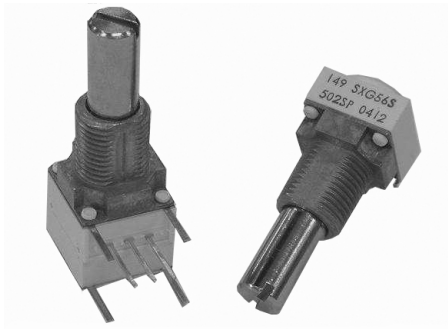


1/2" (12.7mm) Conductive Plastic and Cermet Potentiometers



148 FEATURES

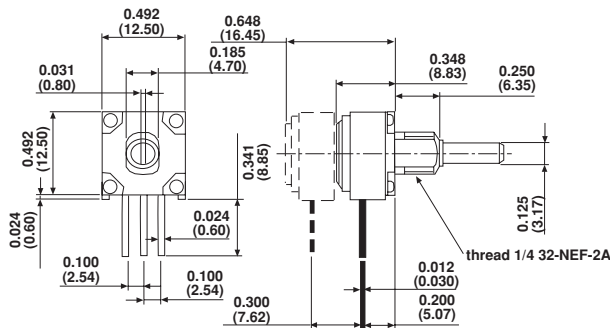
- Conductive Plastic Element
- High Rotational Life
- Quiet Electrical Output
- Robust Construction

149 FEATURES

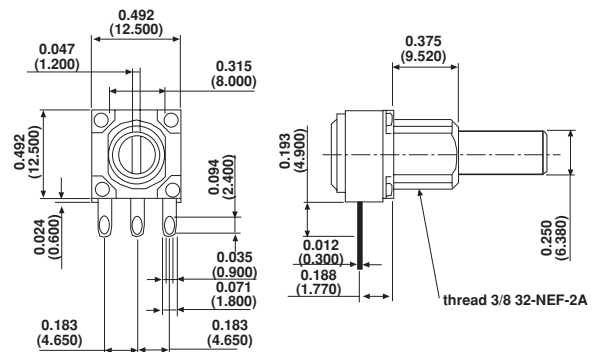
- Cermet Element
- Temperature Stable
- Robust Construction

DIMENSIONS in inches (millimeters)

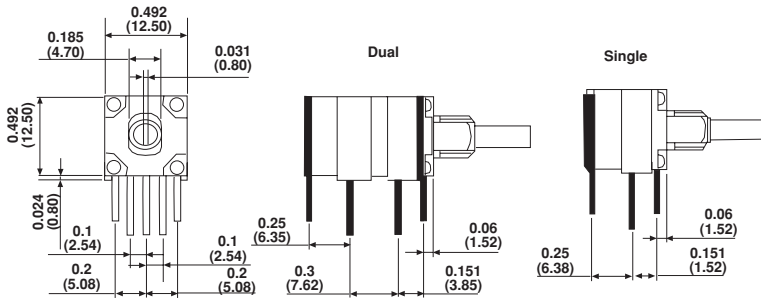
SINGLE, DUAL OR TRIPLE



SOLDER LUG TERMINALS



FRONT AND REAR SUPPORT PLATES
E = Flush with board surface



MOUNTING ACCESSORIES: PRODUCT IS SUPPLIED WITH A NUT & WASHER

OPTIONAL FEATURES

Up to three sections PC support plates
Rotary switches, detents, Solder lugs terminals.

CONSTRUCTION MATERIALS

Housing - Molded thermoplastic white
Shaft - Brass, nickel plated



| ELECTRICAL SPECIFICATIONS | | |
|------------------------------------|---|--|
| PARAMETER | 148 | 149 |
| Resistance Range | 1kΩ to 1MΩ linear 500Ω to 500kΩ non-linear | 100Ω to 2.0MΩ linear 250Ω to 1MΩ non-linear |
| Resistance Tolerance | Standard ± 10% to 500K, ± 20% over 500K | |
| Linear | Standard ± 10% to 100K, ± 20% over 100K | |
| Non-Linear | 20% of the Nominal R at 50 mechanical rotation | |
| Taper Tolerance | ± 5% Independent | |
| Linearity (Typical) | 4Ω maximum each end | |
| End Resistance | 0.5 watts @ 70°C 0 watts @ 120°C | 1 watt @ 70°C 0 watt @ 150°C |
| Power Rating | Non-Linear or PC mount, derate 50% | |
| Effective Rotation | 270° ± 10° without rotary switch 240° ± 10° with rotary switch | |
| Contact Resistance Variation | 1.5% of total resistance | 3% of total resistance |
| Maximum Continuous Working Voltage | 350VAC across end terminals, but within power rating | |
| Dielectric Withstanding Voltage | Sea Level - 750VAC 70,000 feet - 350VAC | |
| Switch Specifications | Rotary (AL) switch: S.P.S.T and S.P.D.T 125mA, 28VDC CCW or CW, rotational life 10,000 cycles (rated load) | |

| MECHANICAL SPECIFICATIONS | |
|----------------------------------|---|
| Mechanical Rotation | 300° ± 5° |
| Torque | |
| Operating | Single section 0.2 to 3.0 oz - in Dual or triple section 0.3 to 4.5 oz - in |
| Center Detent | 0.6 to 3.0 oz - in |
| Stop Strength | 3 in - lbs min |
| Weight (approx) | |
| Single | 0.19 oz |
| Dual | 0.27 oz |
| Triple | 0.35 oz |

| ENVIRONMENTAL SPECIFICATIONS | | |
|---|----------------------------|----------------------------|
| | 148 | 149 |
| Operating Temperature | - 40°C to + 120°C | - 40°C to + 150°C |
| Storage Temperature | - 55°C to + 120°C | - 55°C to + 150°C |
| Temperature Cycling (5 Cycles) | - 40°C to + 120°C (4% ΔRt) | - 40°C to + 150°C (3% ΔRt) |
| Load Life (1000hrs. Rated Load at 70°C) | 10% ΔRt | 5% ΔRt |
| Rotational Load Life | 50,000 cycles | 25,000 cycles |
| TCR | ± 1000ppm/°C | ± 150ppm/°C |



MARKING

Unit Identification: Ink stamp on periphery

| ORDERING INFORMATION | | | | | | | | |
|----------------------|----------------------------|--|--|--|------------------------|--|------------|---|
| 148 MODEL | S NUMBER OF SECTIONS | X MECHANICAL CONFIGURATION | G METRIC BUSHING SIZE & SHAFT | 56 SHAFT LENGTH | S SHAFT STYLE | 103 RESISTANCE CODE Ω | S TAPER | P TERMINAL CONFIGURATION |
| | | | | FROM THE MOUNTING SURFACE | | | | |
| 148 CP | S: Single | X: None (single shaft) | N: 1/4 Dia x 1/4L | Shaft length code | S: Slotted | EIA code - first 2 significant digits | | P: PC, 0.250 |
| 149 Cer | D: Duals, T: Triple | S: Single w/rotary switch P: Dual w/rotary switch | J: 1/4 Dia x 3/8 L Shaft, 1/8 Dia G: 3/8 Dia x 3/8 L Shaft, 1/4 Dia | 32: 1/2 in 40: 5/8 in 48: 3/4 in 56: 7/8 in 64: 1 in 80: 1 1/4 in | F: Flatted P: Plain | 3rd is number of zeros 100 10K 500K 250 20K 750K 500 25K 1meg 750 50K 2meg 1K 75K 2.5K 100K 5K 250K | | Z: CW Log, ± 10% to 500KΩ ± 20% over 500K R: CCW Log, ± 10% to 500KΩ ± 20% over 500K E: PC terminals with E support plate S: Solder lugs |

| SAP PART NUMBERING GUIDELINES | | | | | | | | | | | | | | | | | |
|---|---|---|------------|---|--------|---------|--------------|-------|---|---|-------|---|--------------------------------|---|---|---|---|
| 1 | 4 | 8 | 1 | 0 | F | 0 | G | J | S | X | 1 | 0 | 1 | 0 | 3 | K | A |
| MODEL | | | NB OF MOD. | | SWITCH | BUSHING | LOCATING PEG | SHAFT | | | LEADS | | OHMIC VALUE/TOL/LAW OR SPECIAL | | | | |
| See the end of this data book for conversion tables | | | | | | | | | | | | | | | | | |



Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.