

Multiturn Surface Mount Miniature 1/4" Square Cermet Trimmers, Fully Sealed



The TS63 multiturn trimmer has been designed for use in PCB surface mounting applications.

Three variations are available according to the positioning of the control screw and contact positions.

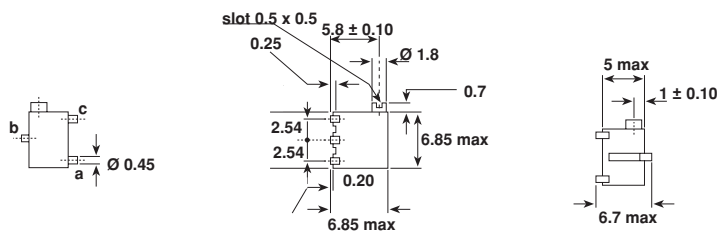
The cermet track gives a high stability performance with an extended ohmic capacity of 10Ω to 2MΩ.

FEATURES

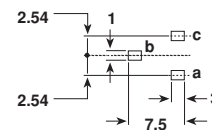
- 0.25 Watt at 85°C
- GAM T1
- Industrial grade
- Multiturn operation
- A low contact resistance variation
- Tight tolerances
- Low end contact resistance
- Full sealing

DIMENSIONS in millimeters

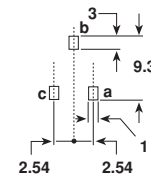
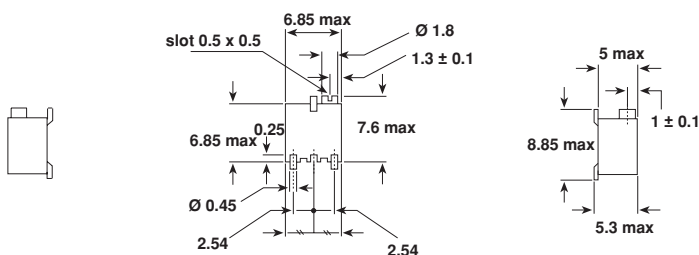
TS63X



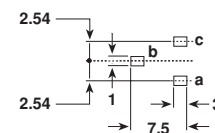
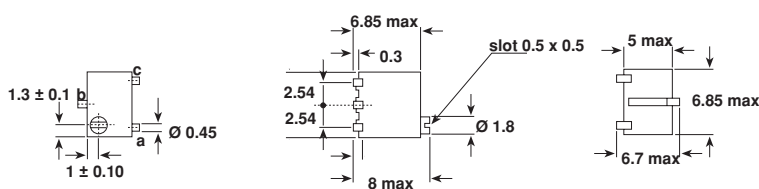
RECOMMENDED SOLDERING AREAS



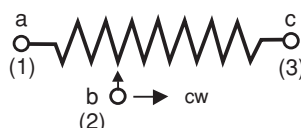
TS63Z



TS63Y



CIRCUIT DIAGRAM





Multiturn Surface Mount
Miniature 1/4" Square Cermet, Trimmers, Fully Sealed

Vishay Sfernice

ELECTRICAL SPECIFICATIONS

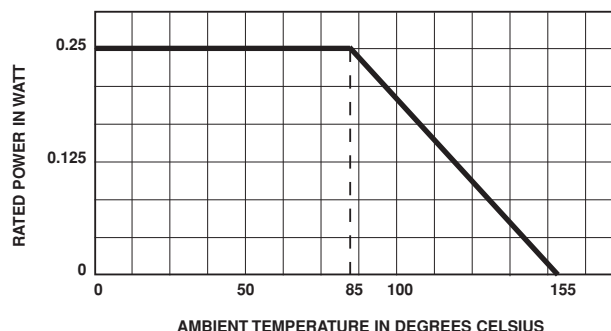
Resistive Element	cermet
Electrical Travel	13 turns $\pm$ 2
Resistance Range	10 Ω to 2M Ω
Standard Series	1 - 2 - 5
Tolerance	Standard
	On Request
	$\pm$ 10%
	$\pm$ 5%
Power Rating	Linear
	Logarithmic
	0.25W at 85°C
	not applicable
Temperature Coefficient	See Standard Resistance Element Data
Limiting Element Voltage (Linear Law)	250V
Contact Resistance Variation	2% R _n or 2 Ω
End Resistance (Typical)	1 Ω
Dielectric Strength (RMS)	1000V
Insulation Resistance	10 ⁶ M Ω

MECHANICAL

Mechanical Travel	15 turns $\pm$ 5
Operating Torque (max. Ncm)	1.5
End Stop Torque	clutch action
Unit Weight (max. g)	0.5

ENVIRONMENTAL

Temperature Range	- 55°C + 155°C
Climatic Category	55/125/56
Sealing	sealed container solder immersion IP67

POWER RATING CHART**PERFORMANCE**

CECC 41100				TYPICAL VALUES AND DRIFTS	
TESTS	CONDITIONS	$\frac{\Delta R_T}{R_T}$ (%) REQUIREMENTS	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)	$\frac{\Delta R_T}{R_T}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Climatic Sequence	Phase A dry heat 125°C Phase B damp heat Phase C cold - 55°C Phase D damp heat 5 cycles	$\pm$ 2%	$\pm$ 3%	$\pm$ 0.5%	$\pm$ 1%
Long Term Damp Heat	56 days	$\pm$ 2% Dielectric strength : 250 V RMS Insulation resistance : > 100 M Ω	$\pm$ 3%	$\pm$ 0.5% Dielectric strength : 1000 V RMS Insulation resistance : > 10 ⁴ M Ω	$\pm$ 1%
Rotational Life (Electrical, Mechanical)	200 cycles at rated power	$\pm$ 2% Contact res. variat.: < 3% R _n		$\pm$ 2% Contact res. variat.: < 1% R _n	
Load Life	1000 h at rated power 90°/30° - ambient temp. 85°C	$\pm$ 2% Contact res. variat.: < 3% R _n	$\pm$ 4%	$\pm$ 1% Contact res. variat.: < 1% R _n	$\pm$ 2%
Thermal Shock	5 cycles - 55°C to + 125°C	$\pm$ 1.5 %	$\frac{\Delta V_{1-2}}{V_{1-3}} \pm 1\%$	$\pm$ 0.5%	$\frac{\Delta V_{1-2}}{V_{1-3}} < \pm 1\%$
Shock	50 g at 11 m secs 3 successive shocks in 3 directions	$\pm$ 1%	$\pm$ 2%	$\pm$ 0.1%	$\pm$ 0.2%
Vibration	10-55Hz 0.75mm or 10 g for 6 hours	$\pm$ 1%	$\frac{\Delta V_{1-2}}{V_{1-3}} \pm 2\%$	$\pm$ 0.1%	$\frac{\Delta V_{1-2}}{V_{1-3}} < \pm 0.2\%$

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	0.25	1.58	158	0 + 200
20		2.23	112	
50		3.53	77	
100	↓	5	50	± 100
200		7.07	35	
500		11.2	22	
1k		15.8	15.8	
2k		22.3	11.2	
5k		35.3	7.1	
10k		50	5	
20k		70.7	3.5	
25k		79	3.2	
50k		112	2.2	
100k		158	1.6	
200k	0.25	224	1.1	
250k	0.25	250	1.1	
500k	0.13	250	0.50	
1M	0.06	250	0.25	
2M	0.03	250	0.125	

MARKING

Printed: VISHAY trademark, series, style, ohmic value (in Ω, kΩ, MΩ), tolerance (in %) only if non standard, manufacturing date, marking of terminal 3.

SOLDERING RECOMMENDATION

Soldering cycle : 2 mn at 215°C or 5 seconds at 260°C or with an IRON 40 W : 3 seconds at 350°C.

Soldering is recommended by reflow and vapor phase.

PACKAGING

- X, Y and Z types : on tape and reel (Dia. 330 mm) of 500 pieces, code TR500.
- On request in magazine pack by 50 pieces (Tube) code TU.

ORDERING INFORMATION

TS63	Y	500KΩ	± 10%	TR500
SERIES	STYLE	OHMIC VALUE	TOLERANCE	PACKAGING
				TU50: Tube
				TR500: Tape and reel