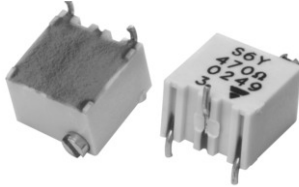


Multi-Turn Surface Mount Miniature 1/4" Square Cermet Trimmers, Fully Sealed



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 M Ω

FEATURES

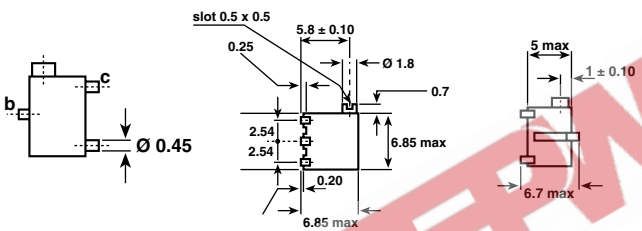
- 0.25 W at 85 °C
- GAM T1
- Military and professional grade
- Multi-turn operation
- A low contact resistance variation (down to 2 % Rn)
- Low end contact resistance (1 Ω typical)
- Full sealing
- Tests according to CECC 41 000



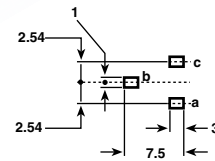
RoHS
COMPLIANT

DIMENSIONS in millimeters

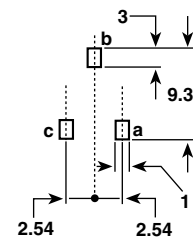
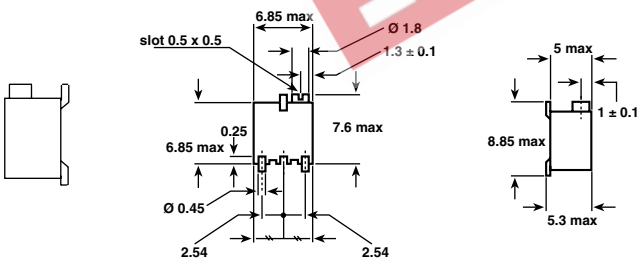
TS6X



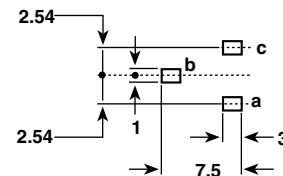
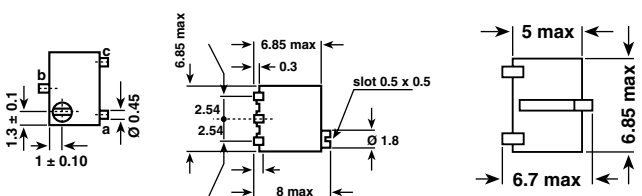
RECOMMENDED SOLDERING AREAS



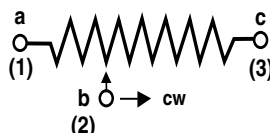
TS6Z



TS6Y



CIRCUIT DIAGRAM



Tolerance unless otherwise specified ± 0.5

TS6



Vishay Sfernice

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

ELECTRICAL SPECIFICATIONS	
Resistive Element	Cermet
Electrical Travel	13 turns \pm 2
Resistance Range	10 Ω to 2 M Ω
Standard Series E3 and Series	1 - 2.2 - 4.7 and 1 - 2 - 5
Tolerance	Standard \pm 10 % On request \pm 5 %
Power Rating Linear	0.25 W at 85 $^{\circ}$ 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 M Ω

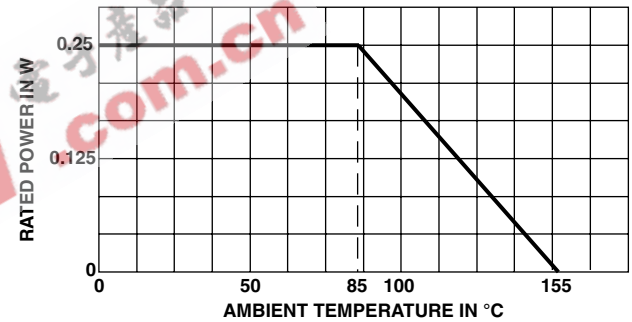
MECHANICAL SPECIFICATIONS

Mechanical Travel	15 turns \pm 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 $^{\circ}$ C to + 155 $^{\circ}$ 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 $^{\circ}$ C Phase B damp heat Phase C cold - 55 $^{\circ}$ C Phase D damp heat 5 cycles	\pm 2 %	\pm 3 %	\pm 0.5 %	\pm 1 %
Long Term Damp Heat	56 days 40 $^{\circ}$ C 93 % RH	\pm 2 % Dielectric strength: 250 V RMS Insulation resistance: > 100 M Ω	\pm 3 %	\pm 0.5 % Dielectric strength: 1000 V RMS Insulation resistance: > 104 M Ω	\pm 1 %
Rotational Life (Electrical, Mechanical)	200 cycles at rated power	\pm 2 % Contact res. variat.: < 3 % Rn		\pm (2 % + 3 Ω) Contact res. variat.: < 1 % Rn	
Load Life	1000 h at rated power 90'/30' - ambient temp. 85 $^{\circ}$ C	\pm 2 % Contact res. variat.: < 3 % Rn	\pm 4 %	\pm 1 % Contact res. variat.: < 1 % Rn	\pm 2 %
Thermal Shock	5 cycles - 55 $^{\circ}$ C to + 125 $^{\circ}$ C	\pm 1.5 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$ \pm 1 %	\pm 0.5 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$ < \pm 1 %
Shock	50 g at 11m secs 3 successive shocks in 3 directions	\pm 1 %	\pm 2 %	\pm 0.1 %	\pm 0.2 %
Vibration	10 - 55 Hz 0.75 mm or 10 g for 6 hours	\pm 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$ \pm 2 %	\pm 0.1 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$ < \pm 0.2 %



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

Vishay Sfernice

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	± 100
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	
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.

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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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