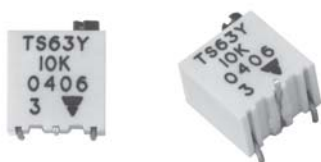


Multi-Turn Surface Mount 1/4" Square Cermet Trimmers, Fully Sealed



FEATURES

- 0.25 W at 70 °C
- Industrial grade
- Multi-turn operation
- A low contact resistance variation (down to 2 % R_n)
- Low end contact resistance (1 Ω typical)
- Full sealing
- Tests according to CECC 41000 or IEC 60393-1
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

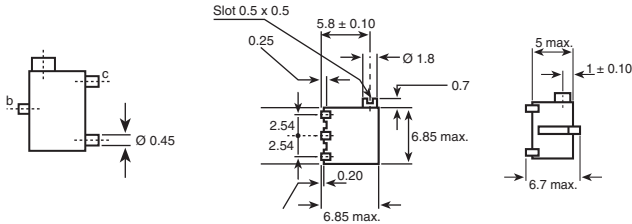
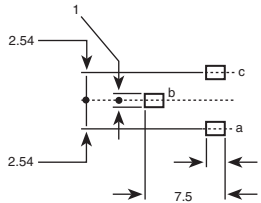
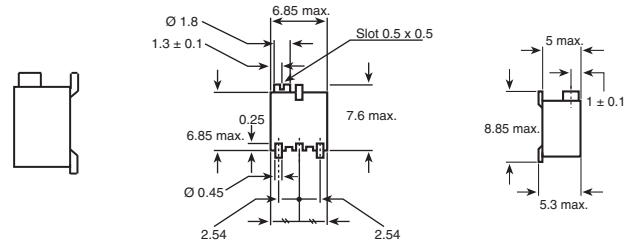
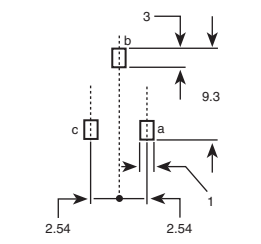
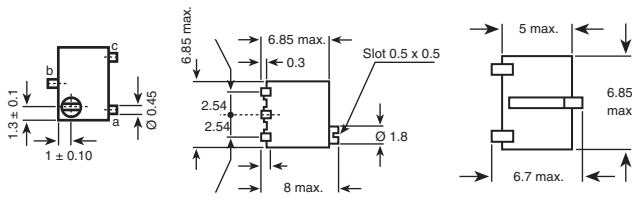
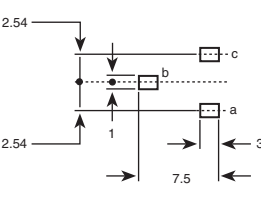


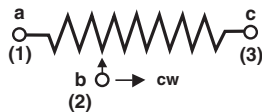
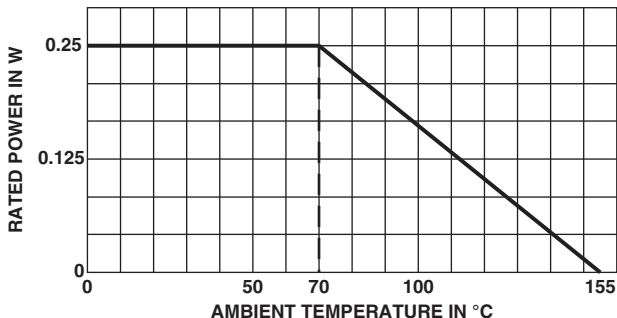
RoHS
COMPLIANT

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 10 Ω to 2 MΩ.

DIMENSIONS in millimeters (± 0.5 mm)	
TS63X  TS63X dimensions diagram showing top, side, and cross-sectional views. Key dimensions include: Slot 0.5 x 0.5, 0.25, 5.8 ± 0.10, Ø 1.8, 0.7, 5 max., 1 ± 0.10, 2.54, 6.85 max., 0.20, 6.85 max., and Ø 0.45.	RECOMMENDED SOLDERING AREAS  TS63X recommended soldering areas diagram showing top and side views. Key dimensions include: 2.54, 1, 2.54, 7.5, and Ø 0.45.
TS63Z  TS63Z dimensions diagram showing top, side, and cross-sectional views. Key dimensions include: Ø 1.8, 1.3 ± 0.1, 6.85 max., Slot 0.5 x 0.5, 0.25, 7.6 max., 6.85 max., Ø 0.45, 2.54, 2.54, 5 max., 1 ± 0.1, 8.85 max., and 5.3 max.	 TS63Z recommended soldering areas diagram showing top and side views. Key dimensions include: 3, 5 max., 9.3, 2.54, 2.54, and 1.
TS63Y  TS63Y dimensions diagram showing top, side, and cross-sectional views. Key dimensions include: 1.3 ± 0.1, 1 ± 0.10, Ø 0.45, 6.85 max., 6.85 max., Slot 0.5 x 0.5, 0.3, 2.54, 2.54, 8 max., Ø 1.8, 5 max., 6.85 max., and 6.7 max.	 TS63Y recommended soldering areas diagram showing top and side views. Key dimensions include: 2.54, 2.54, 1, 7.5, and 3.

ELECTRICAL SPECIFICATIONS	
Resistive Element	Cermet
Electrical Travel	14 turns $\pm$ 2
Resistance Range	10 Ω to 2 M Ω
Standard Series	1 - 2 - 5
Tolerance	Standard $\pm$ 10 %
	On Request $\pm$ 5 %
Circuit Diagram	
Power Rating	Linear 0.25 W at 70 °C 
Temperature Coefficient	See Standard Resistance Element Data table
Limiting Element Voltage	250 V
Contact Resistance Variation (Typical)	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 °C to +155 °C
Climatic Category	55/125/56
Sealing	Sealed container IP67
MSL Level	1

SOLDERING RECOMMENDATIONS	
Recommended reflow profile 2, see Application Note www.vishay.com/doc?52029	



PERFORMANCES				
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS		
		$\Delta R_T/R_T$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)	OTHER
Electrical Endurance	1000 h at rated power 90°/30° - ambient temp. 70 °C	± 1 %	± 2 %	Contact res. variation: < 1 % R _n
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 %	
Damp Heat Steady State	40 °C 93 % RH 56 days	± 2 %	± 3 %	Dielectric strength: 1000 V _{RMS} Insulation resistance: > 10 ⁴ MΩ
Charge of Temperature	-55 °C to +125 °C 5 cycles	± 1 %		$\Delta V_{1-2}/\Delta V_{1-3} \leq \pm 2 \%$
Mechanical Endurance	200 cycles at rated power	± (2 % + 3 Ω)		Contact res. variation: < 3 % R _n
Shock	50 g's at 11 ms 3 successive shocks in 3 directions	± 1 %		$\Delta V_{1-2}/\Delta V_{1-3} \leq 1 \%$
Vibration	10 Hz to 55 Hz 0.75 mm or 10 g's for 6 h	± 1 %		$\Delta V_{1-2}/\Delta V_{1-3} \leq \pm 2 \%$

Note

- Nothing stated herein shall be construed as a guarantee of quality or durability.

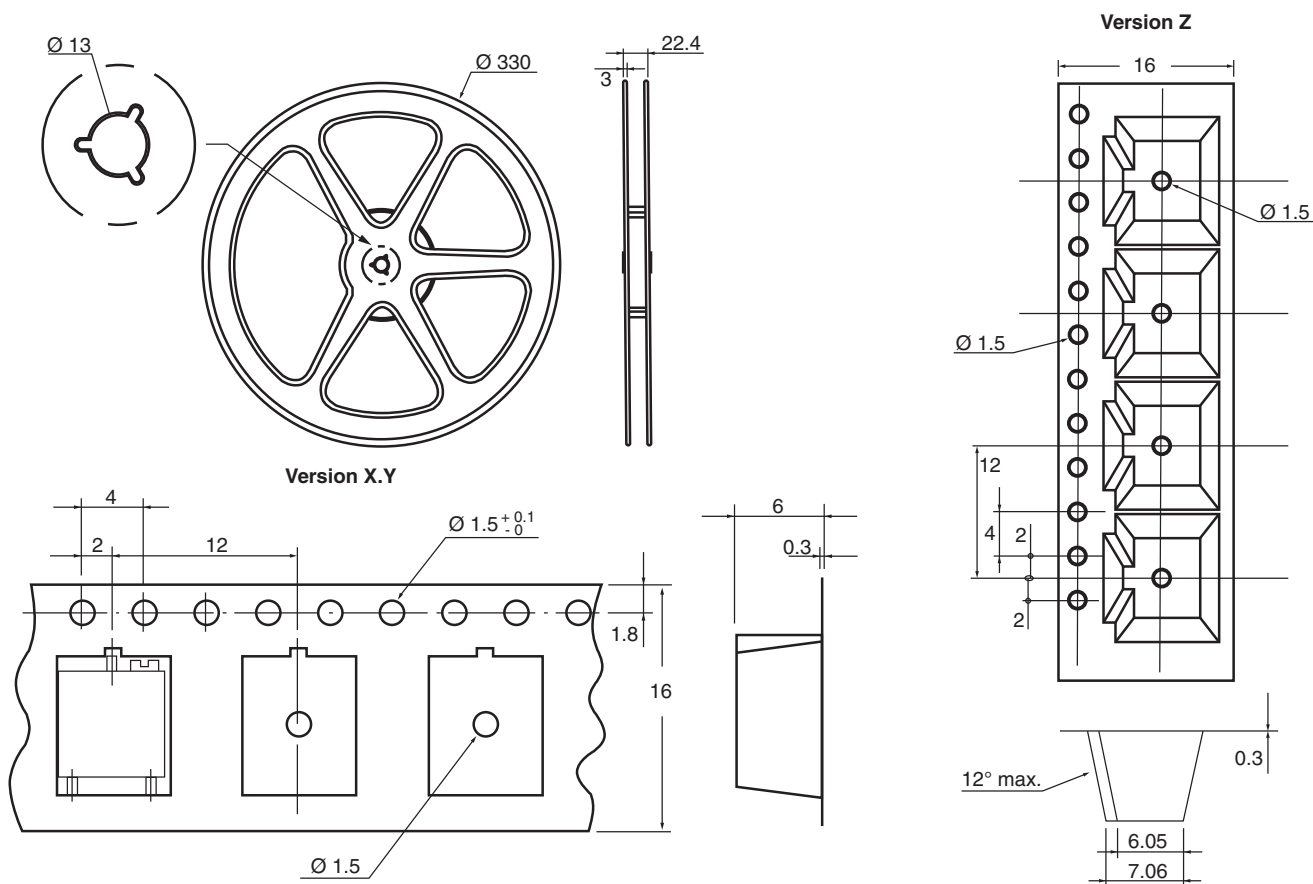
STANDARD RESISTANCE ELEMENT DATA				
STANDARD RESISTANCE VALUES	LINEAR LAW			TYPICAL TCR -55 °C +125 °C
	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CURRENT THROUGH WIPER	
Ω	W	V	mA	ppm/°C
10	0.25	1.58	158	± 100
20	0.25	2.23	112	
50	0.25	3.53	77	
100	0.25	5.00	50	
200	0.25	7.07	35	
500	0.25	11.2	22	
1K	0.25	15.8	15.8	
2K	0.25	22.3	11.2	
5K	0.25	35.3	7.1	
10K	0.25	50.0	5.0	
20K	0.25	70.7	3.5	
25K	0.25	79.0	3.2	
50K	0.25	112	2.2	
100K	0.25	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	200	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.

PACKAGING in millimeters

- 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 (Part Number)

T	S	6	3	Y	5	0	4	K	R	1	0				
MODEL	STYLE	OHMIC VALUE		TOLERANCE		PACKAGING		SPECIAL NUMBER							
TS63	X Y Z	From 10 Ω to 2 M Ω 504 = 500 k Ω		K = $\pm$ 10 % On request J = $\pm$ 5 %		R10 = Reel 500 pieces On request T20 = Tube 50 pieces		(If applicable) Given by Vishay for custom design							

DESCRIPTION (for information only)

TS63	Y	500K	10 %		TR	e3
MODEL	STYLE	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD FINISH



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Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

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