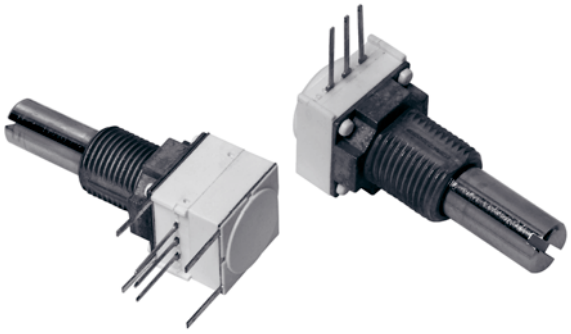
1/2" (12.7 mm) Conductive Plastic and Cermet Potentiometers



148 FEATURES

- Conductive plastic element
- High rotational life (50 000 cycles)
- Quiet electrical output
- Robust construction

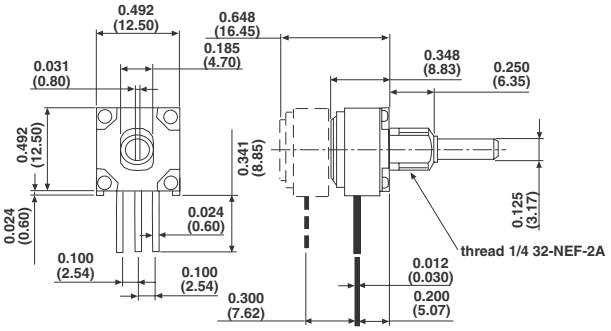
RoHS COMPLIANT

149 FEATURES

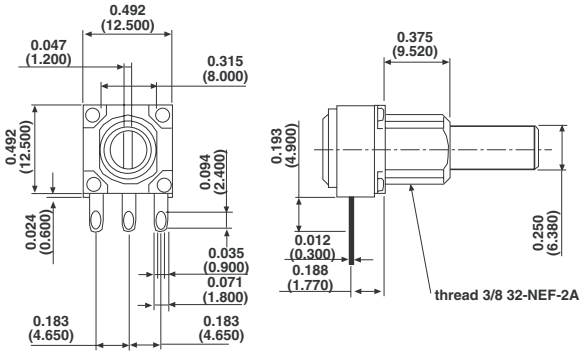
- Cermet element
- Low temperature coefficient (± 150 ppm/°C)
- Robust construction

DIMENSIONS in inches (millimeters)

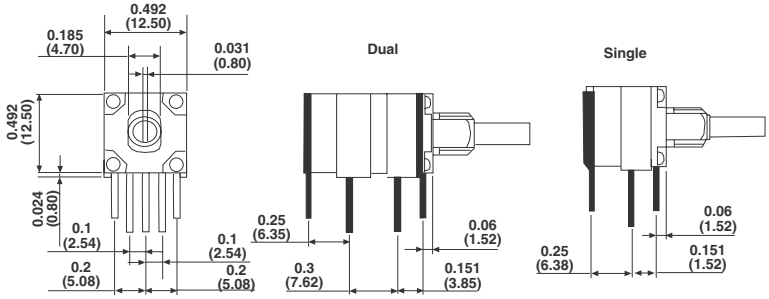
SINGLE, DUAL OR TRIPLE



SOLDER LUG TERMINALS



FRONT AND REAR SUPPORT PLATES
E = Flush with board surface



Tolerances unless otherwise specified ± 0.5

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	1 kΩ to 1 MΩ linear 500 Ω to 500 kΩ non-linear	100 Ω to 2.0 MΩ linear 250 Ω to 1 MΩ non-linear
Resistance Tolerance **Linear** **Non-Linear**	Standard ± 10 % to 500K, ± 20 % over 500K Standard ± 10 % to 100K, ± 20 % over 100K	
Taper Tolerance	20 % of the Nominal R at 50 % mechanical rotation	
Linearity (Typical)	± 5 % Independent	
End Resistance	4 Ω maximum each end	
Power Rating	0.5 watts at 70 °C 0 watts at 120 °C	1 watt at 70 °C 0 watt at 150 °C
	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	350 VAC across end terminals, but within power rating	
Dielectric Withstanding Voltage	Sea Level - 750 VAC 70 000 feet - 350 VAC	
Switch Specifications	Rotary (AL) switch: S.P.S.T and S.P.D.T 125 mA, 28 VDC 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 (1000 hrs. Rated Load at 70 °C)	10 % ΔRt	5 % ΔRt
Rotational Load Life	50 000 cycles	25 000 cycles
TCR	± 1000 ppm/°C	± 150 ppm/°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 **FROM THE MOUNTING SURFACE**	**S** SHAFT STYLE	**103** RESISTANCE CODE Ω	**S** TAPER	**P** TERMINAL CONFIGURATION	**e3** LEAD FINISH
148 CP 149 Cer	**S:** Single **D:** Duals **T:** Triple	**X:** None (single shaft D, T sections) **S:** Single w/rotary switch **P:** Dual w/rotary switch	**N:** 1/4 Dia x 1/4 L Shaft 1/8 Dia **J:** 1/4 Dia x 3/8 L Shaft, 1/8 Dia **G:** 3/8 Dia x 3/8 L Shaft, 1/4 Dia	Shaft length code **32:** 1/2 in **40:** 5/8 in **48:** 3/4 in **56:** 7/8 in **64:** 1 in **80:** 1 1/4 in	**S:** Slotted **F:** Flatted **P:** Plain slotted in std. on request **F** and **P**	EIA code - first 2 significant digits 3rd is number of zeros 100 10K 500K 250 20K 750K 500 25K 1M 750 50K 2M 1K 75K 2.5K 100K 5K 250K	**S:** Linear ± 10 % **Z:** CW Log, ± 10 % to 500 kΩ ± 20 % over 500 kΩ **R:** CCW Log, ± 10 % to 500 kΩ ± 20 % over 500 kΩ	**P:** PC, 0.250 **E:** PC terminals with E support plate **S:** Solder lugs	**e3:** Pure Sn

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

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All product specifications and data are subject to change without notice.

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