

# Cermet Trimmers, Surface Mount, 4.0 mm Square, Single Turn, Industrial Grade


**FEATURES**

- 0.25 W at 70 °C
- Fully sealed to withstand board washing
- Compatible with popular vacuum pick-and-place equipment
- J-hook and gull-wing configurations
- Compliant to RoHS Directive 2002/95/EC


**RoHS**  
COMPLIANT

DIMENSIONS in millimeters (inches) ± 0.25 mm (± 0.010")		
<b>TS4YJ</b> 		<p>Recommended PCB footprint</p>
<b>TS4YL</b> 		<p>Recommended PCB footprint</p>

ELECTRICAL SPECIFICATIONS	
<b>Resistive Range</b>	10 Ω to 2 MΩ (see Standard Resistance table)
<b>Tolerance</b>	± 20 % standard
<b>End Resistance</b>	1 % or 2 Ω maximum, whichever is greater
<b>Temperature Coefficient</b>	± 100 ppm/°C
<b>Power Rating</b>	(300 V maximum) 0.25 W at + 70 °C, 0 W at + 125 °C
<b>Circuit Diagram</b>	
<b>Contact Resistance Variation (CRV)</b>	1 % or 3 Ω
<b>Resolution</b>	Infinite
<b>Insulation Resistance (500 V<sub>DC</sub>)</b>	100 MΩ minimum
<b>Dielectric Strength (RMS)</b>	Sea level 500 V <sub>AC</sub> (1 minute)
<b>Adjustment Angle</b>	210° nominal

MECHANICAL SPECIFICATIONS	
Mechanical Angle	240° nominal
Operating Torque (Typical)	1.8 Ncm
End Stop Torque (Typical)	3.0 Ncm
Weight	Approximately 0.01 oz.
Wiper	Positioned at approx. 50 %

ENVIRONMENTAL SPECIFICATIONS	
Temperature Range	- 55 °C to + 125 °C
MSL Level	1

PERFORMANCES				
TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS		
		$\Delta R_T/R_T$ (%)	$\Delta V_{1-2}/V_{1-3}$ (%)	OTHER
Vibration	20 g's	± 1 %	± 1 %	-
Shock	100 g's	± 1 %	± 1 %	-
Electrical Endurance	At 70 °C rated power 1000 h	± 3 %	-	-
Mechanical Endurance	100 cycles	± 3 %	-	-
Change of Temperature	5 cycles	± 2 %	± 1 %	-
Humidity	90 % to 98 % relative humidity 10 cycles, 240 h	± 2 %	-	Insulation resistance:10 MΩ

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

TWO DIGIT DATE CODE					
YEAR					
1990	A	2000	M	2010	A
1991	B	2001	N	2011	B
1992	C	2002	P	2012	C
1993	D	2003	R	2013	D
1994	E	2004	S	2014	E
1995	F	2005	T	2015	F
1996	H	2006	U	2016	H
1997	J	2007	V	2017	J
1998	K	2008	W	2018	K
1999	L	2009	X	2019	L
MONTH					
January	1	July	7		
February	2	August	8		
March	3	September	9		
April	4	October	O		
May	5	November	N		
June	6	December	D		

STANDARD RESISTANCE ELEMENT DATA	
RESISTANCE Ω	RESISTANCE CODE
10	100
20	200
50	500
100	101
200	201
500	501
1K	102
2K	202
5K	502
10K	103
20K	203
50K	503
100K	104
200K	204
500K	504
1M	105
2M	205

**Note**  
 • Special resistance available

**PART MARKING**


- Manufacturers code
- Resistance code
- Date code

**PACKAGING** in millimeters (inches)

**TS4YJ, TS4YL**  
**Tape**

**TS4YJ, TS4YL**  
**Reel**


500 pieces per 7" reel standard. Meets EIA Specifications 481.

**ORDERING INFORMATION** (Part Number)

**DESCRIPTION** (for information only)

TS4	YL	5K	20 %		TR	e3
MODEL	STYLE	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD FINISH



## Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

## Material Category Policy

**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.**

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.**

## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9