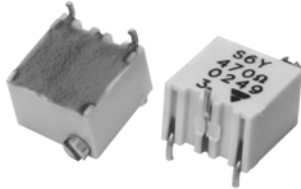


# Multi-Turn Surface Mount 1/4" Square Cermet Trimmers, Fully Sealed



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 MΩ.

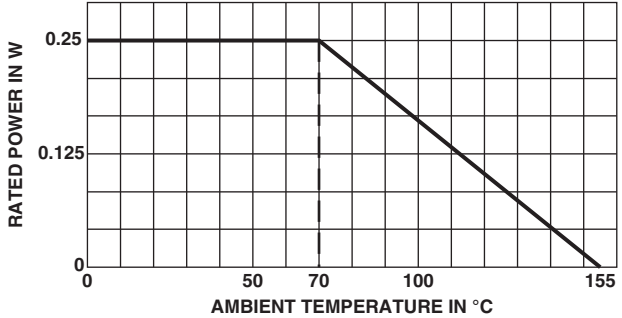
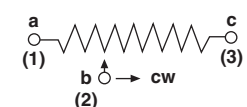
## FEATURES

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



RoHS  
COMPLIANT

DIMENSIONS in millimeters (± 0.5 mm)			
<p><b>TS6X</b></p>	<p><b>RECOMMENDED SOLDERING AREAS</b></p>		
<p><b>TS6Z</b></p>			
<p><b>TS6Y</b></p>			

<b>ELECTRICAL SPECIFICATIONS</b>		
Resistive Element	Cermet	
Electrical Travel	14 turns $\pm$ 2	
Resistance Range	10 $\Omega$ to 2 M $\Omega$	
Standard Series E3	1 - 2.2 - 4.7 and on request 1 - 2 - 5	
Tolerance	Standard	$\pm$ 10 %
	On Request	$\pm$ 5 %
Power Rating	Linear	0.25 W at 70 °C
		
Circuit Diagram		
Temperature Coefficient	See Standard Resistance Element table	
Limiting Element Voltage (Linear Law)	250 V	
Contact Resistance Variation	2 % R <sub>n</sub> or 2 $\Omega$	
End Resistance (Typical)	1 $\Omega$	
Dielectric Strength (RMS)	1000 V	
Insulation Resistance	10 <sup>6</sup> M $\Omega$	

<b>MECHANICAL SPECIFICATIONS</b>	
Mechanical Travel	15 turns $\pm$ 5
Operating Torque (max. Ncm)	1.5
End Stop Torque	Clutch action
Net wWeight (max. g)	0.5
Wiper (Actual Travel)	Positioned at approx. 50 %

<b>ENVIRONMENTAL SPECIFICATIONS</b>	
Temperature Range	-55 °C to +155 °C
Climatic Category	55/125/56
Sealing	Fully sealed IP67
MSL Level	1

<b>SOLDERING RECOMMENDATIONS</b>	
Recommended reflow profile 2, see Application Note <a href="http://www.vishay.com/doc?52029">www.vishay.com/doc?52029</a>	



PERFORMANCES							
TESTS	CONDITIONS	REQUIREMENTS		OTHER	TYPICAL VALUES AND DRIFTS		
		$\Delta R_T/R_T$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)		$\Delta R_T/R_T$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)	OTHER
Electrical Endurance	1000 h at rated power 90°/30° - ambient temp. 70 °C	± 2 %	± 4 %	Contact res. variation: < 3 % Rn	± 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 %		± 0.5 %	± 1 %	
Damp Heat Steady State	40 °C 93 % RH 56 days	± 2 %	± 3 %	Dielectric strength: 250 V <sub>RMS</sub> Insulation resistance: > 100 MΩ	± 0.5 %	± 1 %	Dielectric strength: 1000 V <sub>RMS</sub> Insulation resistance: > 10 <sup>4</sup> MΩ
Charge of Temperature	-55 °C to +125 °C 5 cycles	± 1.5 %		$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 2 %	± 0.5 %		$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 1 %
Mechanical Endurance	200 cycles at rated power	± 2 %		Contact res. variation: < 3 % Rn	± (2 % + 3 Ω)		Contact res. variation: < 1 % Rn
Shock	50 g at 11 ms 3 successive shocks in 3 directions	± 1 %		$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 2 %	± 0.1 %		$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ 0.2 %
Vibration	10 Hz to 55 Hz 0.75 mm or 10 g for 6 h	± 1 %		$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 2 %	± 0.1 %		$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 0.2 %

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 ppm/°C
	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. WIPER CURRENT	
Ω	W	V	mA	
10	0.25	158	158	± 100
22	0.25	2.34	107	
47	0.25	3.43	73	
100	0.25	5.00	50	
220	0.25	7.42	34	
470	0.25	10.8	23	
1K	0.25	15.8	15.8	
2.2K	0.25	23.4	10.7	
4.7K	0.25	34.3	7.3	
10K	0.25	50	5	
22K	0.25	74.2	3.37	
47K	0.25	108.4	2.31	
100K	0.25	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	



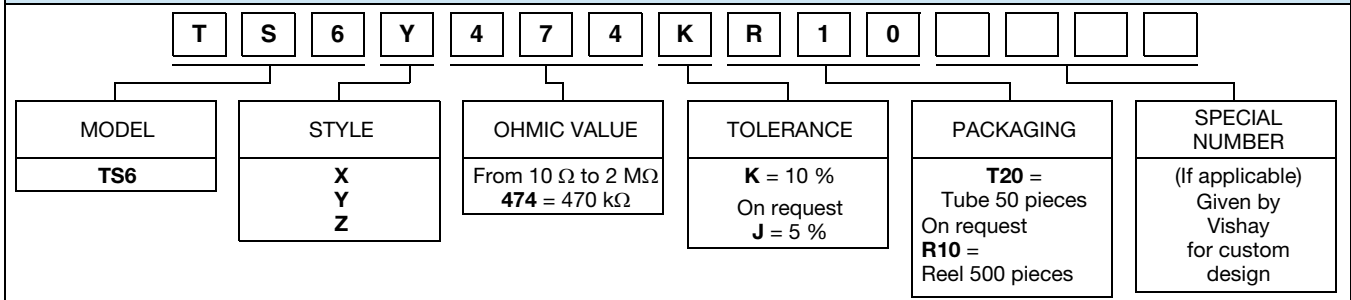
**MARKING**

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

**PACKAGING**

- In tube of 50 pieces code T20 (TU50)
- In reel of 500 pieces code R10 (TR500)

**ORDERING INFORMATION (Part Number)**



**DESCRIPTION (for information only)**

<b>TS6</b>	<b>Y</b>	<b>470K</b>	<b>10 %</b>		<b>TU</b>	<b>e3</b>
MODEL	STYLE	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD FINISH



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**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.**

**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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С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

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- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

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Конструкторский отдел помогает осуществить:

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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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