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## Features

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

BOURNS® PRO AUDIO

# 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

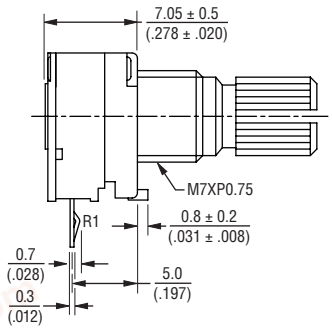
Operating Temperature
.....-10 °C to +50 °C
Rotational Life ..... 15,000 cycles
IP Rating..... IP 40
Moisture Sensitivity Level.....1
ESD Classification (HBM)..... N/A

## Mechanical Characteristics

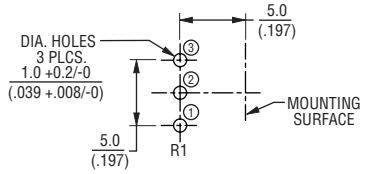
Mechanical Angle.....300 ° ±10 °
Running Torque .....10 to 250 g-cm
Stop Strength ..... 4.0 kg-cm
Shaft Push/Pull Strength.....5.0 kgf min.
Shaft Wobble.....0.6 x L/20 mm p-p max.
Mounting Torque ..... 7.0 kg-cm min.
Soldering Condition
Manual Soldering
.....96.5 Sn/3.0 Ag/0.5 Cu solid wire or no-clean 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

## Product Dimensions

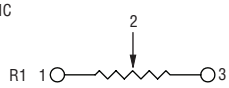
**PTD901**




RECOMMENDED PCB LAYOUT

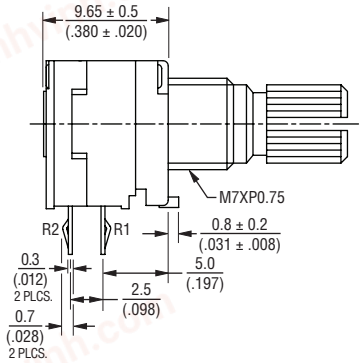



SCHEMATIC

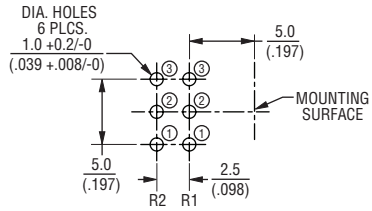



DIMENSIONS: MM / (INCHES)

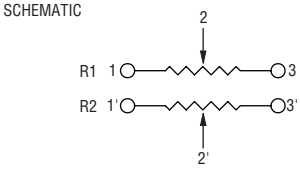
**PTD902**



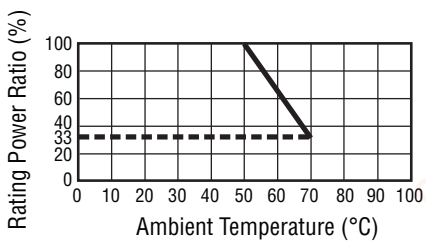

RECOMMENDED PCB LAYOUT




SCHEMATIC




## Derating Curve




## 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 |

**WARNING Cancer and Reproductive Harm -** www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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Users should verify actual device performance in their specific applications.
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## Applications

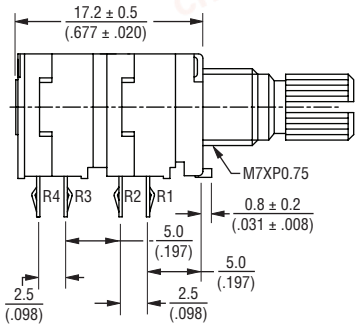
- Audio/TV sets
- Amplifiers/mixers/drum machines/synthesizers/DJ equipment
- Multimedia sound systems
- Portable electronics

# PTD90 Series - 9 mm Multi-Ganged Potentiometer

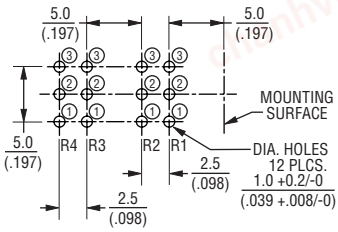
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## Product Dimensions

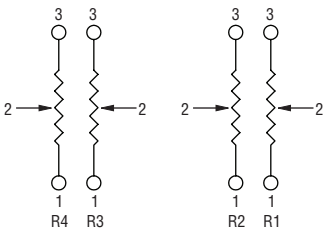
### PTD904



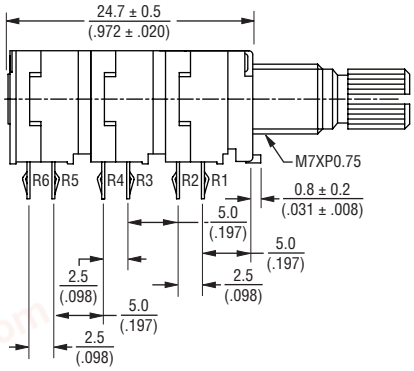

RECOMMENDED PCB LAYOUT



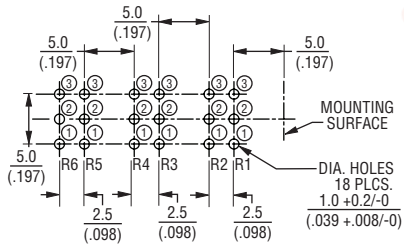

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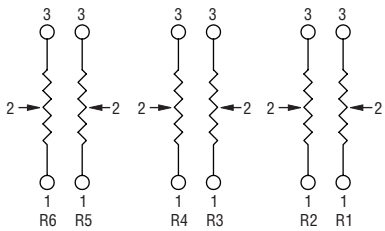

### PTD906




RECOMMENDED PCB LAYOUT

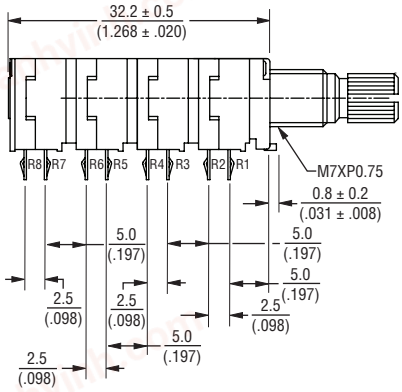



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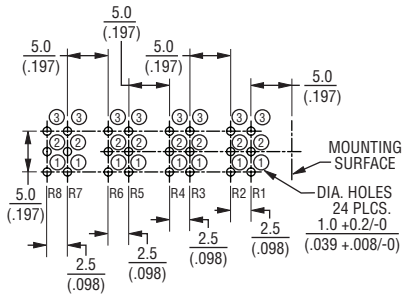



DIMENSIONS: MM / (INCHES)

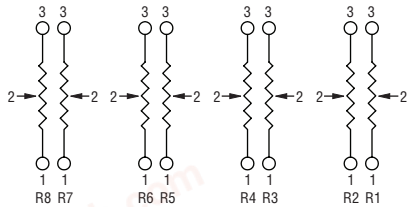
### PTD908




RECOMMENDED PCB LAYOUT




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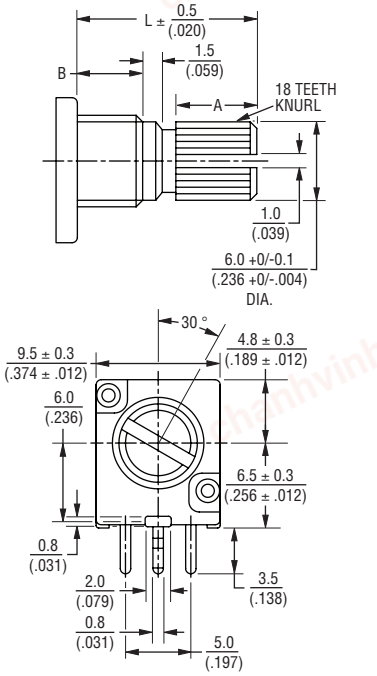
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# PTD90 Series - 9 mm Multi-Ganged Potentiometer

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## Product Dimensions

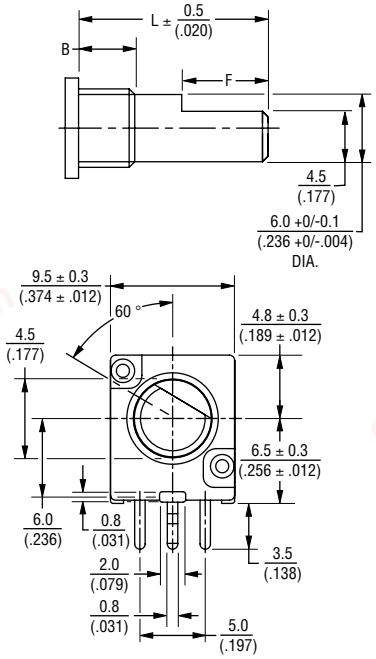
**SHAFT STYLE "K"**




SHAFT SHOWN IN CCW POSITION

| | | | |
|---|---|---|---|
| L | 15 (.591) | 20 (.787) | 25 (.984) |
| B | 5 (.197) | 7 (.276) | 10 (.394) |
| A | 6 (.236) | 10 (.394) | 12 (.472) |

**SHAFT STYLE "F"**




SHAFT SHOWN IN CCW POSITION

| | | | | |
|---|---|---|---|---|
| L | 15 (.591) | 20 (.787) | 25 (.984) | 30 (1.181) |
| B | 5 (.197) | 7 (.276) | 10 (.394) | 10 (.394) |
| F | 7 (.276) | 12 (.472) | 12 (.472) | 12 (.472) |

DIMENSIONS: MM / (INCHES)

## 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 ±10 % Total Resistance Tolerance
- 2 = PC Pins vertical/ down facing and ±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
- 30 = 30 mm

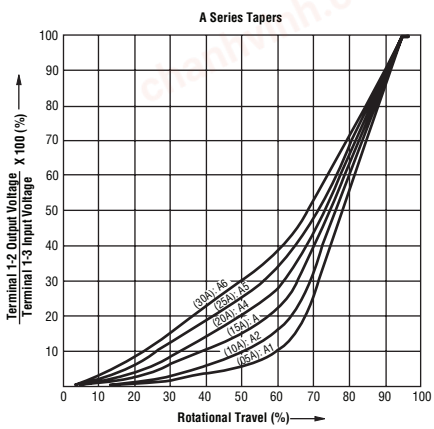
Shaft Styles
- K = Knurled Type Shaft (Metal) 18 Toothed Serration Type
- F = Flatted Metal Shaft

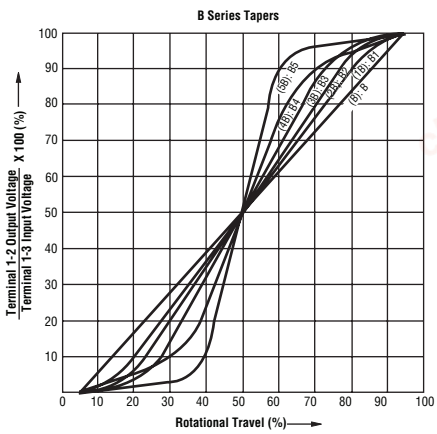
Resistance Taper (See Taper Charts)
Taper Series followed by Curve Number

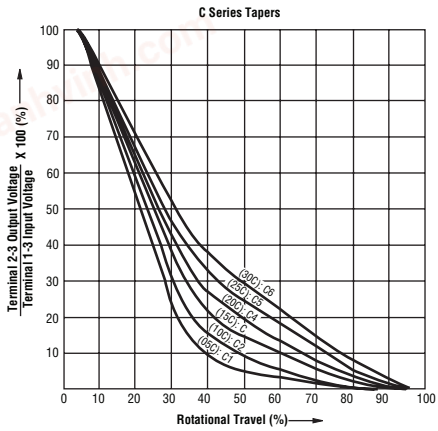
Resistance Code (See Table)

Other shaft styles available.

## Tapers




REV. 12/19

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