

\*ROHS COMPLIANT



**BOURNS®**

**Features**

- Carbon element
- Ganging up to 8 sections available
- Knurled and flatted shaft styles
- Audio taper option
- Tracking error within 3 dB
- RoHS compliant\*



**PTD90 Series - 9 mm Multi-Ganged Potentiometer**

**Electrical Characteristics**

Standard Resistance Range ..... 1 K ohms to 1 M ohms  
 Total Resistance Tolerance ..... ±10 % or ±20 %  
 Standard Tapers ..... Linear & audio  
 Maximum Operating Voltage ..... 150 VAC, 20 VDC  
 Rated Power  
     Linear Taper ..... 0.05 watts  
     Audio Taper ..... 0.025 watts  
 Noise ..... 100 mV max.  
 Insulation Resistance @ 250 VDC ..... 100 M ohms  
 Dielectric Withstanding Voltage ..... 300 VAC  
 End Resistance ..... 20 ohms max.  
 Tracking Error (-40 dB to 0 dB) ..... ±3 dB

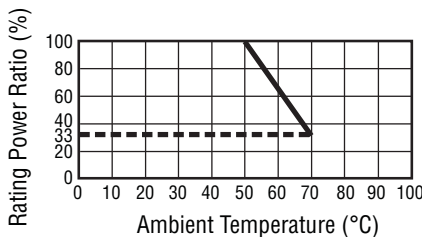
**Environmental Characteristics**

Operating Temperature ..... -10 °C to +50 °C  
 Rotational Life ..... 10,000 cycles  
 IP Rating ..... IP 40

**Mechanical Characteristics**

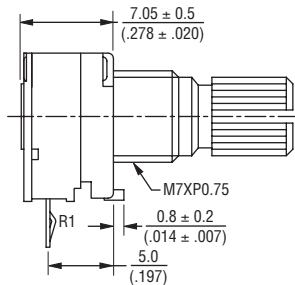
Mechanical Angle ..... 300 ° ±10 °  
 Running Torque ..... 10 to 250 g-cm  
 Stop Strength ..... 4.0 kg-cm  
 Shaft Push/Pull Strength ..... 5.0 kgf min.  
 Shaft Wobble ..... 0.6 x L/20 mm p-p max.  
 Mounting Torque ..... 7.0 kg-cm min.  
 Soldering Condition  
     Manual Soldering  
         ..... 96.5 Sn/3.0 Ag/0.5 Cu solid wire  
             or no-clean rosin cored wire  
             270 °C max. for 3 seconds  
     Wave Soldering  
         ..... 96.5 Sn/3.0 Ag/0.5 Cu solder  
             with no-clean flux  
             260 °C max. for 5 seconds  
     Wash Process ..... Not recommended  
 Mounting Hardware ..... One flat washer  
     and one mounting nut supplied  
     per potentiometer

**Derating Curve**

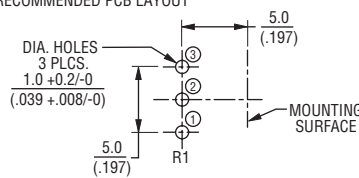


**Product Dimensions**

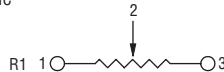
**PTD901**



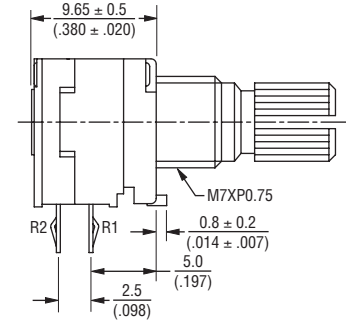
RECOMMENDED PCB LAYOUT



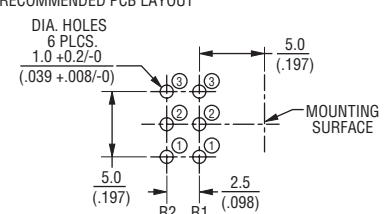
SCHEMATIC



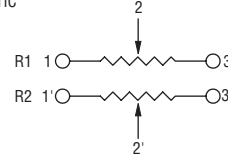
**PTD902**



RECOMMENDED PCB LAYOUT



SCHEMATIC



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

\*RoHS Directive 2002/95/EC Jan 27 2003 including Annex Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

# Applications

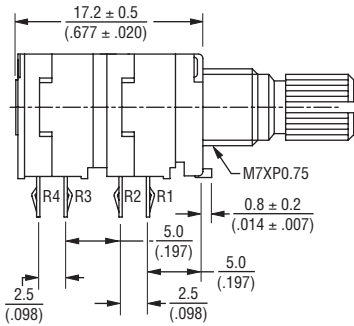
- Audio/TV sets
- Automotive sound systems
- Amplifiers/mixers/drum machines/synthesizers/DJ equipment
- Multimedia sound systems
- Portable electronics

## PTD90 Series - 9 mm Multi-Ganged Potentiometer

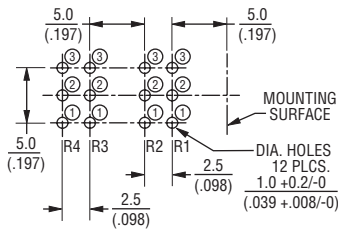
**BOURNS®**

### Product Dimensions

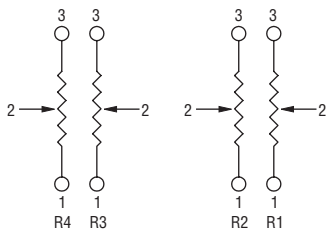
**PTD904**



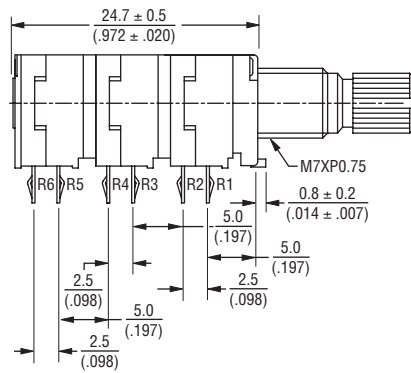
RECOMMENDED PCB LAYOUT



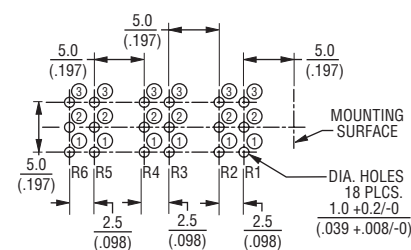
SCHEMATIC



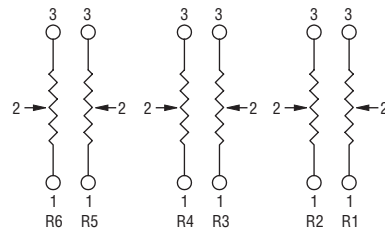
**PTD906**



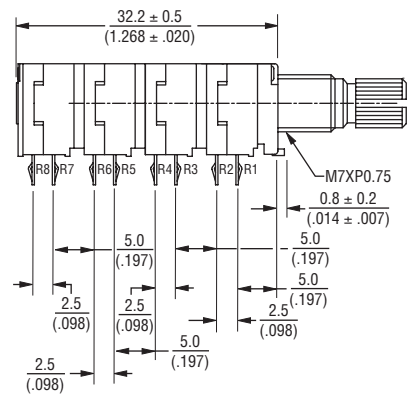
RECOMMENDED PCB LAYOUT



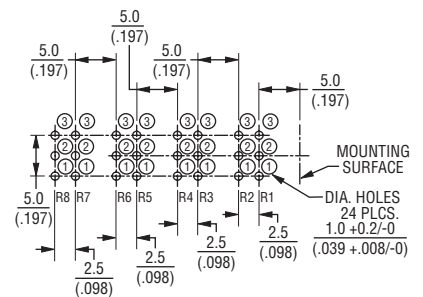
SCHEMATIC



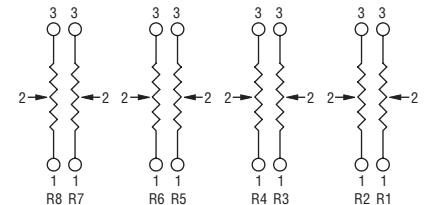
**PTD908**



RECOMMENDED PCB LAYOUT



SCHEMATIC



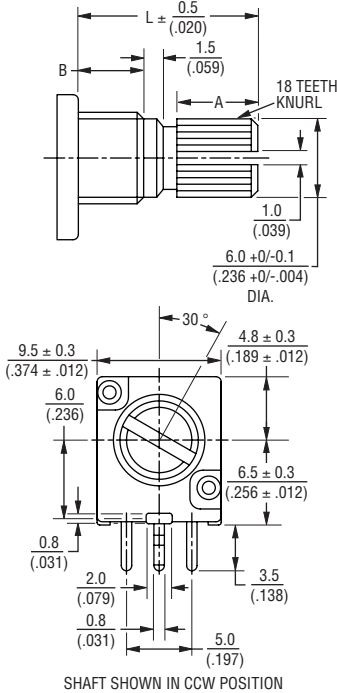
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

# PTD90 Series - 9 mm Multi-Ganged Potentiometer

# BOURNS®

## Product Dimensions

### SHAFT STYLE "K"

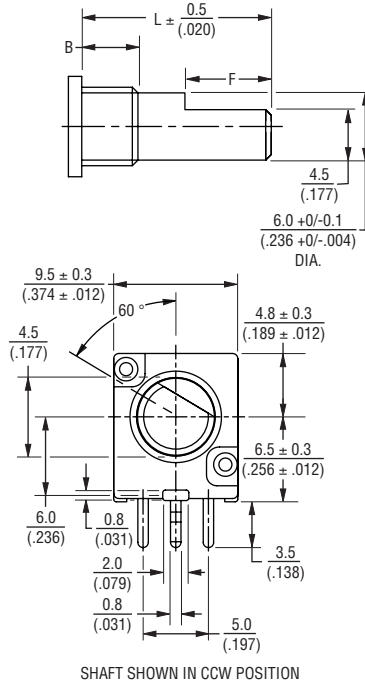


SHAFT SHOWN IN CCW POSITION

L	$\frac{15}{(.591)}$	$\frac{20}{(.787)}$	$\frac{25}{(.984)}$
B	$\frac{5}{(.197)}$	$\frac{7}{(.276)}$	$\frac{10}{(.394)}$
A	$\frac{6}{(.236)}$	$\frac{10}{(.394)}$	$\frac{12}{(.472)}$

DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

### SHAFT STYLE "F"



SHAFT SHOWN IN CCW POSITION

L	$\frac{15}{(.591)}$	$\frac{20}{(.787)}$	$\frac{25}{(.984)}$
B	$\frac{5}{(.197)}$	$\frac{7}{(.276)}$	$\frac{10}{(.394)}$
F	$\frac{7}{(.276)}$	$\frac{12}{(.472)}$	$\frac{12}{(.472)}$

## How To Order

PTD90 1 - 2 0 20 K - B 203

Model

- PTD90 = No Switch

No. of Sections

- 1 = 1 Section
- 2 = 2 Sections
- 3 = 3 Sections
- 4 = 4 Sections
- 5 = 5 Sections
- 6 = 6 Sections
- 8 = 8 Sections

Pin Style

- 1 = PC Pins vertical/down facing and  $\pm 10\%$  Total Resistance Tolerance
- 2 = PC Pins vertical/down facing and  $\pm 20\%$  Total Resistance Tolerance

Center Detent Option

- 0 = No Detent
- 2 = Center Detent

Standard Shaft Length

- 15 = 15 mm
- 20 = 20 mm
- 25 = 25 mm

Shaft Styles

- K = Knurled Type Shaft (Metal)
- 18 Toothed Serration Type
- F = Flatted Metal Shaft

Resistance Taper

- A = Audio Taper
- B = Linear Taper

Resistance Code (See Table)

Other taper and shaft styles available.

## Standard Resistance Table

Resistance (Ohms)	Resistance Code
1,000	102
2,000	202
5,000	502
10,000	103
20,000	203
50,000	503
100,000	104
200,000	204
500,000	504
1,000,000	105