

## Features

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



## PTR90 Series - 9 mm Multi-Ganged Potentiometer w/Rotary Switch

### 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

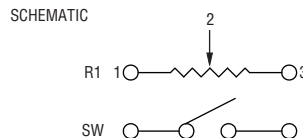
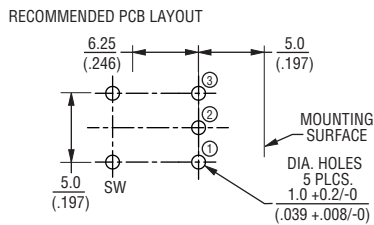
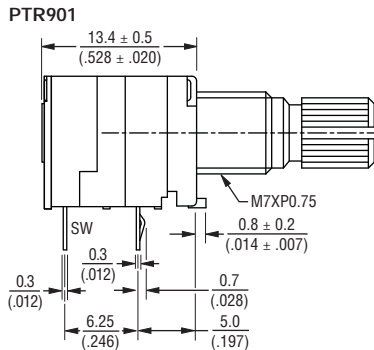
### Switch Characteristics

Contact Resistance ..... 50 milliohms max.  
 Rated Power ..... 3 A @ 16 VDC  
 Detent Torque ..... 400 g-cm max.  
 Switch Activation Angle ..... 50 ° max.

### Mechanical Characteristics

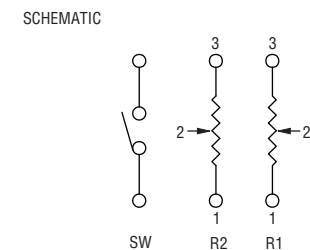
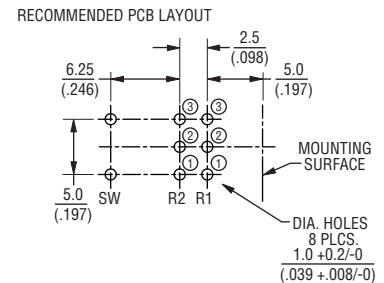
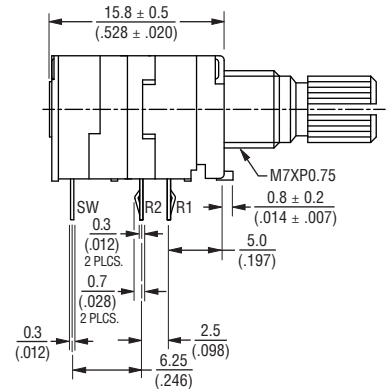
Mechanical Angle ..... 300 ° ±10 °  
 Running Torque ..... 10 to 250 g-cm  
 Stop Strength ..... 4.0 kg-cm  
 Shaft Push/Pull Strength ..... 5.0 kgf min.  
 Shaft Wobble ..... 0.6 x L/20 mm p-p max.  
 Mounting Torque ..... 7.0 kg-cm min.  
 Soldering Condition  
   Manual Soldering  
     ..... 96.5 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

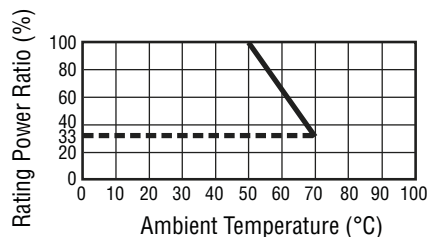


DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

### PTR902



### 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](http://www.P65Warnings.ca.gov)

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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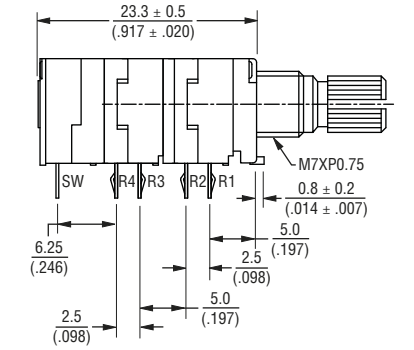
# Applications

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

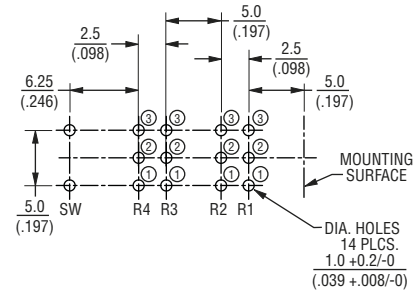
## PTR90 Series - 9 mm Multi-Ganged Potentiometer w/Rotary Switch BOURNS®

### Product Dimensions

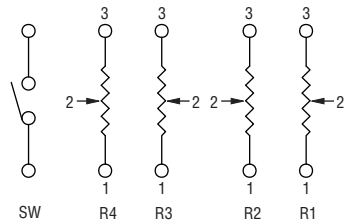
**PTR904**



**RECOMMENDED PCB LAYOUT**

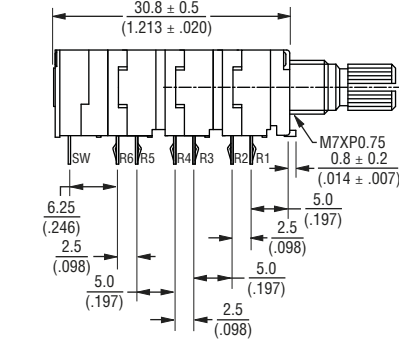


**SCHEMATIC**

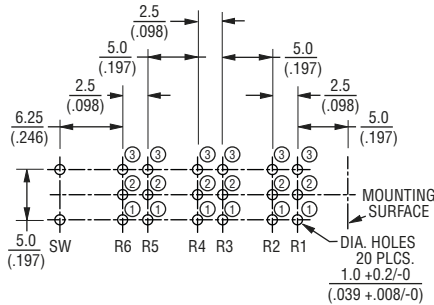


DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

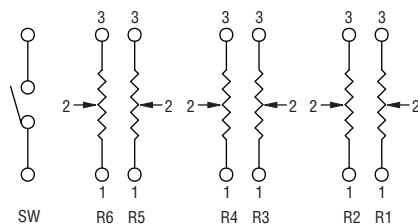
**PTR906**



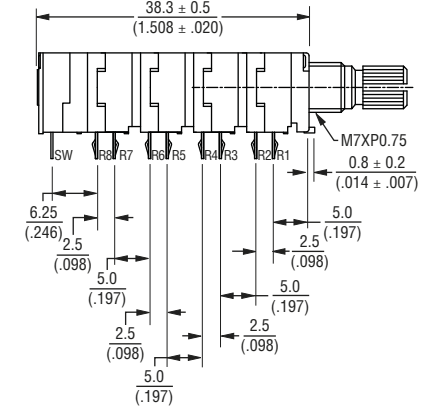
**RECOMMENDED PCB LAYOUT**



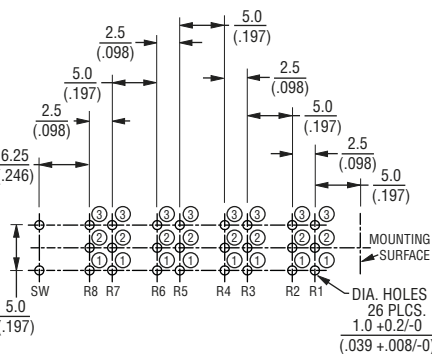
**SCHEMATIC**



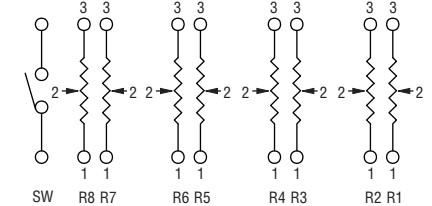
**PTR908**



**RECOMMENDED PCB LAYOUT**



**SCHEMATIC**





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