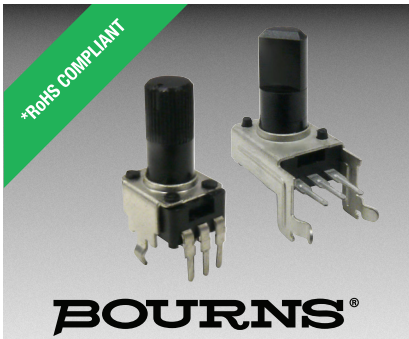




**THE DATASHEET OF  
PTV09A-4020F-A203**





## Features

- Carbon element
- Insulated shaft
- Wide variety of mounting styles
- Center detent option
- RoHS compliant\*

## Additional Information

Click these links for more information:



# PTV09 Series - 9 mm Potentiometer

### Electrical Characteristics

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

### Environmental Characteristics

Operating Temperature....-10 °C to +50 °C  
 Power Rating  
 (Linear and Audio).....0.05 watt  
 Maximum Operating Voltage  
 (Linear and Audio).....20 VDC, 50 VAC  
 Sliding Noise .....100 mV max.

### Mechanical Characteristics

Mechanical Angle .....280 ° ±10 °  
 Rotational Torque .....10 to 100 g-cm  
 Detent Torque .....20 to 200 gf-cm  
 Stop Strength .....2 kg-cm min.  
 Rotational Life .....10,000 cycles  
 Soldering Condition  
 .....300 °C max. within 3 seconds  
 Hardware .....One flat washer and one  
 hex nut supplied with bushing version

### How To Order

**PTV09A - 2 0 20 F - B 203**

Model \_\_\_\_\_  
 Terminal Configuration \_\_\_\_\_  
 (Pin Layout)

1 = Horizontal/Rear Mount w/Sleeve Bushing  
 2 = Vertical/Side Mount, Bushingless, 10 mm Height  
 3 = Vertical/Side Mount, Bushingless, 6.5 mm Height  
 4 = Horizontal/Rear Mount, Bushingless  
 5 = Horizontal/Rear Mount w/Plastic Plain Bushing  
 6 = Horizontal/Rear Mount w/Metal Threaded Bushing  
 7 = Vertical/Side Mount w/Sleeve Bushing, 6.5 mm Height  
 8 = Vertical/Side Mount w/Sleeve Bushing, 10 mm height

Option \_\_\_\_\_  
 0 = No Detent 2 = Center

Standard Shaft Length \_\_\_\_\_  
 15 = 15 mm\*\* 25 = 25 mm  
 20 = 20 mm 30 = 30 mm

Shaft Style \_\_\_\_\_  
 F = Flat Type Insulated Shaft  
 S = Insulated Knurled (18 Teeth)  
 U = Insulated Knurled (40 Teeth)

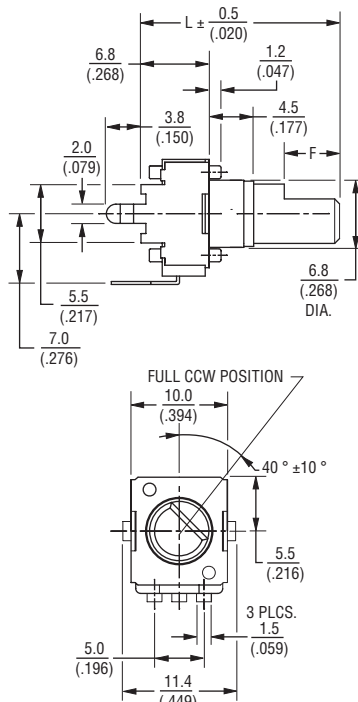
Resistance Taper \_\_\_\_\_  
 Taper Series followed by Curve Number

Resistance Code (See Table) \_\_\_\_\_

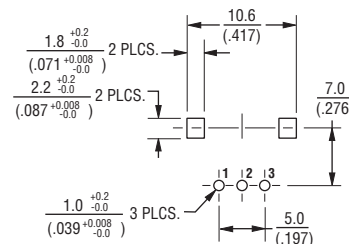
Other styles available.  
 \*\* Bushingless version only.

### Product Dimensions

**PTV09A-1**  
 (Horizontal/Rear Mount w/Sleeve Bushing)

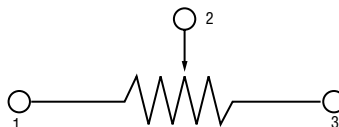


RECOMMENDED PCB LAYOUT  
 (HORIZONTAL/REAR MOUNT)

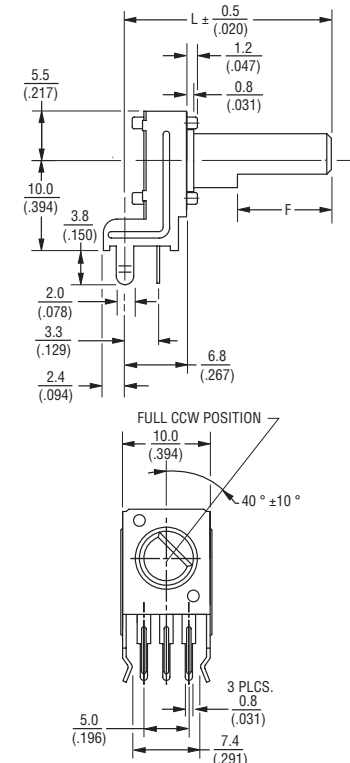


DIMENSIONS: MM (INCHES)

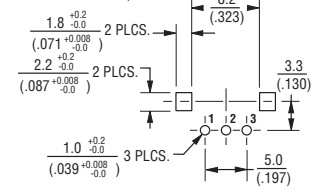
### Schematic



**PTV09A-2**  
 (Vertical/Side Mount, Bushingless, 10 mm Height)



RECOMMENDED PCB LAYOUT  
 (VERTICAL/SIDE MOUNT)



### 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

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

## Applications

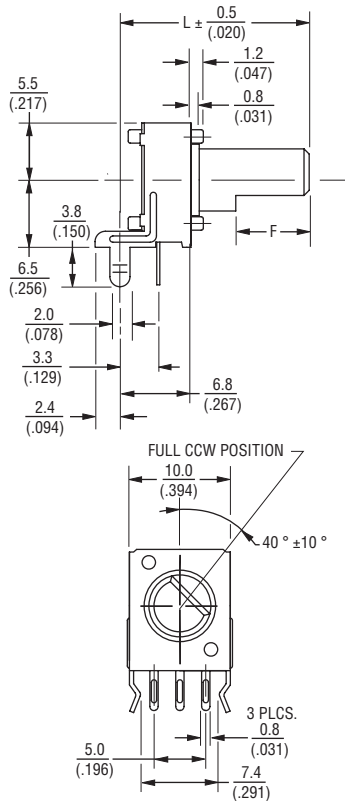
- Commercial communications equipment
- Portable electronics
- Amplifiers/mixers/drum machines/synthesizers
- Consumer goods
- Commercial appliances

## PTV09 Series - 9 mm Potentiometer

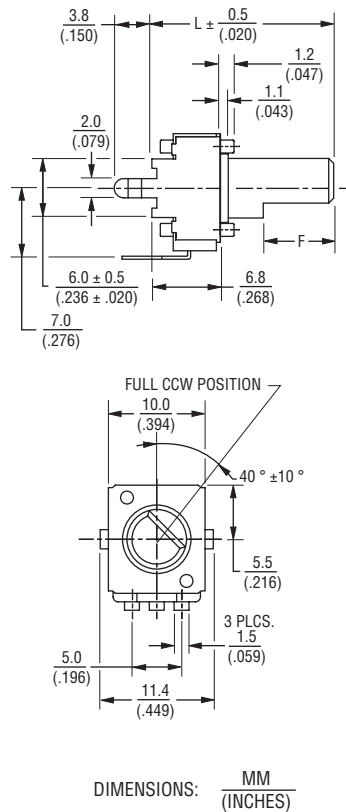
**BOURNS®**

### Product Dimensions (Continued)

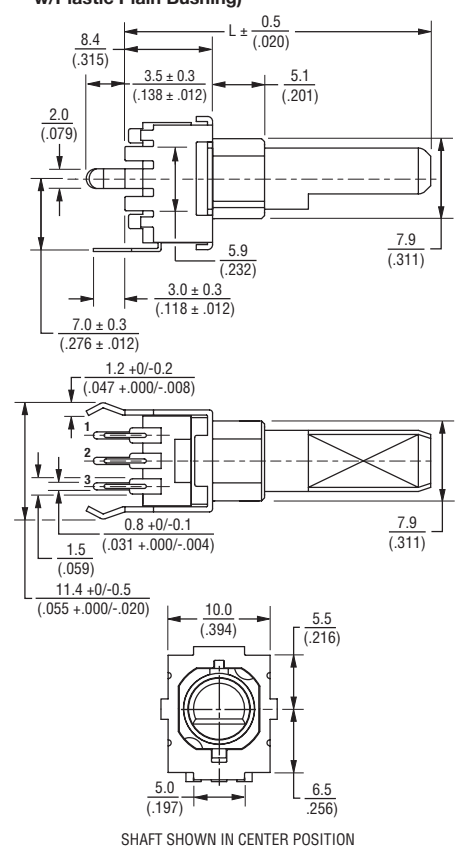
**PTV09A-3**  
(Vertical/Side Mount,  
Bushings, 6.5 mm Height)



**PTV09A-4**  
(Horizontal/Rear Mount, Bushingless)

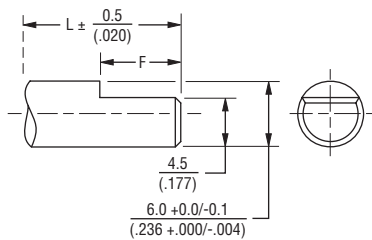


**PTV09A-5**  
(Horizontal/Rear Mount  
w/Plastic Plain Bushing)



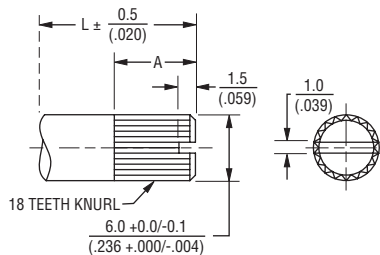
### Shaft Styles

**F-Type**



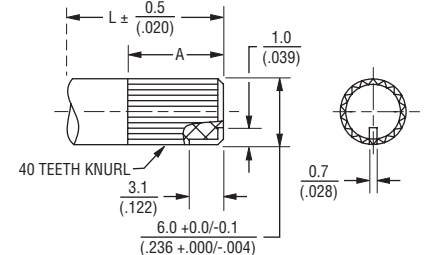
L	15 (.591)	20 (.787)	25 (.984)	30 (1.181)
F	6 (.236)	7 (.275)	12 (.472)	12 (.472)

**S-Type**



L	15 (.591)	20 (.787)	25 (.984)	30 (1.181)
A	7 (.275)	7 (.275)	7 (.275)	7 (.275)

**U-Type**



L	15 (.591)	20 (.787)	25 (.984)	30 (1.181)
A	6 (.236)	7 (.275)	7 (.275)	7 (.275)

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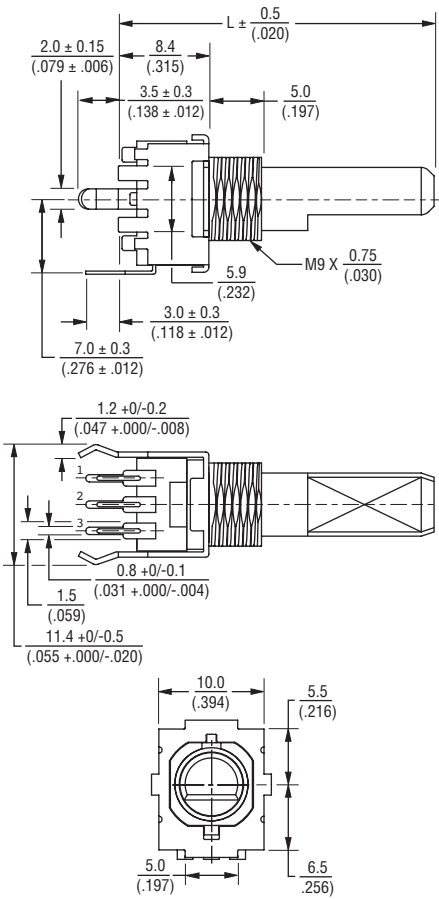
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# PTV09 Series - 9 mm Potentiometer

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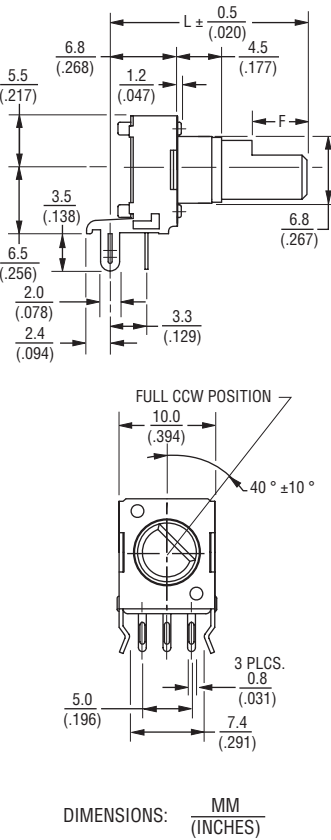
## Product Dimensions (Continued)

**PTV09A-6**  
(Horizontal/Rear Mount  
w/Metal Threaded Bushing)

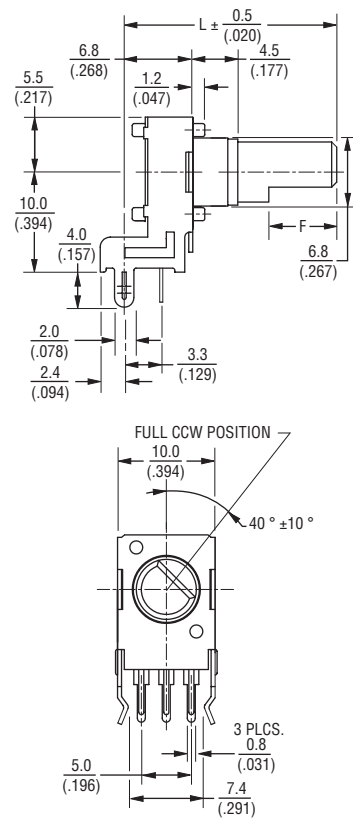


SHAFT SHOWN IN CENTER POSITION

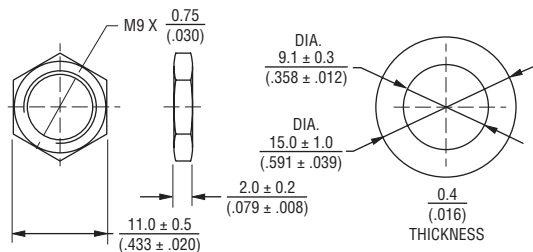
**PTV09A-7**  
(Vertical/Side Mount  
w/Sleeve Bushing, 6.5 mm Height)



**PTV09A-8**  
(Vertical/Side Mount  
w/Sleeve Bushing, 10 mm Height)



## Mounting Hardware



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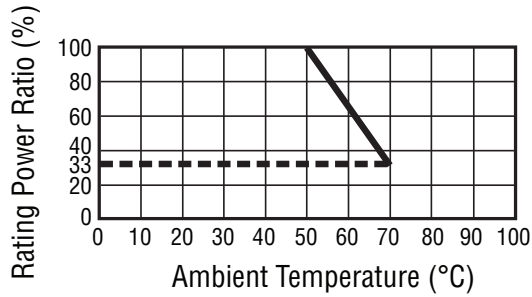
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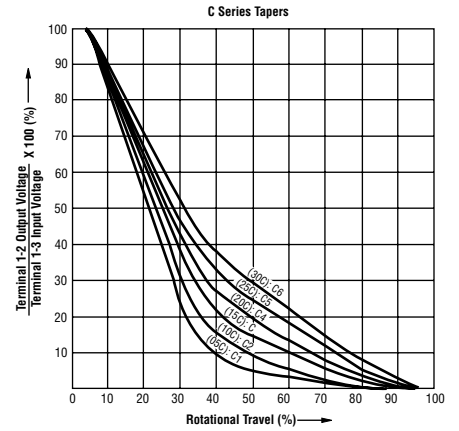
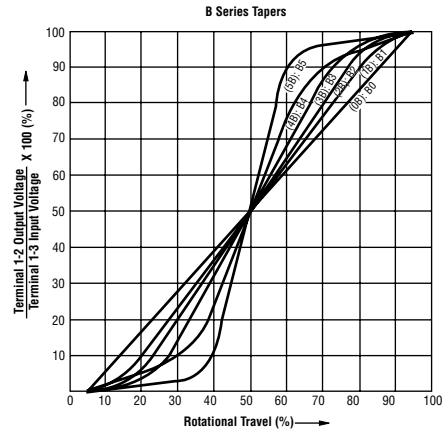
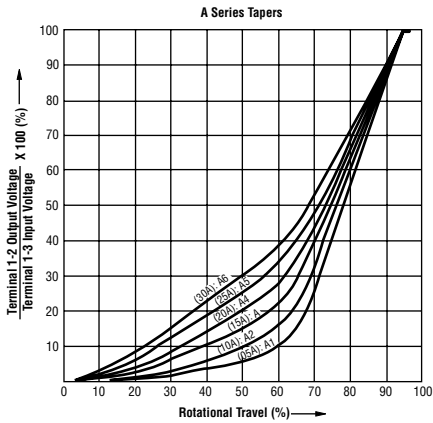
# PTV09 Series - 9 mm Potentiometer

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## Derating Curve



## Tapers



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