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.

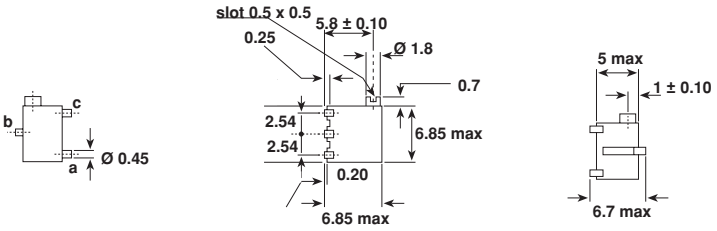
The cermet track gives a high stability performance with an extended ohmic capacity of 10Ω to 2MΩ.

FEATURES

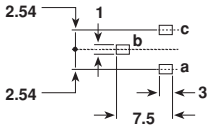
- 0.25 Watt at 85°C
- GAM T1
- Industrial grade
- Multiturn operation
- A low contact resistance variation
- Tight tolerances
- Low end contact resistance
- Full sealing

DIMENSIONS in millimeters

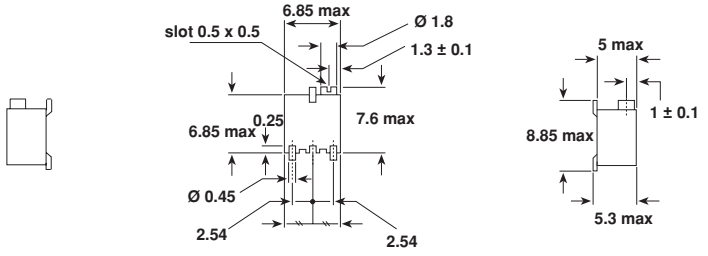
TS63X

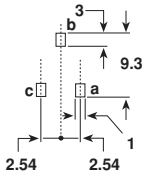


RECOMMENDED SOLDERING AREAS

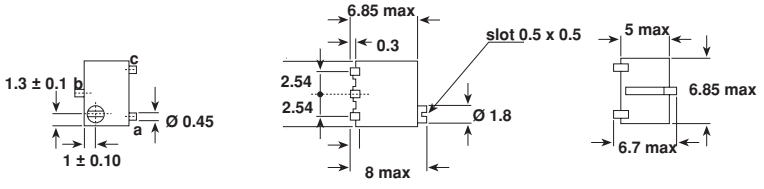


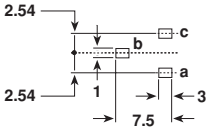
TS63Z



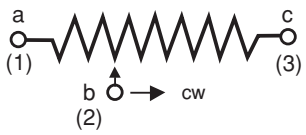


TS63Y





CIRCUIT DIAGRAM



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

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		10^6MΩ

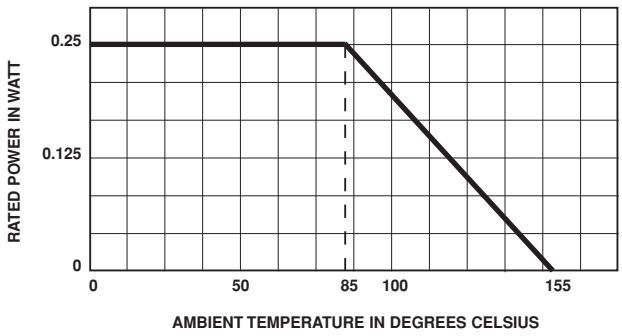
MECHANICAL

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**	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)	$\frac{\Delta RT}{RT}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
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% Dielectric strength : 1000 V RMS Insulation resistance : > 10^4 MΩ	± 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% Contact res. variat.: < 1% Rn	± 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 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%	$\frac{\Delta V_{1-2}}{V_{1-3}}$ ± 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	
20		2.23	112	0
50		3.53	77	+ 200
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	± 100
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