

# 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.

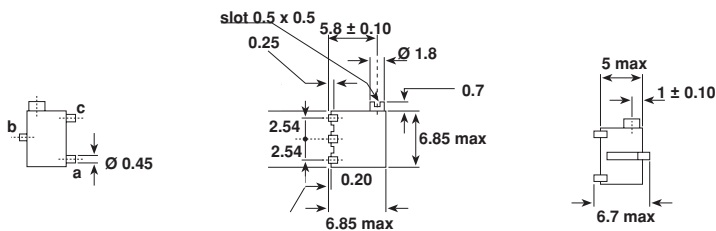
The cermet track gives a high stability performance with an extended ohmic capacity of 10Ω to 2MΩ.

## FEATURES

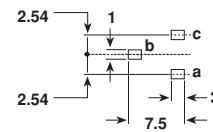
- 0.25 Watt at 85°C
- GAM T1
- Industrial grade
- Multiturn operation
- A low contact resistance variation
- Tight tolerances
- Low end contact resistance
- Full sealing

## DIMENSIONS in millimeters

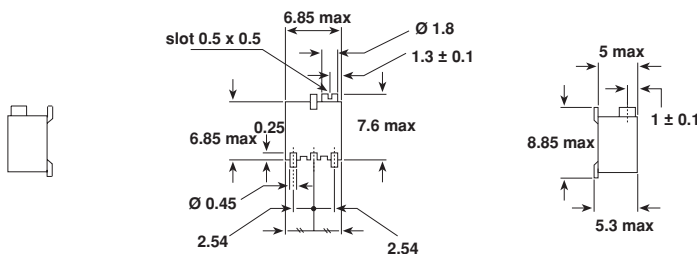
### TS63X



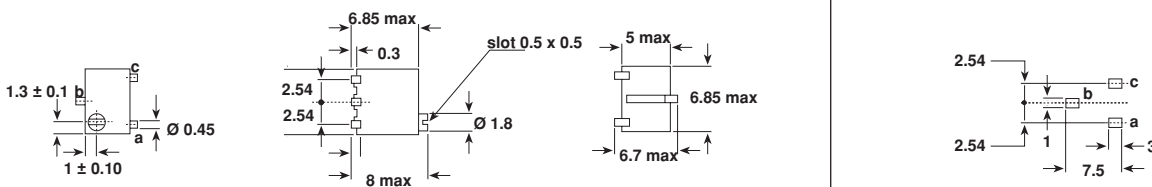
## RECOMMENDED SOLDERING AREAS



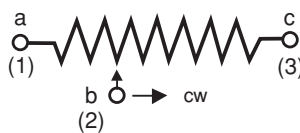
### TS63Z



### 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 ± 2
Resistance Range		10Ω to 2MΩ
Standard Series		1 - 2 - 5
Tolerance	Standard	± 10%
	On Request	± 5%
Power Rating	Linear	0.25W at 85°C
	Logarithmic	not applicable
Temperature Coefficient		See Standard Resistance Element Data
Limiting Element Voltage (Linear Law)		250V
Contact Resistance Variation		2% Rn or 2Ω
End Resistance (Typical)		1Ω
Dielectric Strength (RMS)		1000V
Insulation Resistance		10 <sup>6</sup> MΩ

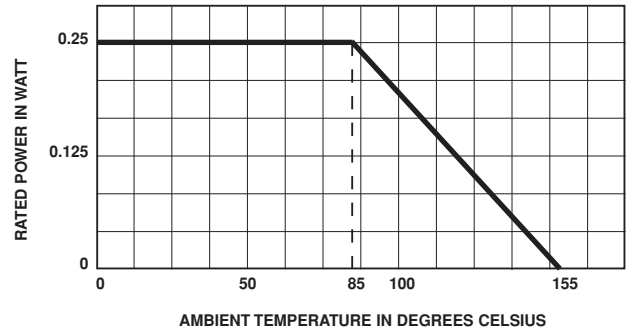
**MECHANICAL**

Mechanical Travel	15 turns ± 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	$\frac{\Delta RT}{RT}$ (%) REQUIREMENTS	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Climatic Sequence	Phase A dry heat 125°C Phase B damp heat Phase C cold - 55°C Phase D damp heat 5 cycles	± 2%	± 3%
Long Term Damp Heat	56 days	± 2% Dielectric strength : 250 V RMS Insulation resistance : > 100 MΩ	± 3% ± 1% Dielectric strength : 1000 V RMS Insulation resistance : > 10 <sup>4</sup> MΩ
Rotational Life (Electrical, Mechanical)	200 cycles at rated power	± 2% Contact res. variat.: < 3% Rn	± 2% Contact res. variat.: < 1% Rn
Load Life	1000 h at rated power 90°/30° - ambient temp. 85°C	± 2% Contact res. variat.: < 3% Rn	± 4% ± 2% Contact res. variat.: < 1% Rn
Thermal Shock	5 cycles - 55°C to + 125°C	± 1.5 %	$\frac{\Delta V_{1-2}}{V_{1-3}} \pm 1\%$ ± 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	± 1%	± 2% ± 0.1% ± 0.2%
Vibration	10-55Hz 0.75mm or 10 g for 6 hours	± 1%	$\frac{\Delta V_{1-2}}{V_{1-3}} \pm 2\%$ ± 0.1% $\frac{\Delta V_{1-2}}{V_{1-3}} < \pm 0.2\%$



<b>STANDARD RESISTANCE ELEMENT DATA</b>				
STANDARD RESISTANCE VALUES	LINEAR LAW			T.C. -55°C +125°C ppm/°C
	MAX. POWER AT 85°C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH ELEMENT	
Ω	W	V	mA	
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	0.25	158	1.6	
200k		224	1.1	
250k		250	1.1	
500k		0.13	0.50	
1M		0.06	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**

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