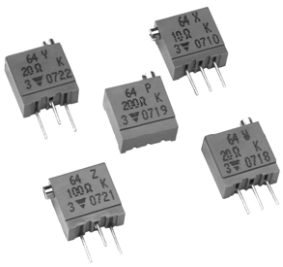
# 3/8" Square (10 mm) Multi-Turn Cermet Trimmer



## FEATURES

- Industrial grade
- 0.5 W at 70 °C
- Tests according to CECC 41000 or IEC 60393-1
- Contact resistance variation < 2 %
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

## DESIGN SUPPORT TOOLS

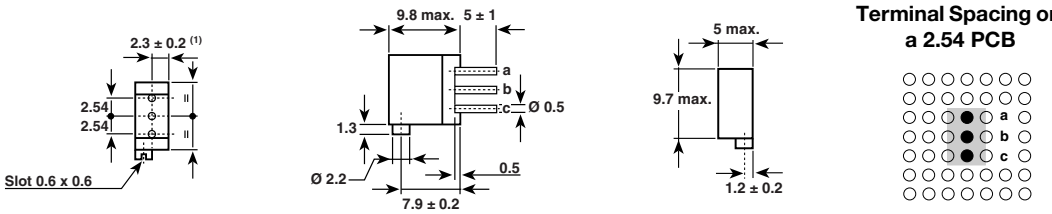
click logo to get started

3D Models Available

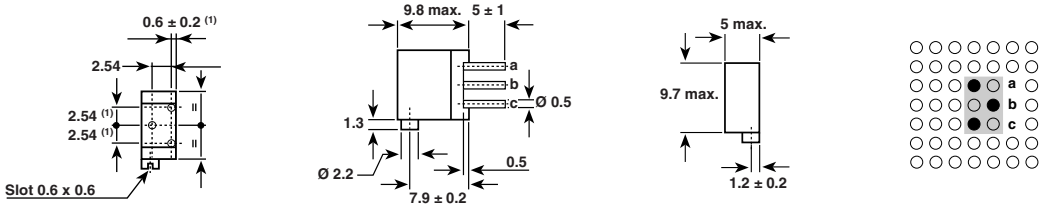
The Model 64 is a small size trimmer - 3/8" x 3/8" x 3/16" - answering PC board mounting requirements. Five versions are available which differ by the position of the control screw in relation to the PC board plane and by the spacing of the terminals. Excellent operational stability is provided by the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

## DIMENSIONS in millimeters (± 0.5 mm)

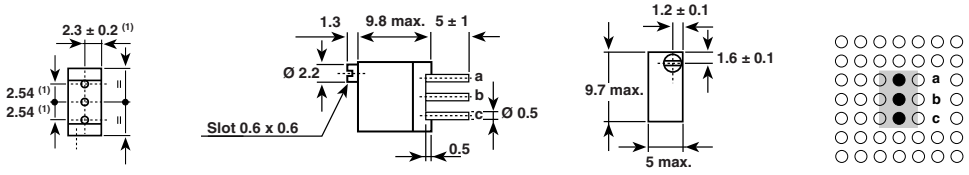
**64X**



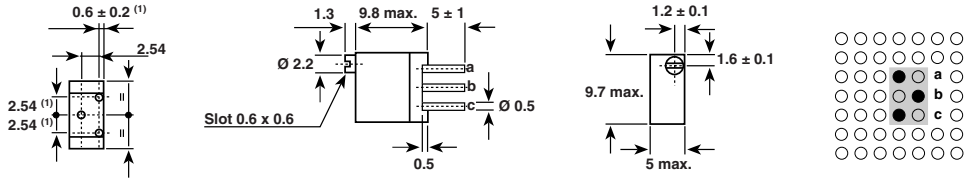

**64Z**



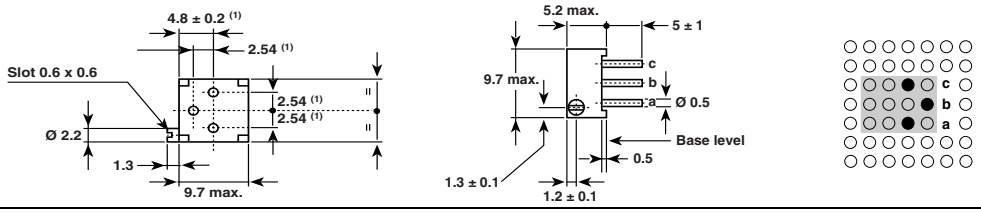

**64W**




**64Y**




**64P**



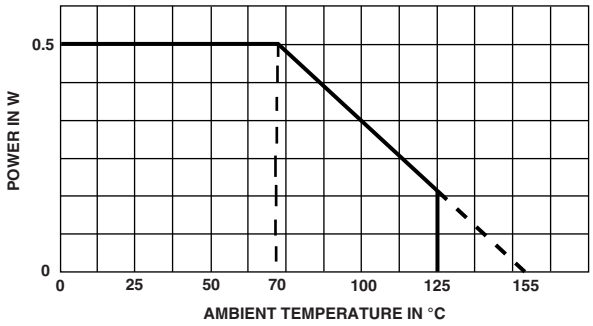
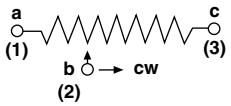

**Note**



For technical questions, contact: sferpottrimmers@vishay.com

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(1) To be measured at base level

| ELECTRICAL SPECIFICATIONS | | |
|---|---|---|
| Resistive element | | Cermet |
| Electrical travel | | 21 turns ± 2 |
| Resistance range | | 10 Ω to 2.2 MΩ |
| Standard series E3 | | 1 - 2 - 2.5 - 5 |
| Tolerance | Standard | 10 % |
| | On request | 5 % |
| Power rating | linear | 0.5 W at +70 °C   |
| Circuit diagram | |   |
| Temperature coefficient | | See Standard Resistance Element table |
| Limiting element voltage (linear law) | | 250 V |
| Contact resistance variation | | 2 % Rn or 2 Ω |
| End resistance (typical) | | 1 Ω |
| Dielectric strength (RMS) | | 1000 V |
| Insulation resistance (500 $V_{DC}$) | | $10^6$ MΩ |

| MECHANICAL SPECIFICATIONS | |
|---|---|
| Mechanical travel | 23 turns ± 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 % |
| Terminals | Pure Sn (code e3) |

| ENVIRONMENTAL SPECIFICATIONS | |
|---|---|
| Temperature range | -55 °C to +125 °C |
| Climatic category | 55/125/56 |
| Sealing | Fully sealed - IP67 |


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## STANDARD RESISTANCE ELEMENT DATA

| STANDARD RESISTANCE VALUES | LINEAR LAW | | | TYPICAL TCR -55 °C +125 °C |
|---|---|---|---|---|
| | MAX. POWER AT 70 °C | MAX. WORKING VOLTAGE | MAX. CURRENT THROUGH WIPER | |
| Ω | W | V | mA | ppm/°C |
| 10 | 0.5 | 2.2 | 224 | ± 100 |
| 20 | 0.5 | 3.2 | 158 | |
| 50 | 0.5 | 5 | 100 | |
| 100 | 0.5 | 7.1 | 71 | |
| 200 | 0.5 | 10 | 50 | |
| 250 | 0.5 | 11.2 | 45 | |
| 500 | 0.5 | 15.8 | 32 | |
| 1K | 0.5 | 22.4 | 22 | |
| 2K | 0.5 | 31.6 | 16 | |
| 2.5K | 0.5 | 35.4 | 14 | |
| 5K | 0.5 | 50 | 10 | |
| 10K | 0.5 | 70.7 | 7.1 | |
| 20K | 0.5 | 100 | 5 | |
| 25K | 0.5 | 112 | 4.5 | |
| 50K | 0.5 | 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 | |

## PERFORMANCES

| TESTS | CONDITIONS | TYPICAL VALUES AND DRIFTS | |
|---|---|---|---|
| | | $\Delta R_T/R_T$ (%) | $\Delta R_{1\text{-}2}/R_{1\text{-}2}$ (%) |
| Load life | 1000 h at rated power<br>90'/30' - ambient temp. 70 °C | ± 1 %<br>Contact res. variation: < 1 % Rn | ± 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 | ± 0.5 % | ± 1 % |
| Long term damp heat | 56 days<br>40 °C, 93 % RH | ± 0.5 %<br>Dielectric strength: 1000 $V_{RMS}$<br>Insulation resistance: > $10^4$ MΩ | ± 1 % |
| Rapid temperature change | 5 cycles<br>-55 °C to +125 °C | ± 0.5 % | $\Delta V_{1\text{-}2}/\Delta V_{1\text{-}3} \leq \pm 1$ % |
| Shock | 50 g at 11 ms<br>3 successive shocks<br>in 3 directions | ± 0.1 % | ± 0.2 % |
| Vibration | 10 Hz to 55 Hz<br>0.75 mm or 10 g<br>during 6 h | ± 0.1 % | $\Delta V_{1\text{-}2}/\Delta V_{1\text{-}3} \leq \pm 0.2$ % |
| Rotational life | 200 cycles | ± 4 %<br>Contact res. variation: < 1 % Rn | - |

**Note**

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

## MARKING

- Vishay trademark
- Model
- Style
- Ohmic value (in Ω, kΩ, MΩ)
- Tolerance (in %)
- Manufacturing date
- Marking of terminal 3


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## PACKAGING

- In box of 200 pieces code B40 (BO200)

On request:

- In box of 100 pieces code B30 (BO100)
- In tube of 50 pieces code T20 (TU50)

## ORDERING INFORMATION (part number)

| M | 6 | 4 | P | 2 | 2 | 4 | K | B | 4 | 0 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Model | STYLE | OHMIC VALUE | TOLERANCE | PACKAGING | SPECIAL NUMBER |
|---|---|---|---|---|---|
| **M64** | **P**<br>**W**<br>**X**<br>**Y**<br>**Z** | From<br>10 Ω to 2.2 MΩ<br>**224** = 220 kΩ | **K** = 10 %<br>On request<br>**J** = 5 % | **B40** = box<br>200 pieces<br>On request:<br>**B30** = box<br>100 pieces<br>**T20** = tube<br>50 pieces | (If applicable)<br>Given by Vishay<br>for custom design |

## DESCRIPTION (for information only)

| 64 | P | 220K | 10 % | | BO200 | 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 |


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