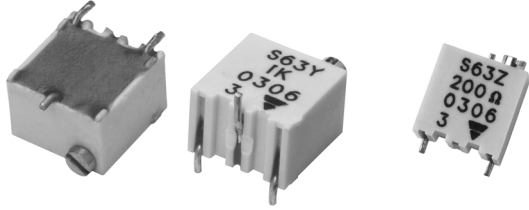


Multi-Turn Surface Mount Miniature 1/4" Square Cermet Trimmers, Fully Sealed



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.

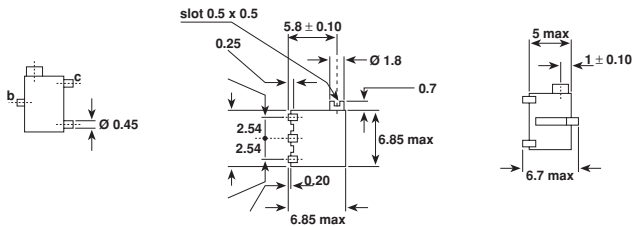
The cermet track gives a high stability performance with an extended ohmic capacity of 10Ω to 2MΩ.

FEATURES

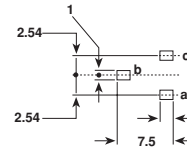
- 0.25 Watt at 85°C
- GAM T1
- Industrial grade
- Multi-turn operation
- A low contact resistance variation
- Tight tolerances
- Low end contact resistance
- Full sealing

DIMENSIONS in millimeters

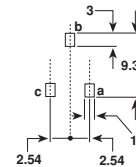
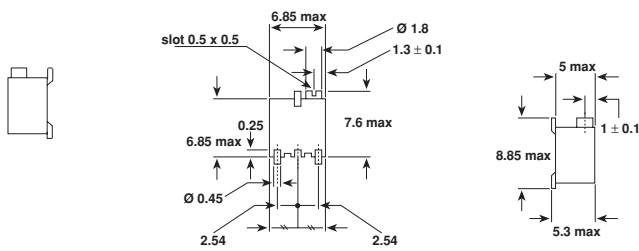
TS63X



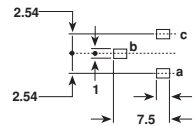
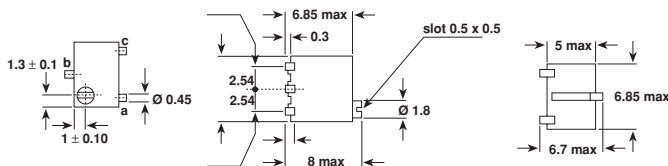
RECOMMENDED SOLDERING AREAS



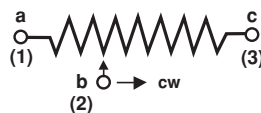
TS63Z



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 ⁶ MΩ

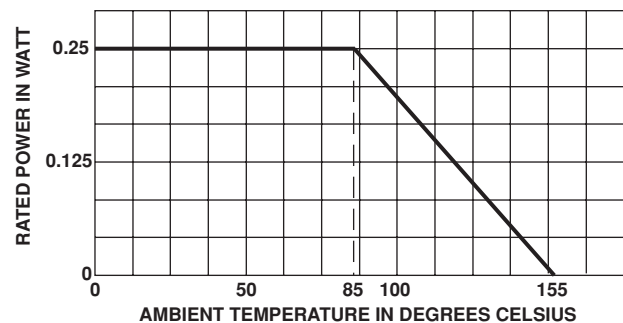
MECHANICAL SPECIFICATIONS

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	↓	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	± 100
25k		79	3.2	
50k		112	2.2	
100k		158	1.6	
200k		0.25	224	
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 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														



Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.