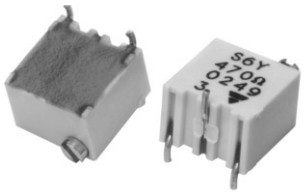
Multi-Turn Surface Mount
Miniature 1/4" Square Ceremt Trimmers, Fully Sealed



RoHS COMPLIANT

FEATURES

- 0.25 W at 85 °C
- GAM T1
- Military and professional grade
- Multi-turn operation
- A low contact resistance variation (down to 2 % Rn)
- Low end contact resistance (1 Ω typical)
- Full sealing
- Tests according to CECC 41 000

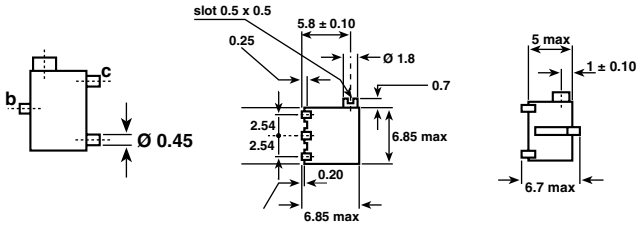
Three variations are available according to the positioning of the control screw and contact positions.

The TS6 multi-turn trimmer has been designed for use in PCB surface mounting applications.

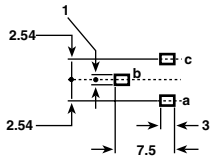
The cermet track gives a high stability performance with an extended ohmic capacity of 10 Ω to 2 MΩ

DIMENSIONS in millimeters

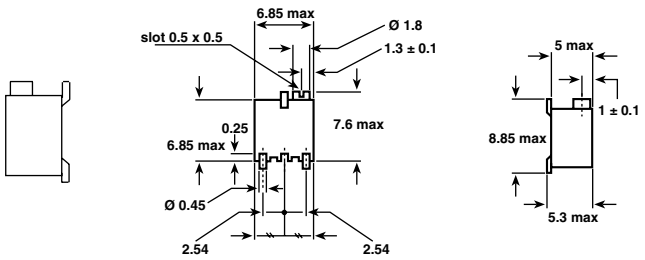
TS6X

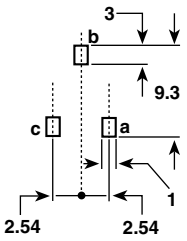


RECOMMENDED SOLDERING AREAS

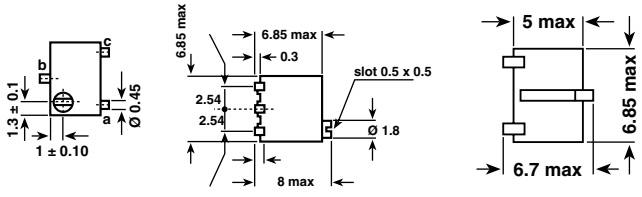


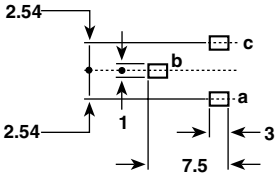
TS6Z



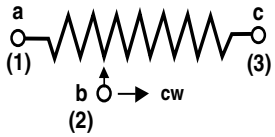


TS6Y





CIRCUIT DIAGRAM



Tolerance unless otherwise specified ± 0.5

ELECTRICAL SPECIFICATIONS		
Resistive Element		Cermet
Electrical Travel		13 turns ± 2
Resistance Range		10 Ω to 2 MΩ
Standard Series E3 and Series		1 - 2.2 - 4.7 and 1 - 2 - 5
Tolerance	**Standard**	± 10 %
	On request	± 5 %
Power Rating Linear		0.25 W at 85 °C
Temperature Coefficient		See Standard Resistance Element Data
Limiting Element Voltage (Linear Law)		250 V
Contact Resistance Variation		2 % Rn or 2 Ω
End Resistance (Typical)		1 Ω
Dielectric Strength (RMS)		1000 V
Insulation Resistance		10^6 MΩ

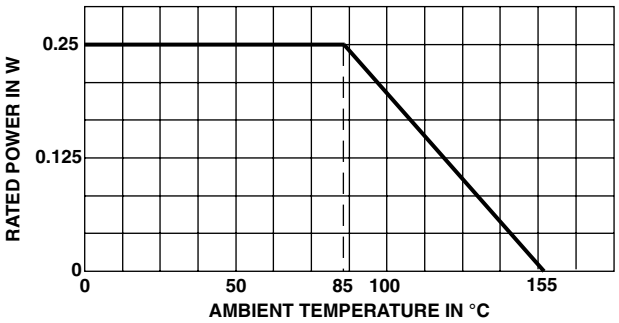
MECHANICAL SPECIFICATIONS

Mechanical Travel	15 turns ± 5
Operating Torque (max. Ncm)	1.5
End Stop Torque	clutch action
Unit Weight (max. g)	0.5
Wiper (actual travel)	positioned at approx. 50 %

ENVIRONMENTAL SPECIFICATIONS

Temperature Range	- 55 °C to + 155 °C
Climatic Category	55/125/56
Sealing	fully 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 40 °C 93 % RH	± 2 % Dielectric strength: 250 V RMS Insulation resistance: > 100 MΩ	± 3 %	± 0.5 % Dielectric strength: 1000 V RMS Insulation resistance: > 104 MΩ	± 1 %
Rotational Life (Electrical, Mechanical)	200 cycles at rated power	± 2 % Contact res. variat.: < 3 % Rn		± (2 % + 3 Ω) 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 11m secs 3 successive shocks in 3 directions	± 1 %	± 2 %	± 0.1 %	± 0.2 %
Vibration	10 - 55 Hz 0.75 mm 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 %

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STANDARD RESISTANCE ELEMENT DATA				
STANDARD RESISTANCE VALUES	LINEAR LAW			TYPICAL TCR - 55 °C + 125 °C
	MAX. POWER AT 85 °C	MAX. WORKING VOLTAGE	MAX. WIPER CUR.	
Ω	W	V	mA	ppm/°C
10	0.25	158	158	
22		2.34	107	
47		3.43	73	
100		5	50	
220		7.42	34	
470		10.8	23	
1K		15.8	15.8	
2.2K		23.4	10.7	
4.7K		34.3	7.3	± 100
10K		50	5	
22K		74.2	3.37	
47K		108.4	2.31	
100K		158	1.58	
220K	0.25	234	1.97	
470K	0.13	250	0.53	
1M	0.06	250	0.25	
2M	0.03	250	0.125	

MARKING

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

SOLDERING RECOMMENDATION

Soldering cycle: 10 s at 220 °C max or with an 40 W iron; 3 s at 350 °C. Soldering is recommended by reflow or vapor phase.

PACKAGING

- X, Y and Z types: on tape and reel (Dia. 330 mm) of 500 pieces: TR
- In magazine pack by 50 pieces (Tube) code “TU”

ORDERING INFORMATION

TS6	Y	470 kΩ	± 10 %	TU50	e3
MODEL	STYLE	OHMIC VALUE	TOLERANCE	PACKAGING	LEAD FINISH
				TU50: Tube On request - TR500: Tape and reel	e3: pure Sn

SAP PART NUMBERING GUIDELINES

T	S	6	Y	4	7	4	K	T	2	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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