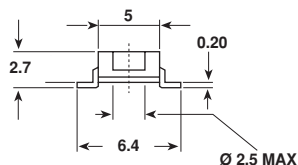


The TS53 trimming potentiometer has been designed for surface mount applications and offers volumetric efficiency (5 x 5 x 2.7 mm) with high performance and stability. The TS53 design is suitable for both manual or automatic operation, and can withstand waves, vapour phase and reflow soldering techniques.

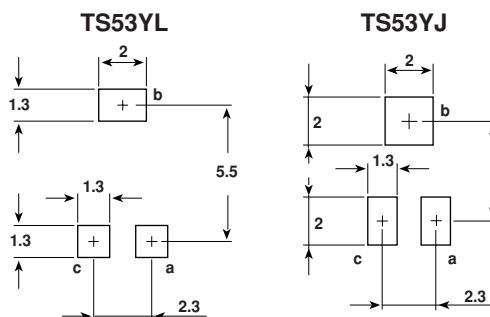
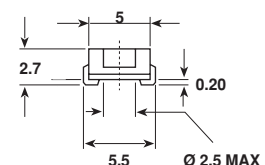
FEATURES

- 0.20 Watt at 85°C
- GAM T1
- For PCB version see T53Y series
- Excellent stability
- Wide ohmic range
- Low temperature coefficient
- Low contact resistance variation
- Small size for optimum packing density

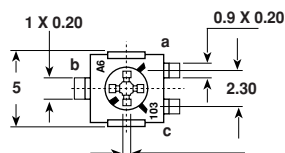
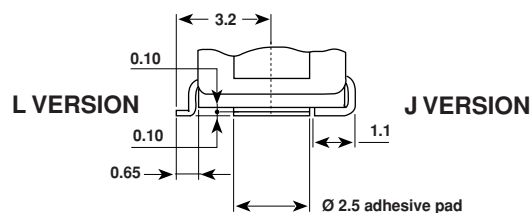
DIMENSIONS in millimeters

TS53YL


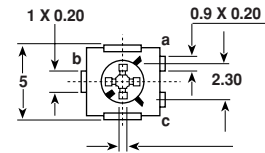
RECOMMENDED SOLDERING AREAS


TS53YJ


ADHESIVE PAD (detail)

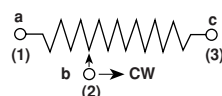


cruciform screwdriver slot
ø2.5, width 0.5
deep: 0.55
max deep (center): 0.7



cruciform screwdriver slot
ø2.5, width 0.5
deep: 0.55
max deep (center): 0.7

CIRCUIT DIAGRAM



**ELECTRICAL SPECIFICATIONS**

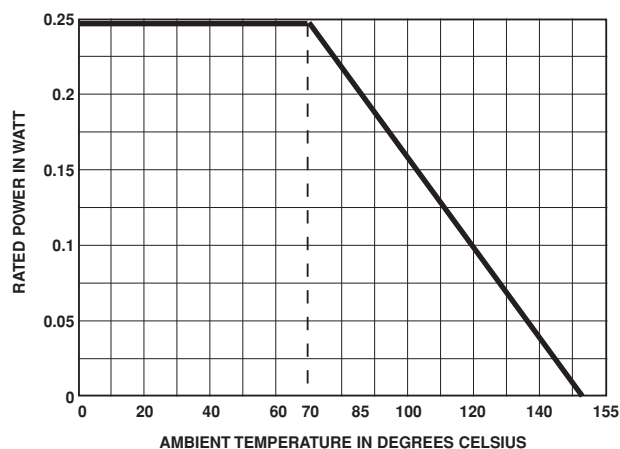
Resistive Element	Cermet
Electrical Travel	220° ± 15°
Resistance Range	10Ω to 1MΩ
Standard Series	1 - 2 - 5
Tolerance Standard	± 20%
Power Rating	Linear 0.25W at 70°C
	Logarithmic not applicable
Temperature Coefficient	See Standard Resistance Element Table
Limiting Element Voltage (Linear Law)	200V
Contact Resistance Variation	1% or 3Ω
End Resistance (Typical)	0.1% or 3Ω
Dielectric Strength (RMS)	1000V
Insulation Resistance	10 ⁶ MΩ

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

ENVIRONMENTAL SPECIFICATIONS

Temperature Range	– 55°C + 125°C
Climatic Category	55/125/56
Sealing	sealed container solder immersion IP67

POWER RATING CHART**PERFORMANCE**

TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS	
		$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Load Life	1000 hours at rated power 90°/30° - ambient temperature + 85°C	± 2% Contact resistance variation : $\Delta R < 1\% R_n$	± 3 %
Moisture Resistance	MIL STD 202 Method 106 10 cycles of 24 hours constituted with damp heat - cold - vibration	± 2% Dielectric strength : 1000 V RMS Insulation resistance : $> 10^4 M\Omega$	± 3 %
Long Term Damp Heat	Temperature 40°C - RH 93 % 56 days	± 2% Dielectric strength : 1000 V RMS Insulation resistance : $> 10^4 M\Omega$	± 3 %
Thermal Shock	- 55°C to + 125°C - 5 cycles	± 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 2\%$
Rotational Life (Electrical and Mechanical)	100 cycles - rated power	± 3 %	
Shock	MIL STD 202 Method 213/1 100 g - 6 ms 3 successive shocks in 3 directions	± 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 1\%$
Vibration	MIL STD 202 Method 204/D 20 g - 12 hours	± 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 1\%$

STANDARD RESISTANCE ELEMENT DATA

STANDARD RESISTANCE VALUES	LINEAR LAW			T.C. – 55°C + 125°C
	MAX. POWER AT 85°C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT	
Ω	W	V	mA	ppm/°C
10 20 50	0.20	1.41 2 3.16	141 100 63	0 + 200
100 200 500 1k 2k 5k 10k 20k 50k 100k 200k 500k 1M	↓ 0.2 0.2 0.2 0.08 0.04	4.47 6.32 10 14.1 20 31.6 44.7 63.2 100 141 200 200 200	45 32 20 14 10 6.3 4.5 3.2 2 1.4 1 0.4 0.2	± 100

MARKING

VISHAY trademark, ohmic value, manufacturing date.

The ohmic value is indicated by a 3 figure code, the first two are significant figures, the third one is the multiplier.

Example: 100 = 10Ω
101 = 100Ω
102 = 1000Ω
503 = 50000Ω

SOLDERING RECOMMENDATION

Vapour phase: 215°C/20 to 40 seconds.

Reflow: 230°C/20 seconds.

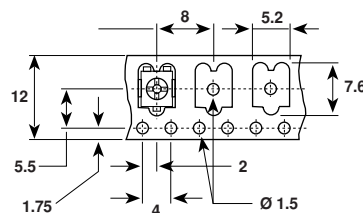
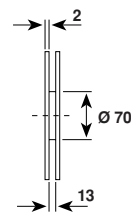
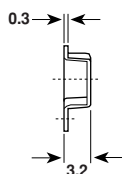
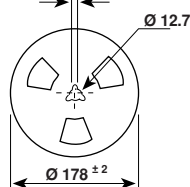
Do not exceed peak: 260°C or with an IRON 40W: 3 seconds at 350°C

Soldering is possible by wave, reflow and vapor phase.

PACKAGING

On tape and reel of 500 pieces, code TR and 2000 pieces, code TR1

3 slots - width 2 to 120° - ø ext. 23



Cover tape panel strength specifications EIA 481 A and CEI 60286-3.

ORDERING INFORMATION

TS53	YL	500KΩ	± 20%	TR500
SERIES	STYLE	OHMIC VALUE	TOLERANCE	PACKAGING

TR500: Tape and reel 500 pcs.
TR2000: Tape and reel 2000 pcs.