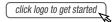


Multi-Turn Surface Mount 1/4" Square Cermet Trimmers, Fully Sealed





DESIGN SUPPORT TOOLS





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.

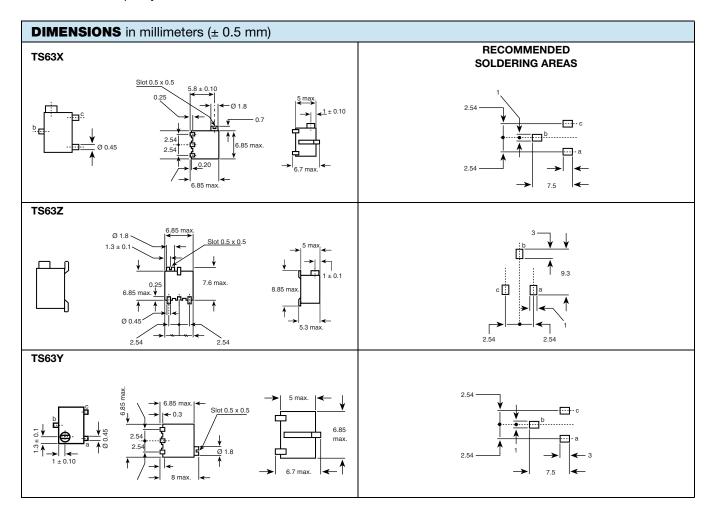
The cermet track gives a high stability performance with an extended ohmic capacity of 10 Ω to 2 M Ω .

FEATURES

- 0.25 W at 70 °C
- Industrial 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 41000 or IEC 60393-1
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



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ELECTRICAL SPECIFICA	ATIONS				
Resistive element		Cermet			
Electrical travel	travel 14 turns ± 2				
Resistance range $10~\Omega~to~2~M\Omega$					
Standard series		1 - 2 - 5			
Tolerance	Standard	± 10 %			
Tolerance	On request	± 5 %			
Circuit diagram		$ \begin{array}{c} a \\ C \\ (1) \end{array} $ $ \begin{array}{c} b \\ C \\ (2) \end{array} $ $ \begin{array}{c} C \\ C \\ (3) \end{array} $			
Power rating		0.25 W at 70 °C M W W W W W W W W W W W W W W W W W W			
Temperature coefficient		See Standard Resistance Element Data table			
Limiting element voltage 250 V					
Contact resistance variation (typic	al)	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	Sealed container IP67			
MSL level	1			

SOLDERING RECOMMENDATIONS

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

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PERFORMANCES					
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS			
12313	CONDITIONS	∆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 % Rn	
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: > $10^4 M\Omega$	
Charge of temperature	-55 °C to +125 °C 5 cycles	± 1 %		$\Delta V_{1\text{-}2}/\Delta V_{1\text{-}3} \leq \pm~2~\%$	
Mechanical endurance	200 cycles at rated power	± (2 % + 3 Ω)		Contact res. variation: < 3 % Rn	
Shock	50 g's at 11 ms 3 successive shocks in 3 directions	± 1 %		$\Delta V_{1-2}/\Delta V_{1-3} \le 1 \%$	
Vibration	10 Hz to 55 Hz 0.75 mm or 10 <i>g</i> 's for 6 h	± 1 %		$\Delta V_{1-2}/\Delta V_{1-3} \leq \pm ~2~\%$	

Note

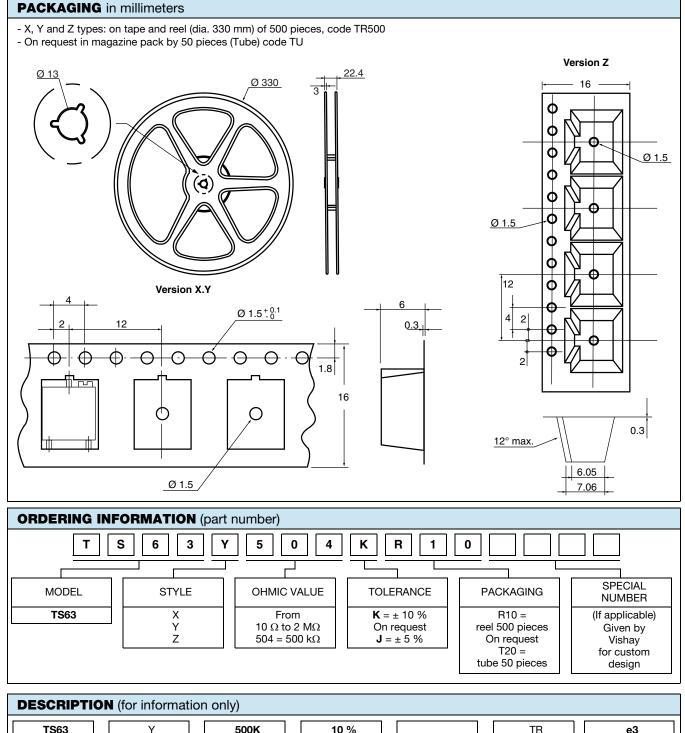
• Nothing stated herein shall be construed as a guarantee of quality or durability

STANDARD		LINEAR LAW			
RESISTANCE VALUES	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CURRENT THROUGH WIPER	TCR -55 °C +125 °C	
Ω	W	V	mA	ppm/°C	
10	0.25	1.58	158		
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	± 100	
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 , $k\Omega$, $M\Omega$), tolerance (in %) only if non standard, manufacturing date, marking of terminal 3





DESCRIPTION (for information only)						
TS63	Y	500K	10 %		TR	e3
MODEL	STYLE	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD FINISH

RELATED DOCUMENTS				
APPLICATION NOTES				
Potentiometers and Trimmers	www.vishay.com/doc?51001			
Guidelines for Vishay Sfernice Resistive and Inductive Components	www.vishay.com/doc?52029			



Legal Disclaimer Notice

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