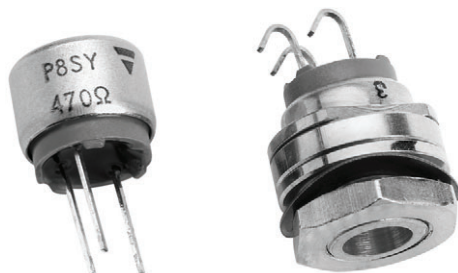


8.5 mm Diameter Single-Turn Fully Sealed Container Cermet Trimmer



FEATURES

- Industrial grade
- High quality cermet resistive track:
 - 1 W at 70 °C, P8ST
 - 0.5 W at 70 °C, P8SX and P8SY
- Test according to CECC 41000 or IEC 60393-1
- Wide resistance range (10 Ω to 2.2 MΩ)
- Material categorization: for definitions of compliance please see www.vishay.com/doc299912

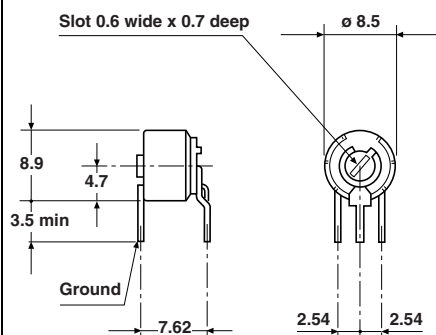

RoHS
COMPLIANT

The P8S series trimmers are well adapted for all industrial applications as their maximum resistance contact variation is within 3 % of Rn and as they are fully sealed.

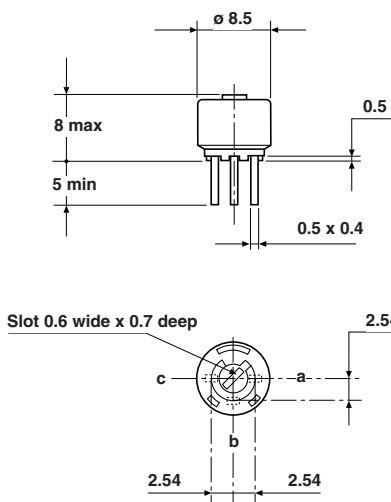
For more stringent requirements the P8P series is recommended.

DIMENSIONS in millimeters (± 0.5 mm)

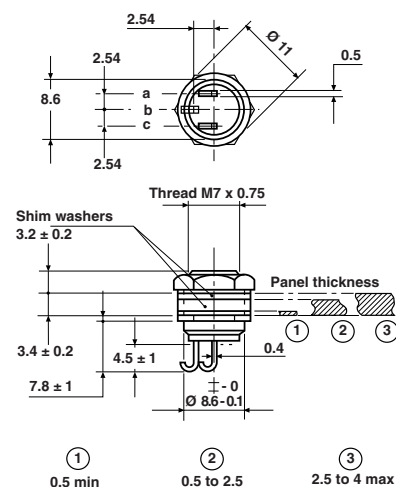
P8SX



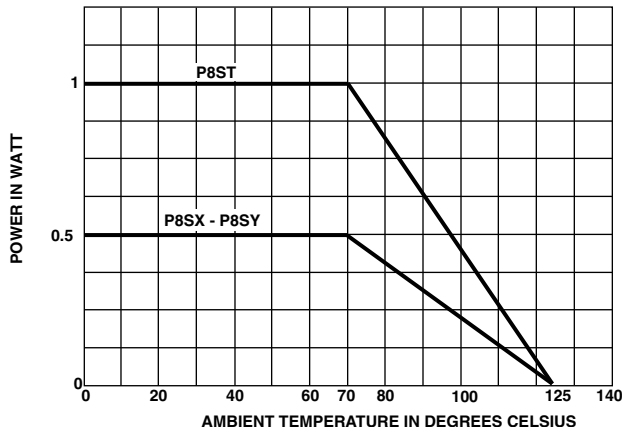
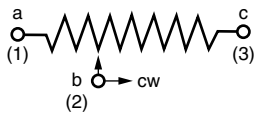
P8SY



P8ST



Consult Vishay Sfernice for
panel sealed type

| ELECTRICAL SPECIFICATIONS | | |
|--|--|--|
| Resistive element | | Cermet |
| Electrical travel | | 270° ± 15° |
| Resistance range | | 10 Ω to 2.2 MΩ |
| Standard series E3 | | 1 - 2.2 - 4.7 and on request 1 - 2 - 5 |
| Tolerance | standard | ± 10 % |
| | on request | ± 5 % |
| Power rating | P8SX, P8SY | 0.5 W at 70 °C |
| | P8ST | 1 W at 70 °C |
| Power rating chart |  <p>The chart shows the power rating in Watts versus ambient temperature in degrees Celsius. The P8ST series (1 W at 70 °C) has a power rating of 1 W from 0 to 70 °C, then decreases linearly to 0 W at 125 °C. The P8SX - P8SY series (0.5 W at 70 °C) has a power rating of 0.5 W from 0 to 70 °C, then decreases linearly to 0 W at 125 °C.</p> | |
| Circuit diagram |  | |
| Temperature coefficient | | See Standard Resistance Element Table |
| Limiting element voltage (linear law) | | 250 V |
| Contact resistance variation | | 3 % R _n or 3 Ω |
| End resistance (typical) | | 1 Ω |
| Dielectric strength (RMS) | | 1000 V |
| Insulation resistance (500 V _{DC}) | | 1 GΩ |

| MECHANICAL SPECIFICATIONS | | |
|-----------------------------|------------|----------------------|
| Mechanical travel | | 300° ± 5° |
| Operating torque (max. Ncm) | | 3 |
| End stop torque (max. Ncm) | | 6 |
| Unit weight (max. g) | P8SX, P8SY | 1.1 |
| | P8ST | 3.6 |
| Terminals | | SnAg alloy (code e2) |

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



| PERFORMANCES | | | |
|--------------------------|---|--|---|
| TESTS | CONDITIONS | TYPICAL VALUES AND DRIFTS | |
| | | $\Delta R_T/R_T$ (%) | $\Delta R_{1-2}/R_{1-2}$ (%) |
| Load life | 1000 h at rated power 90'/30' - ambient temperature 70 °C | ± 2 % Contact res. variation: < 3 % R _n | ± 3 % |
| Climatic sequence | Phase A dry heat 100 °C Phase B damp heat Phase C cold -55 °C Phase D damp heat 5 cycles | ± 0.5 % | ± 1 % |
| Long term damp heat | 56 days 40 °C, 93 % RH | ± 1 % Dielectric strength: 1000 V _{RMS} Insulation resistance: > 10 ⁴ M Ω | ± 2 % |
| Rapid temperature change | 5 cycles -55 °C to +125 °C | ± 0.5 % | $\Delta V_{1-2}/\Delta V_{1-3}$ $\leq \pm 1$ % |
| Shock | 50 g at 11 ms 3 successive shocks in 3 directions | ± 0.2 % | ± 0.5 % |
| Vibration | 10 Hz to 55 Hz 0.75 mm or 10 g during 6 h | ± 0.2 % | $\Delta V_{1-2}/\Delta V_{1-3}$ $\leq \pm 0.5$ % |
| Rotational life | 200 cycles | ± 3 % Contact res. variation: < 3 % R _n | |

Note

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

| STANDARD RESISTANCE ELEMENT DATA | | | | | | | |
|----------------------------------|---------------------------|----------------------------|----------------------------------|---------------------------|----------------------------|----------------------------------|----------------------------------|
| STANDARD RESISTANCE VALUES | P8SX, P8SY | | | P8ST | | | TYPICAL TCR -55 °C to +125 °C |
| | MAX. POWER AT 70 °C | MAX. WORKING VOLTAGE | MAX. CURRENT THROUGH WIPER | MAX. POWER AT 70 °C | MAX. WORKING VOLTAGE | MAX. CURRENT THROUGH WIPER | |
| Ω | W | V | mA | W | V | mA | ppm/°C |
| 10 | 0.5 | 2.2 | 224 | 1 | 3.16 | 316 | ± 100 |
| 22 | 0.5 | 3.3 | 150 | 1 | 4.69 | 213 | |
| 47 | 0.5 | 4.8 | 103 | 1 | 6.86 | 146 | |
| 100 | 0.5 | 7.0 | 70 | 1 | 10.0 | 100 | |
| 220 | 0.5 | 10.5 | 47 | 1 | 14.8 | 67 | |
| 470 | 0.5 | 15.3 | 32 | 1 | 21.7 | 46 | |
| 1K | 0.5 | 22.4 | 22 | 1 | 31.6 | 32 | |
| 2.2K | 0.5 | 33.2 | 15 | 1 | 46.9 | 21 | |
| 4.7K | 0.5 | 48.5 | 10 | 1 | 68.6 | 15 | |
| 10K | 0.5 | 70.7 | 7.0 | 1 | 100 | 10 | |
| 22K | 0.5 | 105 | 4.8 | 1 | 148 | 6.7 | |
| 47K | 0.5 | 153 | 3.2 | 1 | 217 | 4.6 | |
| 100K | 0.5 | 224 | 2.2 | 0.63 | 250 | 2.5 | |
| 220K | 0.28 | 250 | 1.1 | 0.28 | 250 | 1.1 | |
| 470K | 0.13 | 250 | 0.53 | 0.13 | 250 | 0.53 | |
| 1M | 0.06 | 250 | 0.25 | 0.06 | 250 | 0.25 | |
| 2.2M | 0.028 | 250 | 0.11 | 0.03 | 250 | 0.11 | |

**MARKING**

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

PACKAGING

- In plastic box of 50 pieces, code B25 (BL50)

ORDERING INFORMATION (part number)

| | | | | | | | | | | | | | | |
|-------|----------------|---|---|--|---|---|------------------------------------|---------------------|---|---|---|--|--|--|
| P | 8 | S | X | 1 | 0 | 4 | K | B | 2 | 5 | | | | |
| MODEL | STYLE | | | OHMIC VALUE | | | TOLERANCE | PACKAGING CODE | | | SPECIAL NUMBER | | | |
| P8 | ST SX SY | | | From 10 Ω to 2.2 M Ω 103 = 10K | | | K = 10 % On request: J = 5 % | B25 = box 50 pieces | | | (If applicable) Given by Vishay for custom design | | | |

PART NUMBER DESCRIPTION (for information only)

| | | | | | | | |
|-------|-------|-------|-------|-----------|---------|-----------|-------------|
| P8 | S | X | 100K | 10 % | | BL | e2 |
| MODEL | STYLE | 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 |

ACCESSORIES

| | |
|------------------------------------|--|
| Screwdrivers (to order separately) | www.vishay.com/doc?57015 |
|------------------------------------|--|



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