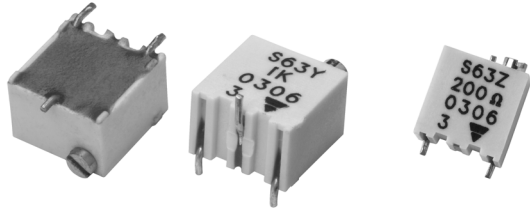


## Multi-Turn Surface Mount Miniature 1/4" Square Cermet Trimmers, Fully Sealed



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.

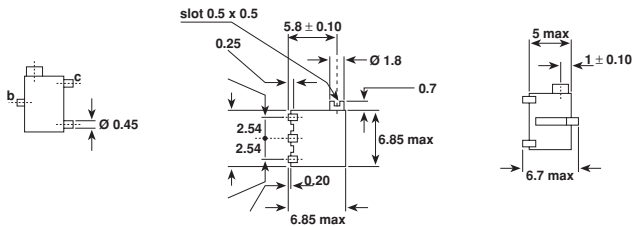
The cermet track gives a high stability performance with an extended ohmic capacity of 10Ω to 2MΩ.

### FEATURES

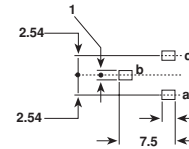
- 0.25 Watt at 85°C
- GAM T1
- Industrial grade
- Multi-turn operation
- A low contact resistance variation
- Tight tolerances
- Low end contact resistance
- Full sealing

### DIMENSIONS in millimeters

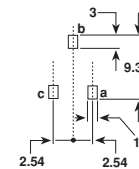
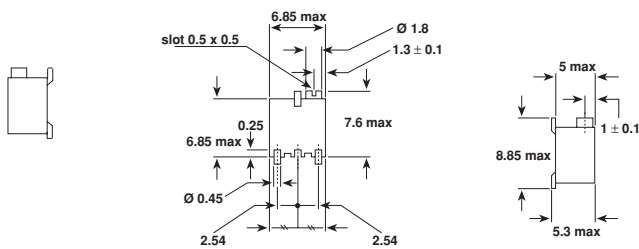
#### TS63X



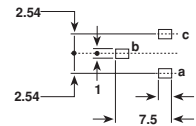
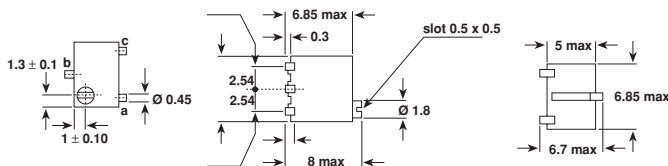
### RECOMMENDED SOLDERING AREAS



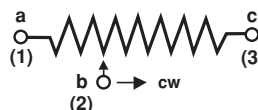
#### TS63Z



#### TS63Y



### CIRCUIT DIAGRAM





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

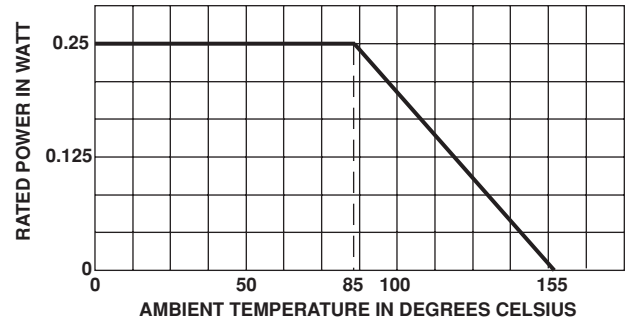
**MECHANICAL SPECIFICATIONS**

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

**ENVIRONMENTAL SPECIFICATIONS**

Temperature Range	- 55°C to + 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	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)	$\frac{\Delta RT}{RT}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
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%	± 0.5%	± 1%
Long Term Damp Heat	56 days	± 2%	Dielectric strength: 250 V RMS Insulation resistance: > 100 MΩ	± 3%	± 0.5%	± 1%
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%	± 1%	± 2%
Thermal Shock	5 cycles - 55°C to + 125°C	± 1.5%	$\frac{\Delta V_{1-2}}{V_{1-3}}$	± 1%	± 0.5%	$\frac{\Delta V_{1-2}}{V_{1-3}}$ < ± 1%
Shock	50 g at 11m 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%	$\frac{\Delta V_{1-2}}{V_{1-3}}$	± 2%	± 0.1 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$ < ± 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
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	± 100	
200k		224	1.1		
250k		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 RECOMMENDATIONS**

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. 330mm) of 500 pieces, code TR500. – On request in magazine pack by 50 pieces (Tube) code TU.

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

SAP PART NUMBERING GUIDELINES														
T	S	6	3	Y	5	0	4	K	R	1	0			
MODEL				STYLE	OHMIC VALUE			TOL	PACKAGING CODE			SPECIAL (IF APPLICABLE)		
See the end of this data book for conversion tables														



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