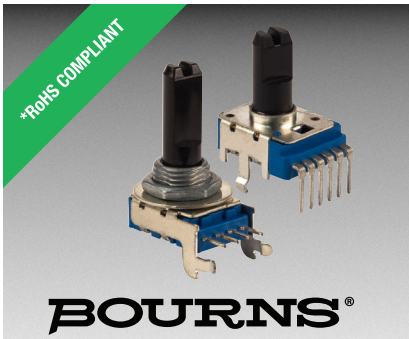




**THE DATASHEET OF  
PTV111-4420A-B502**





## Features

- Carbon element
  - Insulated shaft
  - Snap-in clip
  - Center detent
  - Center tap option
  - Assorted pin layouts
- Dual gang option
  - Various taper options

## PTV/PTT Series - 12 mm Potentiometer

### Additional Information

Click these links for more information:



PRODUCT  
SELECTOR



TECHNICAL  
LIBRARY



INVENTORY



SAMPLES



CONTACT

### Electrical Characteristics

Taper..... Linear, audio  
Standard Resistance Range  
..... 1 K ohms to 1 M ohms  
Standard Resistance Tolerance..... ±20 %  
Residual Resistance..... 1 % max.

### Environmental Characteristics

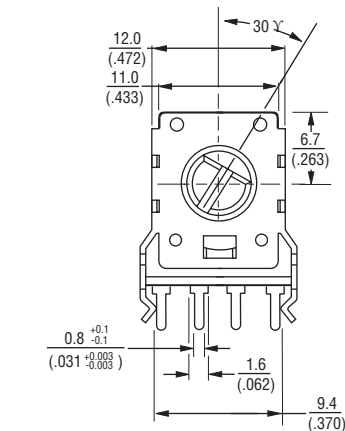
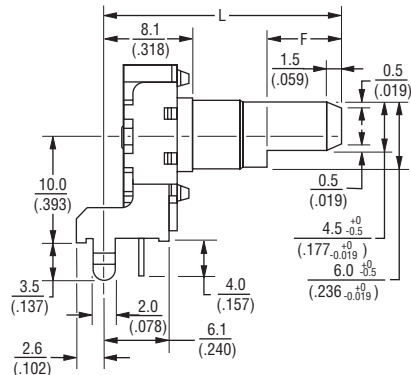
Operating Temperature  
..... -10 °C to +50 °C  
Power Rating..... 0.05 Watt  
Maximum Operating Voltage  
..... 50 VAC, 20 VDC  
Sliding Noise..... 100 mV max.

### Mechanical Characteristics

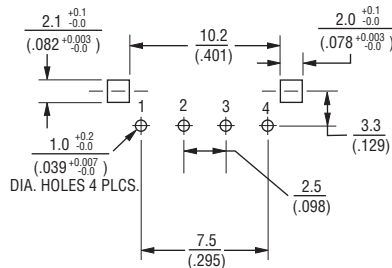
Mechanical Angle..... 300 ° ±5 °  
Rotational Torque..... 20 to 200 g-cm  
Detent Torque..... 30 to 300 g-cm  
Stop Strength  
no bushing..... 3 kg-cm min.  
with bushing..... 3 kg-cm min.  
Rotational Life..... 15,000 cycles  
Soldering Condition  
..... 300 °C max. within 3 seconds  
Hardware..... One flat washer and  
mounting nut supplied per  
potentiometer with bushing

### Product Dimensions

PTV111-2



RECOMMENDED PCB LAYOUT

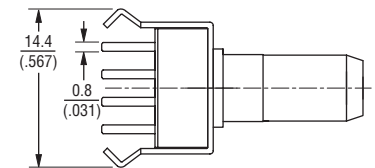
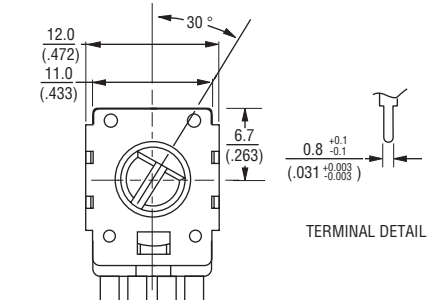
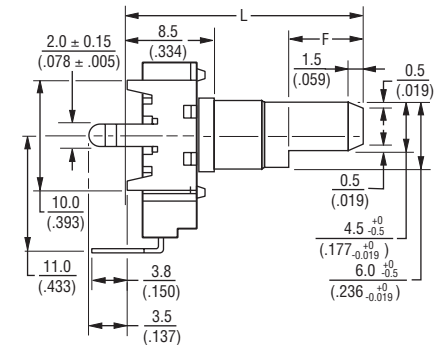


SHAFT SHOWN IN CCW POSITION

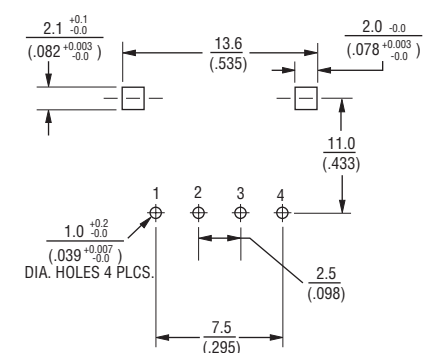
### Dimensions Without Bushing

L	15 (.591)	20 (.787)	22.5 (.886)	25 (.984)	27.5 (1.083)
F	4.5 (.177)	7 (.276)	7 (.276)	12 (.472)	12 (.472)

PTV111-4



RECOMMENDED PCB LAYOUT



SHAFT SHOWN IN CCW POSITION

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



**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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## Applications

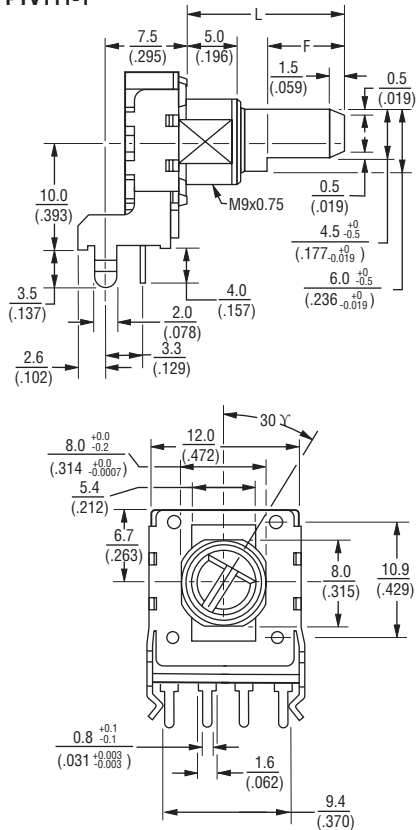
- Audio/TV sets
- Amplifiers/mixers/drum machines/synthesizers
- PCs/monitors
- Appliances

# PTV/PTT Series - 12 mm Potentiometer

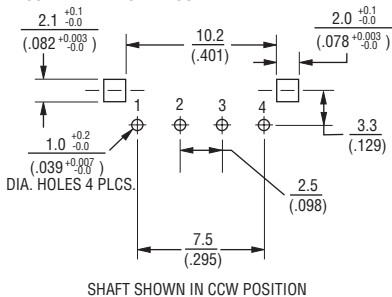
# BOURNS®

### Product Dimensions

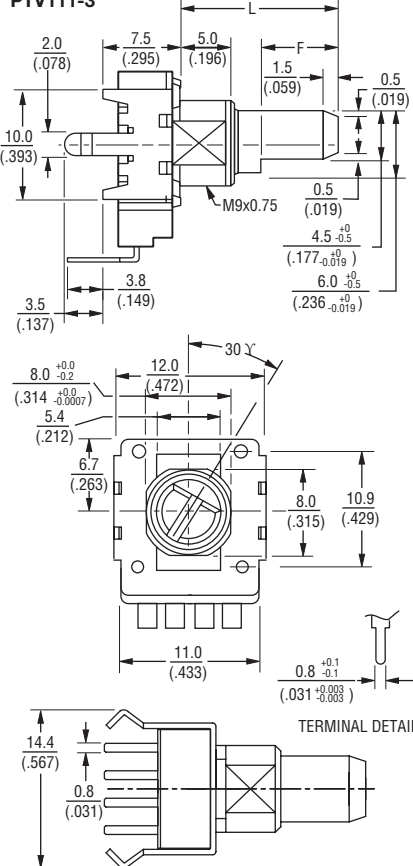
PTV111-1



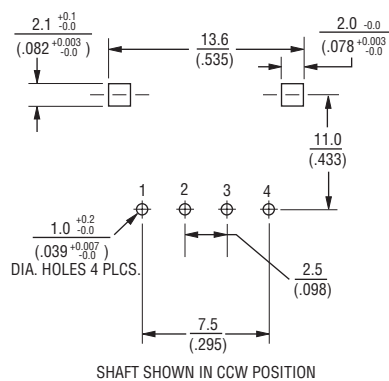
#### RECOMMENDED PCB LAYOUT



PTV111-3



#### RECOMMENDED PCB LAYOUT



### Dimensions With Bushing

	12.5 (.492)	15 (.591)	17.5 (.689)	20 (.787)
L				
F	7 (.276)	7 (.276)	12 (.472)	12 (.472)

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

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Users should verify actual device performance in their specific applications.

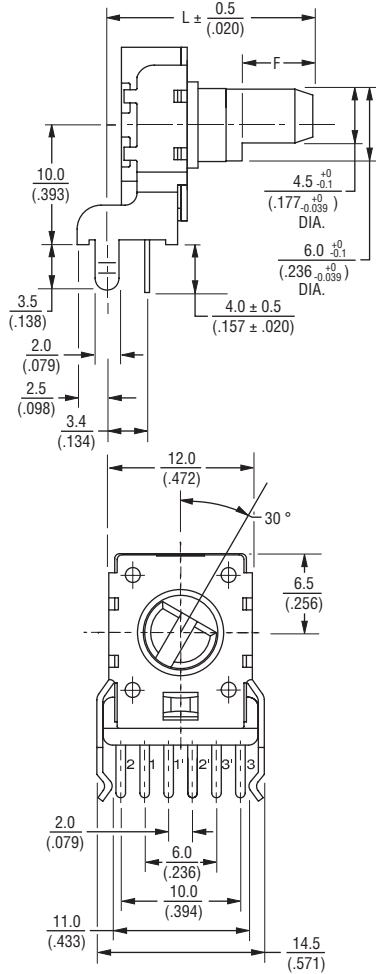
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# PTV/PTT Series - 12 mm Potentiometer

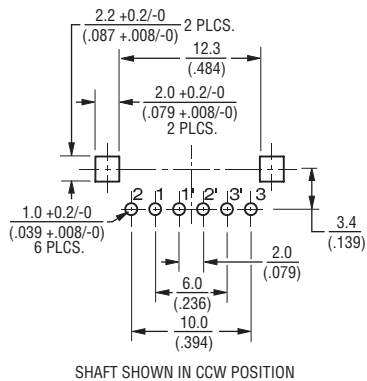
**BOURNS®**

## Product Dimensions

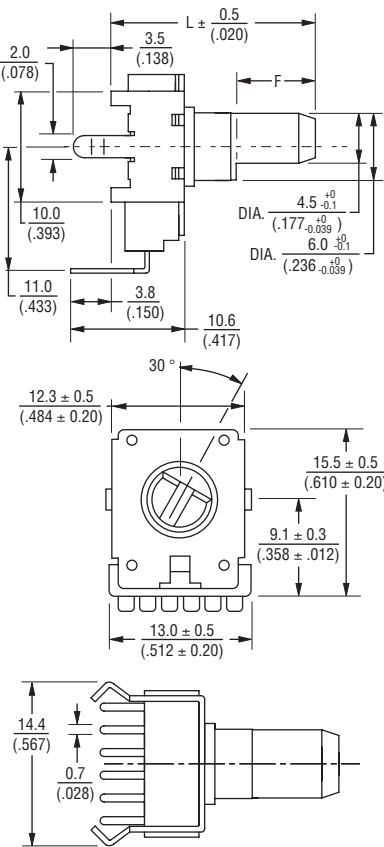
### PTV112-2 DUAL GANG



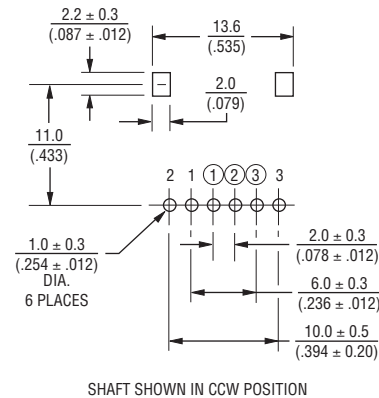
### RECOMMENDED PCB LAYOUT



### PTV112-4 DUAL GANG



### RECOMMENDED PCB LAYOUT



## Dimensions Without Bushing

L	15 (.591)	20 (.787)	22.5 (.886)	25 (.984)	27.5 (1.083)
F	4.5 (.177)	7 (.276)	7 (.276)	12 (.472)	12 (.472)

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

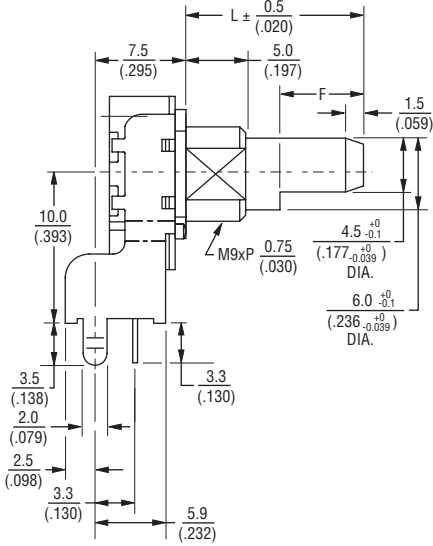
# PTV/PTT Series - 12 mm Potentiometer

**BOURNS®**

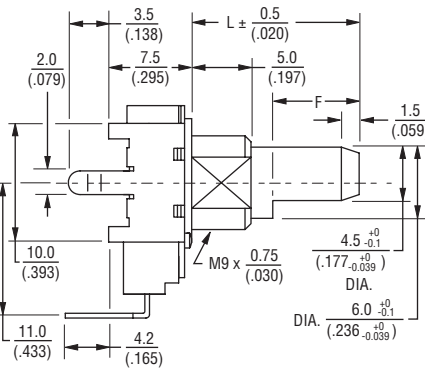
## Product Dimensions

## Dimensions With Bushing

### PTV112-1 DUAL GANG

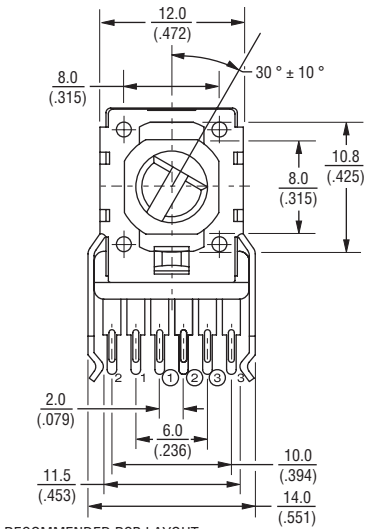


### PTV112-3 DUAL GANG

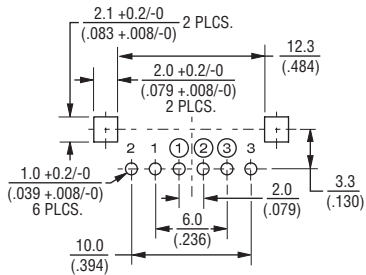


L	$\frac{12.5}{(.492)}$	$\frac{15}{(.591)}$	$\frac{17.5}{(.689)}$	$\frac{20}{(.787)}$
F	$\frac{7}{(.276)}$	$\frac{7}{(.276)}$	$\frac{12}{(.472)}$	$\frac{12}{(.472)}$

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

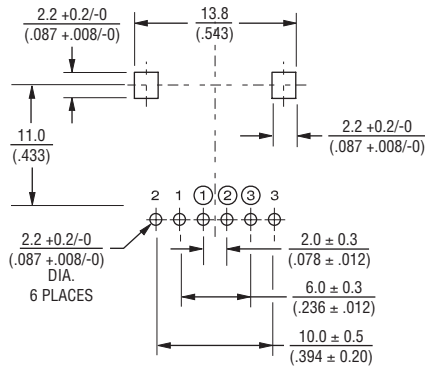


### RECOMMENDED PCB LAYOUT



SHAFT SHOWN IN CCW POSITION

### RECOMMENDED PCB LAYOUT



SHAFT SHOWN IN CCW POSITION

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# PTV/PTT Series - 12 mm Potentiometer



## How To Order

**PTV111 - 2 4 20 A - A1 104**

Model

(See Diagrams)

- PTV111 Standard
- PTT111 With Tap
- PTV112 Dual Gang

Pin Style

PC Pins vertical/  
Down Facing:

- 1 = With Bushing
- 2 = No Bushing

PC Pins horizontal/  
Rear Facing:

- 3 = With Bushing
- 4 = No Bushing

Center Detent Option

- 4 = No Detent
- 2 = Center Detent

Standard Shaft Length

- 12 = 12.5 mm\*
- 15 = 15 mm
- 17 = 17.5 mm\*
- 20 = 20 mm
- 22 = 22.5 mm\*\*
- 25 = 25 mm\*\*
- 27 = 27.5 mm\*\*

Shaft Styles

- A = Flat Type Insulated Shaft

Resistance Taper (See Taper Chart)

Taper Series followed by Curve Number

Resistance Code (See Table)

Other styles available.

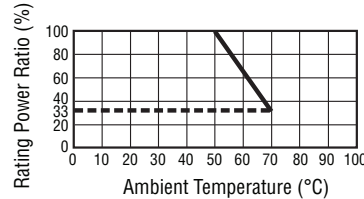
\* Available with Pin Styles 1 & 3 only.

\*\*Available with Pin Styles 2 & 4 only.

## Standard Resistance Table

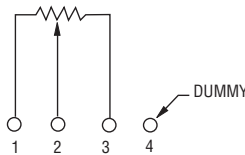
Resistance (Ohms)	Resistance Code
1,000	102
2,000	202
5,000	502
10,000	103
20,000	203
50,000	503
100,000	104
200,000	204
500,000	504
1,000,000	105

## Derating Curve

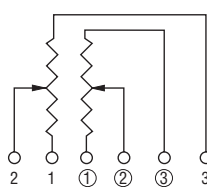


## Electrical Diagrams

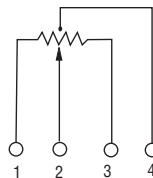
MODEL PTV 111



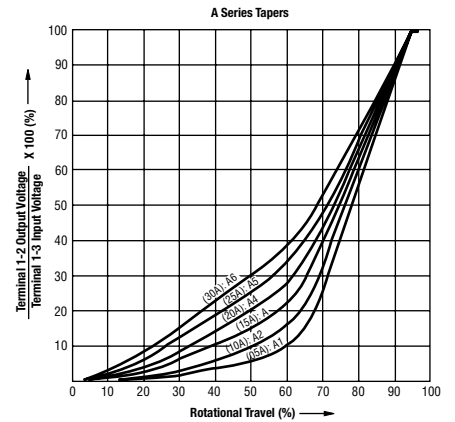
MODEL PTV 112



MODEL PTT 111

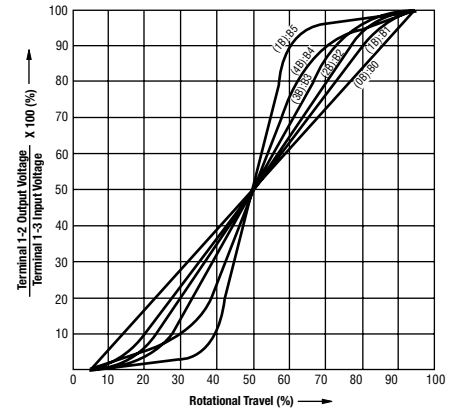


## Tapers

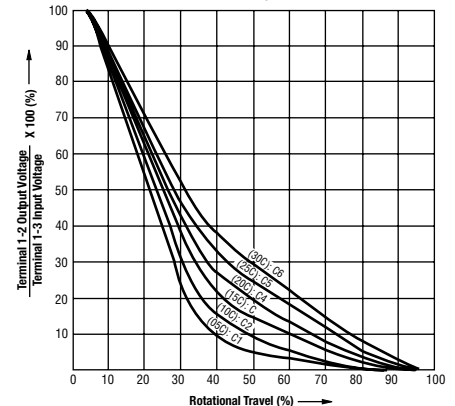


B Series Tapers

PTV111 Standard and PTT111: Linear taper "B" represents (0B)-B0 in taper chart.  
PTV112 Dual Gang: Linear taper "B" represents (3B)-B3 in taper chart.



C Series Tapers



REV. 09/23

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