

# 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><br>  |  | <p>Recommended PCB footprint</p> |
| <b>TS4YL</b><br>  |  | <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<br>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<br>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**

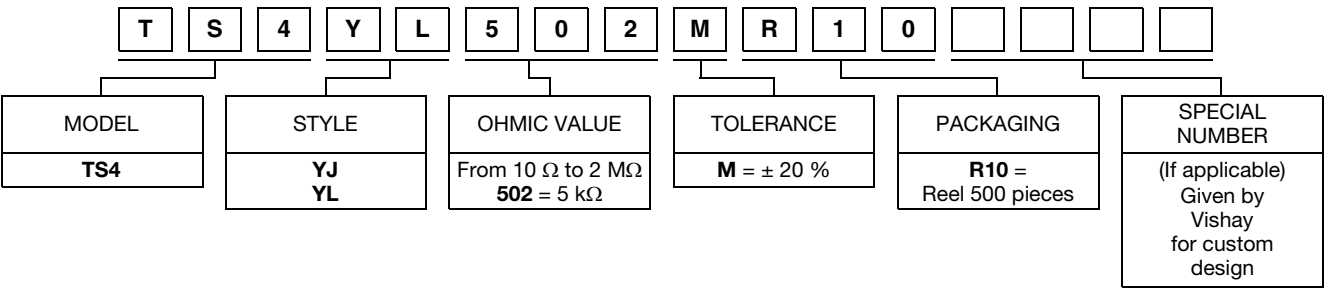
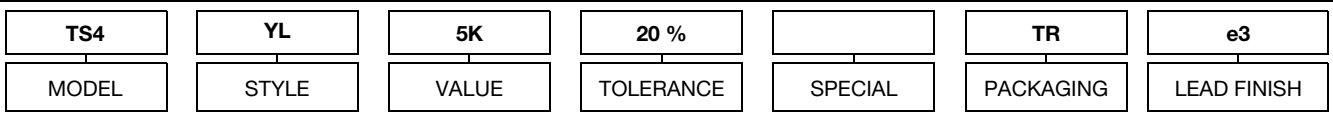

- Manufacturers code
- Resistance code
- Date code

**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)




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«**FORSTAR**» (основан в 1998 г.)

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Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А