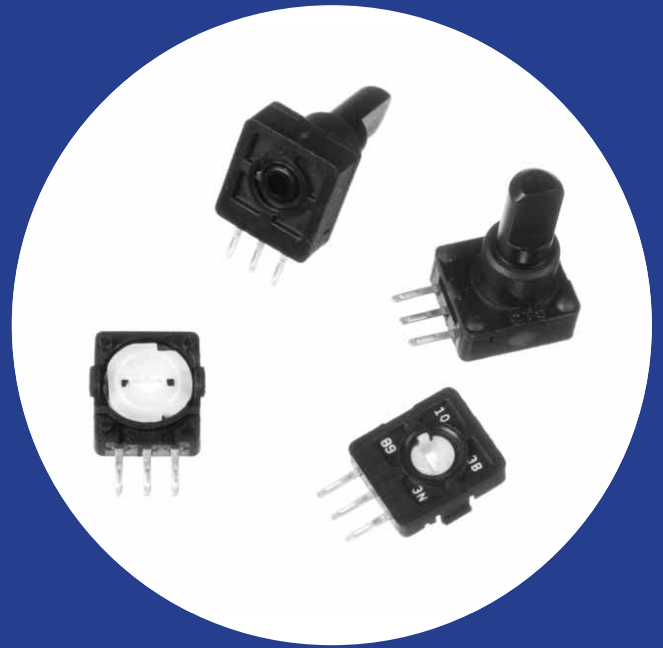


Long life, 9mm diameter, composition element, variable resistor

## Features

- 1 million cycle life
- Miniature 9 mm size
- Multiple rotation angles available
- Low rotational torque
- Sturdy insert molded PC terminals
- Bushing mount or shaftless available
- Tap available



## Electrical and Mechanical Specifications

### Resistance Range

10 K ohms through 200 K ohms

### Resistance Tolerance

Standard:  $\pm 20\%$

Special:  $\pm 10\%$  and  $\pm 30\%$  available

### Resistance Taper

Linear  $\pm 5\%$

### Insulation Resistance

100 megohms minimum @ 250 VDC

### Operating Temperature

$-10^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$

### Rotational Torque

3 to 10 gf-cm

### Rotational Life

1,000,000 cycles

### Power Rating

0.01 watt at  $50^{\circ}\text{C}$  derated to no load at  $85^{\circ}\text{C}$

### Maximum Operating Voltage

Maximum 50 VAC or 5 VDC

### Angle of Rotation

Total Rotation - With Shaft:  $180^{\circ}$

No Shaft:  $360^{\circ}$

Effective Rotation:  $38^{\circ}$ ,  $40^{\circ}$ ,  $50^{\circ}$ ,  $60^{\circ}$ ,  $70^{\circ}$ ,  $85^{\circ}$ ,  $90^{\circ}$  or  $110^{\circ}$  available  
(Typical joystick control use.)

### Materials

Housing: UL 94V-2

Shaft / Bushing: UL 94V-2

Base UL flame class 94HB

### Shaft Information

Flatted, molded shaft

Diameter: 3.96 mm or 5.0 mm,  
depending on shaft trim

### Mounting Information

Bushing mount (unthreaded)

Diameter: 7.00 mm

Length: 5.00 mm

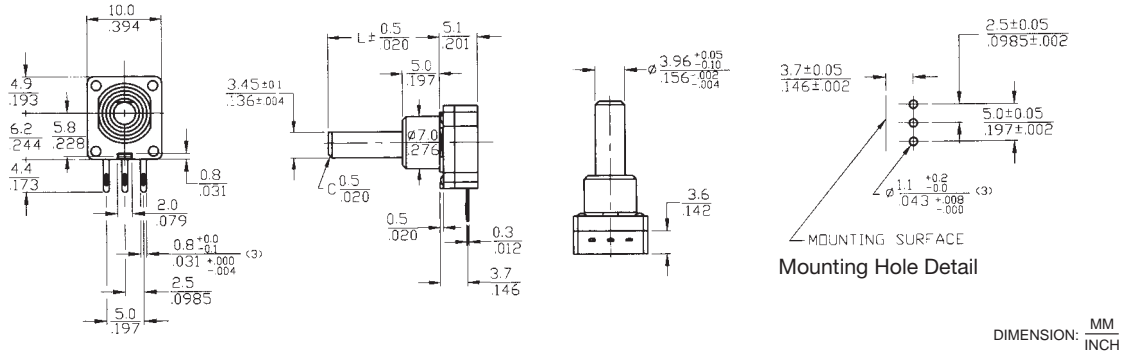
### Tap Available

$4^{\circ}$  angle at  $50\%$  rotation optional

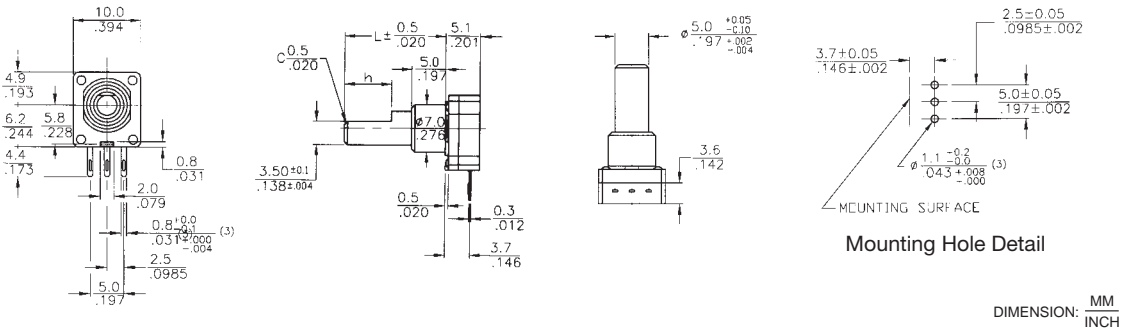
Other taps available - consult CTS

# CTS SERIES 251

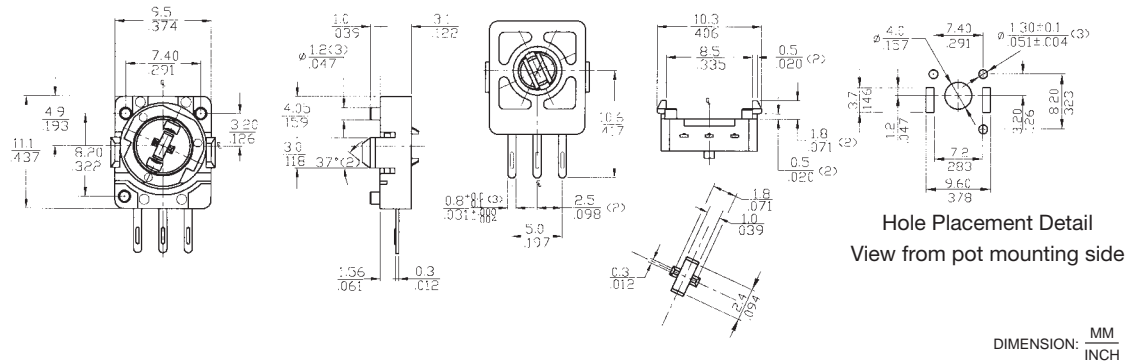
## "T" Shaft Trim



## "F" Shaft Trim



## No Shaft



## Order Information

## Part Number Code For Ordering

|                          |            |          |           |          |            |          |          |          |          |                     |
|--------------------------|------------|----------|-----------|----------|------------|----------|----------|----------|----------|---------------------|
|                          | <b>251</b> | <b>B</b> | <b>00</b> | <b>0</b> | <b>254</b> | <b>A</b> | <b>1</b> | <b>N</b> | <b>1</b> |                     |
| Terminal Type            |            |          |           |          |            |          |          |          |          | Specials            |
| B-Straight P.C.          |            |          |           |          |            |          |          |          |          | 1 - None            |
| "L" Shafts Length        |            |          |           |          |            |          |          |          |          | B - W/bushing       |
| 00 - No shaft            |            |          |           |          |            |          |          |          |          |                     |
| 12 - 12 mm               |            |          |           |          |            |          |          |          |          |                     |
| 15 - 15 mm               |            |          |           |          |            |          |          |          |          |                     |
| Shafts Trim              |            |          |           |          |            |          |          |          |          | Resistance Tap      |
| 0 - No shaft             |            |          |           |          |            |          |          |          |          | N: No center tap    |
| F - 5 mm dia flatted     |            |          |           |          |            |          |          |          |          | T: 4° tap at center |
| thickness 3.5 mm         |            |          |           |          |            |          |          |          |          |                     |
| T - 4 mm dia flatted     |            |          |           |          |            |          |          |          |          |                     |
| thickness 3.45 mm        |            |          |           |          |            |          |          |          |          |                     |
| Resistance Code Examples |            |          |           |          |            |          |          |          |          |                     |
| Code                     |            |          |           |          |            |          |          |          |          |                     |
| Resistance               |            |          |           |          |            |          |          |          |          |                     |
| 252                      |            |          |           |          |            |          |          |          |          |                     |
| 253                      |            |          |           |          |            |          |          |          |          |                     |
| 254                      |            |          |           |          |            |          |          |          |          |                     |
| 255                      |            |          |           |          |            |          |          |          |          |                     |
| Resistance Tol           |            |          |           |          |            |          |          |          |          |                     |
| A: ± 10%                 |            |          |           |          |            |          |          |          |          |                     |
| B: ± 20%                 |            |          |           |          |            |          |          |          |          |                     |
| C: ± 30%                 |            |          |           |          |            |          |          |          |          |                     |
| Effective Angle          |            |          |           |          |            |          |          |          |          |                     |
| 1- 40°                   |            |          |           |          |            |          |          |          |          |                     |
| 2- 50°                   |            |          |           |          |            |          |          |          |          |                     |
| 3- 60°                   |            |          |           |          |            |          |          |          |          |                     |
| 4- 38°                   |            |          |           |          |            |          |          |          |          |                     |
| 5- 110°                  |            |          |           |          |            |          |          |          |          |                     |
| 6- 85°                   |            |          |           |          |            |          |          |          |          |                     |
| 7- 70°                   |            |          |           |          |            |          |          |          |          |                     |
| 8-                       |            |          |           |          |            |          |          |          |          |                     |
| 9- 90°                   |            |          |           |          |            |          |          |          |          |                     |

## Order From:

CTS CORPORATION, ELECTROCOMPONENTS / 1601 Mishawaka Street / Elkhart, Indiana 46514  
 North America Toll Free (888) 287-4690 / (219) 296-6700 / FAX: (219) 293-1240 <http://www.ctscorp.com>

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