

## Features

- Conductive plastic or cermet
- Linear and audio tapers
- PC board and bushing mount
- Gangable
- Metal bushing and shaft
- Sealed for board washing

## 50 Series - Sealed 1/2" (12.5mm) Square Control

Electrical Characteristics <sup>1</sup>	Conductive Plastic	Cermet
Standard Resistance Range		
Linear.....	1K ohms to 1 megohm.....	150 ohms to 1 megohm
Audio.....	1K ohms to 1 megohm.....	1K ohms to 1 megohm
Total Resistance Tolerance		
Linear Tapers.....	±10% OR ±20%.....	±10% OR ±5%
Audio Tapers.....	±10% OR ±20%.....	±10%
Independent Linearity.....	±5%.....	±5%
Absolute Minimum Resistance.....	2 ohms maximum.....	2 ohms maximum
Effective Electrical Angle.....	270°±5°.....	270°±5°
Contact Resistance Variation.....	2.0%.....	2.0%
Dielectric Withstanding Voltage		
Sea Level.....	1,500 VAC minimum.....	1,500 VAC minimum
70,000.....	500 VAC minimum.....	500 VAC minimum
Insulation Resistance.....	1,000 megohms minimum.....	1,000 megohms minimum
Power Rating At 70°C (Derate To 0 At 125°C) (Voltage Limited By Power Dissipation or 350 VAC, Whichever Is Less)		
Linear Tapers.....	0.5 watt.....	1.0 watt
Audio Tapers.....	0.25 watt.....	0.5 watt
Tracking (Multiple Sections).....	3 db.....	3 db

Environmental Characteristics <sup>1</sup>	Conductive Plastic	Cermet
Operating Temperature.....	+1°C to +125°C.....	+1°C to +125°C
Storage Temperature.....	-55°C to +125°C.....	-55°C to +125°C
TCR (Over Storage Temperature Range).....	±1,000ppm/°C.....	±150ppm/°C
Vibration (Single Section).....	15G.....	15G
Total Resistance Shift.....	±2% maximum.....	±2% maximum
Voltage Ratio Shift.....	±5% maximum.....	±5% maximum
Shock (Single Section).....	30G.....	30G
Total Resistance Shift.....	+2% maximum.....	±2% maximum
Voltage Ratio Shift.....	±5% maximum.....	±5% maximum
Load Life (1,000 Hours).....	±10% TRS maximum.....	±5% TRS maximum
Rotational Life-No Load (50,000 Cycles) <sup>2</sup> .....	±10% TRS maximum.....	±10% TRS maximum
CRV @ 25,000 Cycles.....	±2%.....	±4%
Moisture Resistance.....	±10% TRS.....	±5% TRS

Mechanical Characteristics	Conductive Plastic	Cermet
Stop Strength.....	5 in-lb.....	5 in-lb.
Mechanical Angle.....	290° ±5°.....	290° ±5°
Torque		
Running (Single Section).....	0.2 to 2.0 oz.-in. (0.15 to 1.4Ncm).....	0.2 to 2.0 oz.-in. (0.15 to 1.4 Ncm)
Running (Dual or Triple Section).....	0.5 to 2.5 oz.-in. (0.35 to 1.8 Ncm).....	0.5 to 2.5 oz.-in. (0.35 to 1.8 Ncm)
Starting (All Sections).....	Running torque +0.5 oz.-in. (+0.35 Ncm) maximum.....	Running torque +0.5 oz.-in. (+0.35 Ncm) maximum
Weight (Single Section).....	5.5 grams.....	5.5 grams
Each Additional Section.....	3.0 grams.....	3.0 grams
Terminals.....	PC pin or solder lug.....	PC pin or solder lug
Marking.....	Manufacturer's symbol and part number, date code and resistance value	

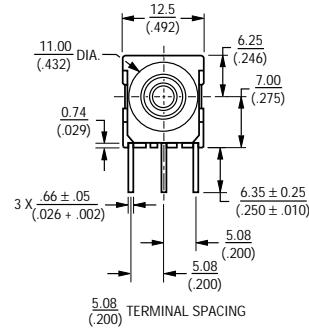
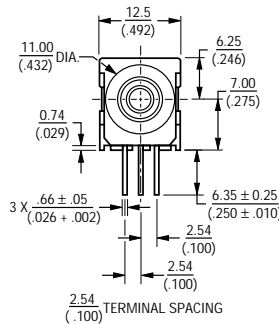
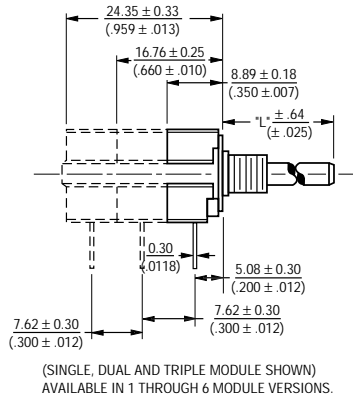
<sup>1</sup>At room ambient: +25°C nominal and 50% relative humidity nominal, except as noted.

<sup>2</sup>Conductive Plastic, 25,000 cycles for cermet elements.

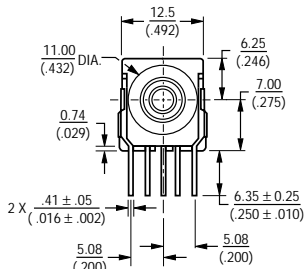
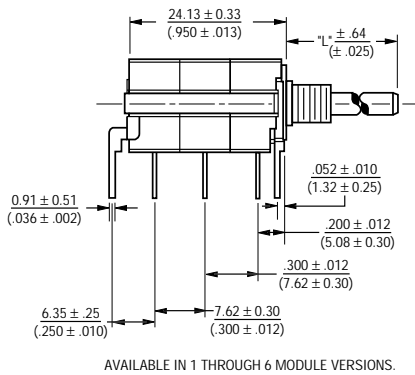
# 50 Series - Dimensions and Tolerances



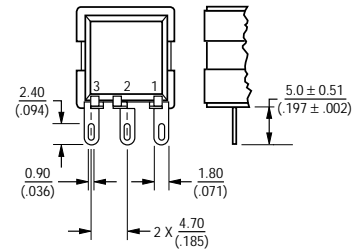
## PACKAGE DIMENSIONS



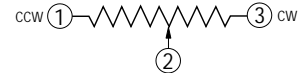
## PACKAGE DIMENSIONS PCB MOUNTING BRACKET



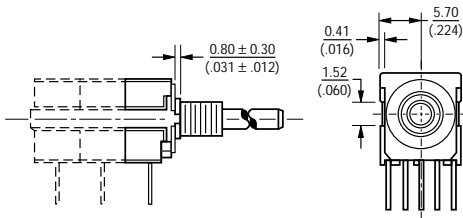
## SOLDER LUG TERMINALS



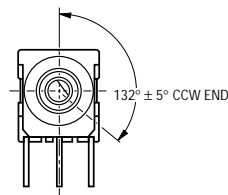
## ELECTRICAL SCHEMATIC



## ANTI-ROTATION LUG (Style "A", 90° CW Shown)

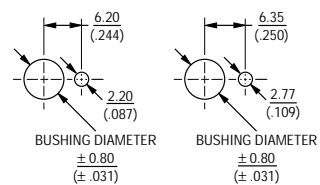


## SHAFT FLAT ORIENTATION



## SUGGESTED PANEL LAYOUTS

The Model 50 can be used with either of the two panel layouts shown below.



FOR TOLERANCES SHOWN: .XX = ± .25 (.010)  
.XXX = ± .13 (.005)  
SHAFT DIMENSIONS ± .80 (.132)

DIMENSIONS ARE: METRIC (INCHES)

