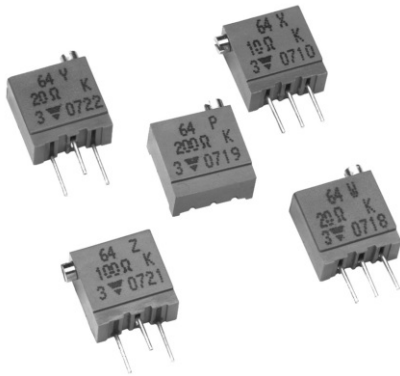


## 3/8" Square (10 mm) Multi-Turn Cermet Trimmer



### FEATURES

- Industrial Grade
- 0.5 W at 70 °C
- Tests according to CECC 41 000
- Contact resistance variation < 1 % typical

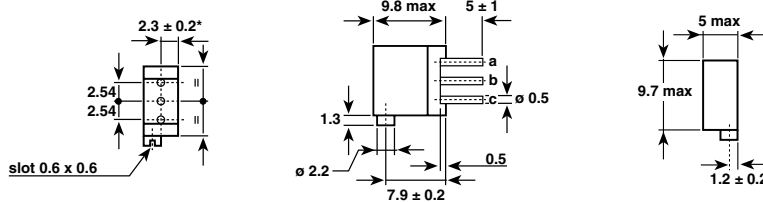


The Model 64 is a small size trimmer - 3/8" x 3/8" x 3/16" - answering PC board mounting requirements. Five versions are available which differ by the position of the control screw in relation to the PC board plane and by the spacing of the terminals. Excellent operational stability is provided by the use of a cermet element.

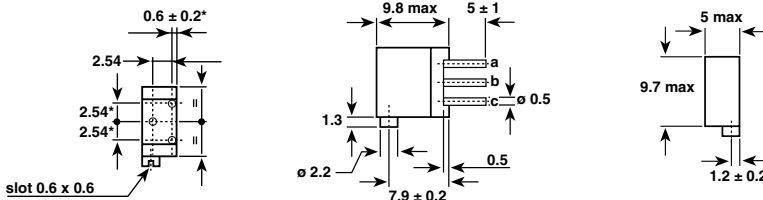
### DIMENSIONS in millimeters

### Terminal Spacing on a 2.54 PCB

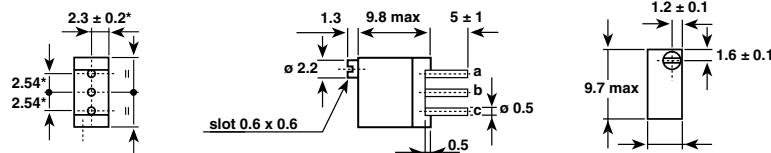
64X



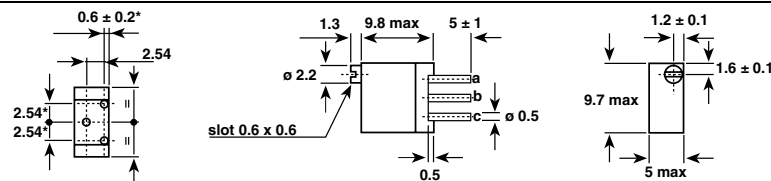
64Z



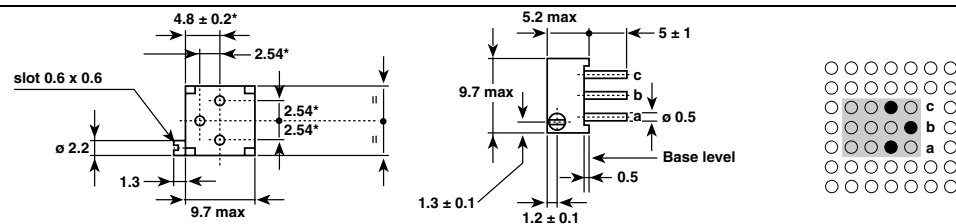
64W



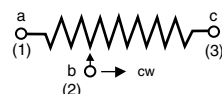
64Y



64P



### CIRCUIT DIAGRAM



\* to be measured at base level

Tolerance unless otherwise specified ± 0.5



# 3/8" Square (10 mm) Multi-Turn Cermet Trimmer

Vishay Spectrol

## ELECTRICAL SPECIFICATIONS

|                                       |                                       |                  |
|---------------------------------------|---------------------------------------|------------------|
| Resistive Element                     | cermet                                |                  |
| Electrical Travel                     | 21 turns $\pm$ 2                      |                  |
| Resistance Range                      | 10 $\Omega$ to 2.2 M $\Omega$         |                  |
| Standard series e3                    | 1 - 2 - 2.5 - 5                       |                  |
| Tolerance                             | Standard                              | $\pm$ 10 %       |
|                                       | On Request                            | $\pm$ 5 %        |
| Power Rating                          | Linear                                | 0.5 W at + 70 °C |
|                                       | Logarithmic                           | not applicable   |
| 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 (500 VDC)       | 10 <sup>6</sup> M $\Omega$            |                  |

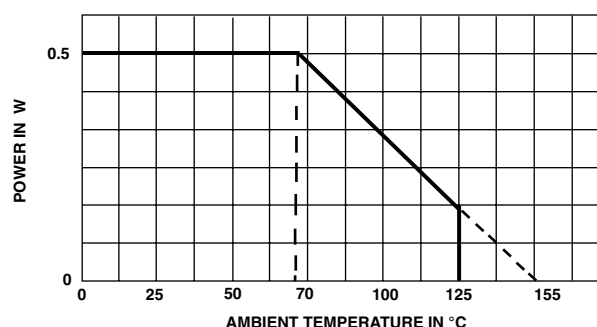
## MECHANICAL SPECIFICATIONS

|                             |                            |
|-----------------------------|----------------------------|
| Mechanical Travel           | 23 turns $\pm$ 5           |
| Operating Torque (max. Ncm) | 1.5                        |
| End Stop Torque             | clutch action              |
| Net Weight                  | Approx. 0.82 g             |
| Wiper (actual travel)       | Positioned at approx. 50 % |

## ENVIRONMENTAL SPECIFICATIONS

|                   |                                |
|-------------------|--------------------------------|
| Temperature Range | - 55 °C to + 155 °C            |
| Climatic Category | 55/125/56                      |
| Sealing           | fully sealed<br>container IP67 |

## POWER RATING CHART



## PERFORMANCE

| TESTS                    | CONDITIONS                                                                                                  | TYPICAL VALUES AND DRIFTS                                                                                        |                                                 |
|--------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
|                          |                                                                                                             | $\frac{\Delta R T}{R T}$ (%)                                                                                     | $\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)            |
| Load Life                | 1000 hours at rated power<br>90°/30° - ambient temp. 70 °C                                                  | $\pm$ 1 %<br>Contact res. variation: < 1 % R <sub>n</sub>                                                        | $\pm$ 2 %                                       |
| Climatic Sequence        | Phase A dry heat 125°C - 30 % Pr<br>Phase B damp heat<br>Phase C cold - 55 °C<br>Phase D damp heat 5 cycles | $\pm$ 0.5 %                                                                                                      | $\pm$ 1 %                                       |
| Long Term Damp Heat      | 56 days<br>40°C, 93 % RH                                                                                    | $\pm$ 0.5 %<br>Dielectric strength: 1000 V <sub>RMS</sub><br>Insulation resistance: > 10 <sup>4</sup> M $\Omega$ | $\pm$ 1 %                                       |
| Rapid Temperature Change | 5 cycles<br>- 55 °C at + 125 °C                                                                             | $\pm$ 0.5 %                                                                                                      | $\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm$ 1 %   |
| Shock                    | 50 g at 11 m seconds<br>3 successive shocks<br>in 3 directions                                              | $\pm$ 0.1 %                                                                                                      | $\pm$ 0.2 %                                     |
| Vibration                | 10 - 55 Hz<br>0.75 mm or 10 g<br>during 6 hours                                                             | $\pm$ 0.1 %                                                                                                      | $\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm$ 0.2 % |
| Rotational Life          | 200 cycles                                                                                                  | $\pm$ 4 %<br>Contact res. variation: < 1 % R <sub>n</sub>                                                        |                                                 |

**STANDARD RESISTANCE ELEMENT DATA**

| STANDARD<br>RESISTANCE<br>VALUES | LINEAR LAW                |                            |                               | TYPICAL<br>TCR<br>- 55 °C<br>+125 °C |
|----------------------------------|---------------------------|----------------------------|-------------------------------|--------------------------------------|
|                                  | MAX.<br>POWER<br>AT 70 °C | MAX.<br>WORKING<br>VOLTAGE | MAX. CUR.<br>THROUGH<br>WIPER |                                      |
| $\Omega$                         | W                         | V                          | mA                            | ppm/°C                               |
| 10                               | 0.5                       | 2.2                        | 224                           | $\pm 100$                            |
| 20                               | ↓                         | 3.2                        | 158                           |                                      |
| 50                               |                           | 5                          | 100                           |                                      |
| 100                              |                           | 7.1                        | 71                            |                                      |
| 200                              |                           | 10                         | 50                            |                                      |
| 250                              |                           | 11.2                       | 45                            |                                      |
| 500                              |                           | 15.8                       | 32                            |                                      |
| 1K                               |                           | 22.4                       | 22                            |                                      |
| 2K                               |                           | 31.6                       | 16                            |                                      |
| 2.5K                             |                           | 35.4                       | 14                            |                                      |
| 5K                               |                           | 50                         | 10                            |                                      |
| 10K                              |                           | 70.7                       | 7.1                           |                                      |
| 20K                              |                           | 100                        | 5                             |                                      |
| 25K                              |                           | 112                        | 4.5                           |                                      |
| 50K                              |                           | 158                        | 3.2                           |                                      |
| 100K                             | 0.5                       | 224                        | 2.2                           |                                      |
| 200K                             | 0.31                      | 250                        | 1.3                           |                                      |
| 250K                             | 0.25                      | 250                        | 1                             |                                      |
| 500K                             | 0.125                     | 250                        | 0.5                           |                                      |
| 1M                               | 0.063                     | 250                        | 0.25                          |                                      |
| 2M                               | 0.031                     | 250                        | 0.13                          |                                      |

**MARKING**

Printed:

- VISHAY trademark
- model
- style
- ohmic value (in  $\Omega$ , k $\Omega$ , M $\Omega$ )
- tolerance (in %)
- manufacturing date
- marking of terminal 3

LEAD FINISH

Pure Sn. Code e3

**PACKAGING**

- In bulk (box of 200 pieces), code B0200
- On request in tube

**ORDERING INFORMATION**

|                    |                                               |                                      |                                         |
|--------------------|-----------------------------------------------|--------------------------------------|-----------------------------------------|
| <b>64</b><br>MODEL | <b>P</b><br>TERMINAL STYLE<br>P, W, X, Y or Z | <b>201</b><br>EIA<br>RESISTANCE CODE | <b>e3</b><br>LEAD FINISH<br>e3: pure Sn |
|--------------------|-----------------------------------------------|--------------------------------------|-----------------------------------------|

**SAP PART NUMBERING GUIDELINES**

|          |          |          |          |             |          |          |          |                |          |          |                         |  |  |
|----------|----------|----------|----------|-------------|----------|----------|----------|----------------|----------|----------|-------------------------|--|--|
| <b>M</b> | <b>6</b> | <b>4</b> | <b>P</b> | <b>2</b>    | <b>0</b> | <b>1</b> | <b>K</b> | <b>B</b>       | <b>4</b> | <b>0</b> |                         |  |  |
| MODEL    |          |          | STYLE    | OHMIC VALUE |          |          | TOL      | PACKAGING CODE |          |          | SPECIAL (IF APPLICABLE) |  |  |

See the end of this data book for conversion tables



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