

SERIES: PT01 | **DESCRIPTION:** ROTARY POTENTIOMETER

FEATURES

- carbon element
- wide variety of mounting styles
- multiple shaft options
- available with center detent
- linear, logarithmic, and reverse logarithmic tapers


SPECIFICATIONS

| parameter | conditions/description | min | typ | max | units |
|-------------------------------|--------------------------------|-----|----------|----------|--------------------|
| maximum operating voltage | linear and logarithmic (audio) | | | 20 50 | Vdc Vac |
| power rating | linear and logarithmic (audio) | | | 0.05 | W |
| taper | linear and logarithmic (audio) | | | | |
| standard resistance range | see Resistance Table | 1.0 | | 1,000 | k Ω |
| standard resistance tolerance | | | ± 20 | | % |
| residual resistance | 50 Ω or $\pm 1\%$ max | | | | |
| sliding noise | | | | 68 | mV |
| operating temperature | | -10 | | 60 | $^{\circ}\text{C}$ |
| hand soldering | for 3 seconds max | | | 300 | $^{\circ}\text{C}$ |
| RoHS | yes | | | | |

MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|-------------------|------------------------|-----|--------|-----|------------|
| mechanical angle | | 275 | 280 | 285 | $^{\circ}$ |
| rotational torque | | 10 | | 150 | gf-cm |
| detent torque | | 20 | | 200 | gf-cm |
| stop strength | | 2 | | | kg-cm |
| rotational life | | | 10,000 | | cycles |
| weight | | | 2.5 | | g |

PART NUMBER KEY

PT01 - X X XX X - X XXX

Base Number

Terminal Configuration:

- A = Horizontal/Rear Mount w/Sleeve Bushing
- B = Vertical/Side Mount, Bushingless, 10 mm Height
- C = Vertical/Side Mount, Bushingless, 6.5 mm Height
- D = Horizontal/Rear Mount, Bushingless
- E = Horizontal/Rear Mount w/Plastic Plain Bushing
- F = Horizontal/Rear Mount w/Metal Threaded Bushing
- G = Vertical/Side Mount w/Sleeve Bushing, 6.5 mm Height
- H = Vertical/Side Mount w/Sleeve Bushing, 10 mm Height

Detent:
1 = No Detent
2 = Center Detent

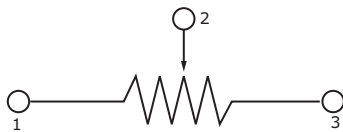
Shaft Length:
15 = 15 mm
20 = 20 mm
25 = 25 mm
30 = 30 mm

Shaft Style:
D = D-cut
K1 = Knurled (18 teeth)
K2 = Knurled (40 teeth)

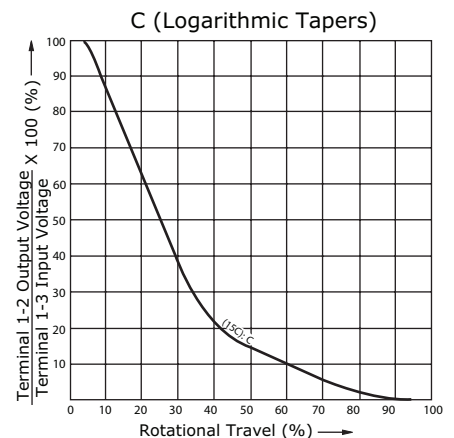
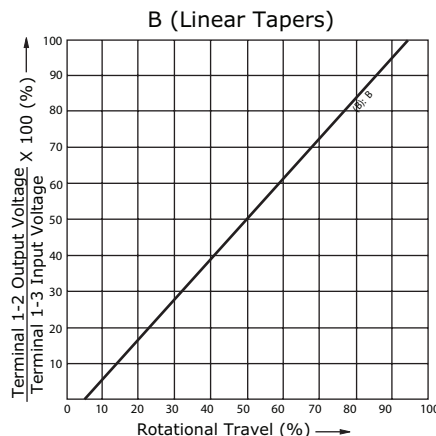
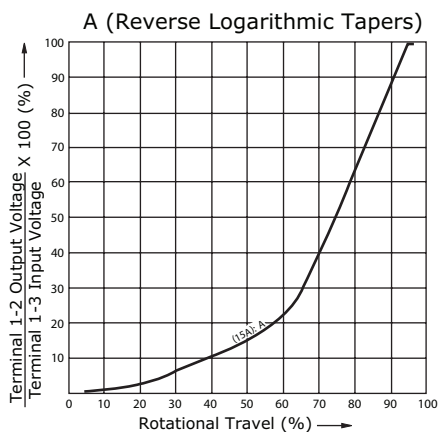
Resistance Taper:
A = Reverse Logarithmic
B = Linear
C = Logarithmic

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

SCHEMATIC/TAPERS

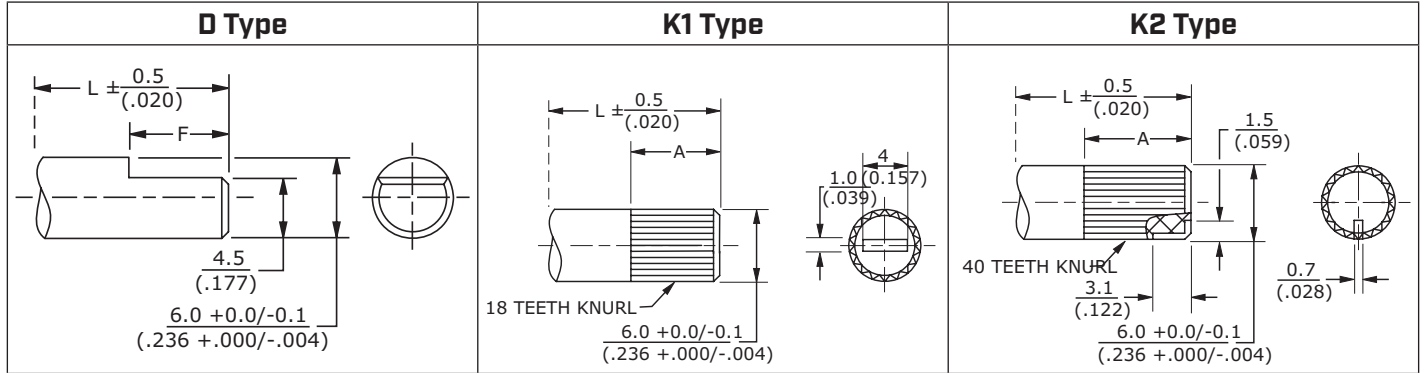


| Resistance Table | |
|------------------|------|
| Resistance (Ω) | Code |
| 1,000 | 102 |
| 2,000 | 202 |
| 5,000 | 502 |
| 10,000 | 103 |
| 20,000 | 203 |
| 50,000 | 503 |
| 100,000 | 104 |
| 200,000 | 204 |
| 500,000 | 504 |
| 1,000,000 | 105 |



SHAFT TYPES

units: mm [inch]
 tolerance: ±0.3 mm
 unless otherwise noted



| | | | | |
|---|-----|-----|-----|-----|
| | 15D | 20D | 25D | 30D |
| L | 15 | 20 | 25 | 30 |
| F | 6 | 7 | 12 | 12 |

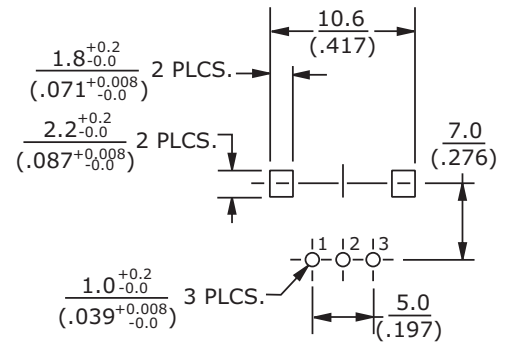
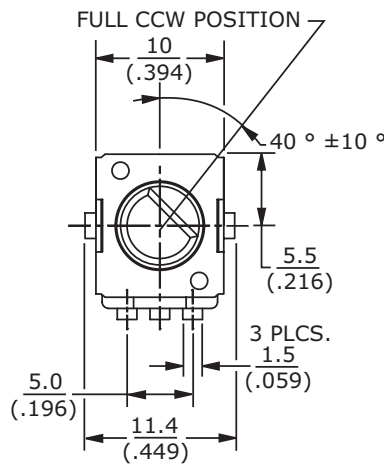
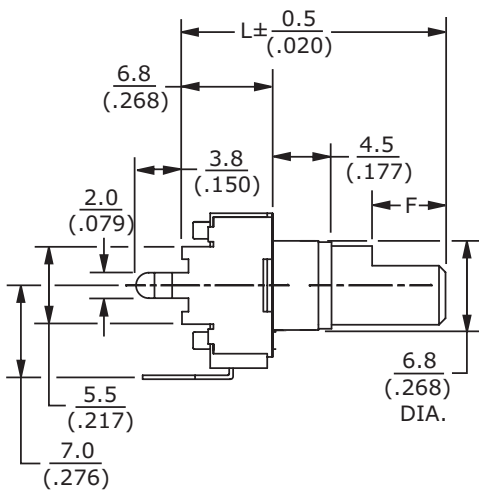
| | | | | |
|---|------|------|------|------|
| | 15K1 | 20K1 | 25K1 | 30K1 |
| L | 15 | 20 | 25 | 30 |
| A | 6 | 7 | 12 | 12 |

| | | | | |
|---|------|------|------|------|
| | 15K2 | 20K2 | 25K2 | 30K2 |
| L | 15 | 20 | 25 | 30 |
| A | 6 | 7 | 12 | 12 |

MECHANICAL DRAWING (HORIZONTAL/REAR MOUNT W/SLEEVE BUSHING)

units: mm [inch]
 tolerance:
 X≤10: ±0.3 mm
 10<X≤30: ±0.5 mm
 30<X≤100: ±1.0 mm
 unless otherwise noted

| ITEM | DESCRIPTION | MATERIAL | PLATING/COLOR |
|------|-------------|-------------------|---------------|
| A | base | PBT [UL94V-0] | black |
| B | shaft | PC [UL94V-0] | black |
| C | reed | nickel-zinc alloy | |
| D | bracket | iron | bright tin |
| E | terminals | cold rolled steel | dark tin |

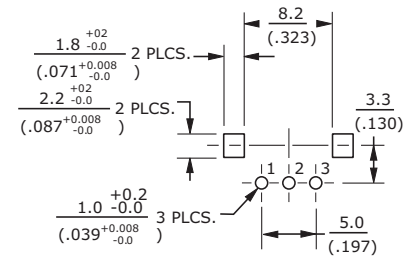
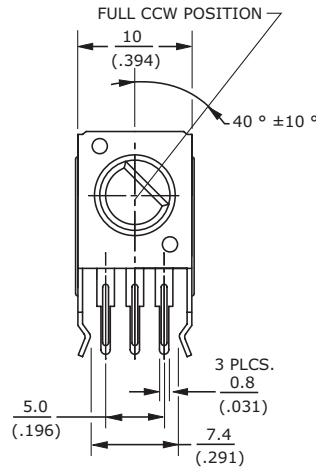
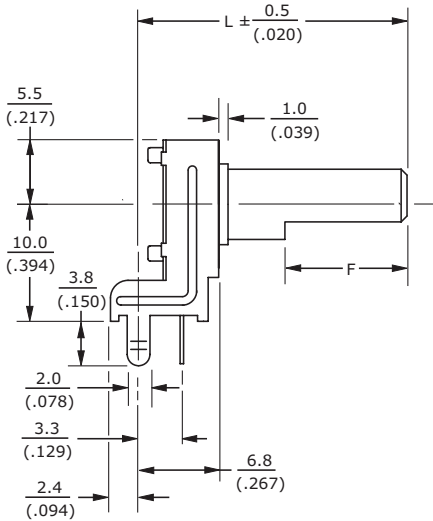


Recommended PCB Layout
 Top View

MECHANICAL DRAWING (VERTICAL/SIDE MOUNT, BUSHINGLESS, 10 MM HEIGHT)

units: mm [inch]
 tolerance:
 $X \leq 10$: ± 0.3 mm
 $10 < X \leq 30$: ± 0.5 mm
 $30 < X \leq 100$: ± 1.0 mm
 unless otherwise noted

| ITEM | DESCRIPTION | MATERIAL | PLATING/COLOR |
|------|-------------|-------------------|---------------|
| A | base | PBT (UL94V-0) | black |
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| D | bracket | iron | bright tin |
| E | terminals | cold rolled steel | dark tin |

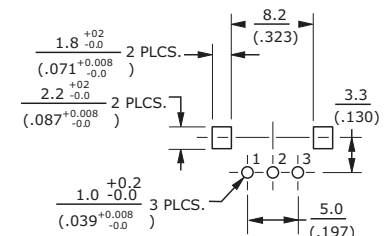
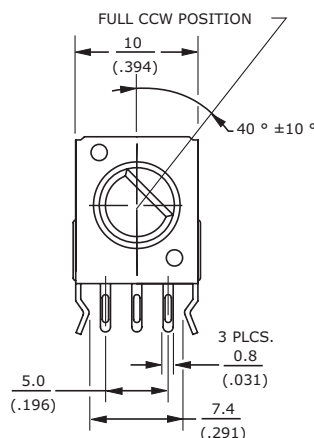
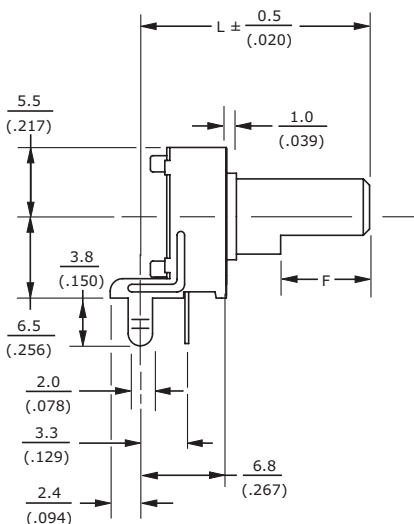


Recommended PCB Layout
Top View

MECHANICAL DRAWING (VERTICAL/SIDE MOUNT, BUSHINGLESS, 6.5 MM HEIGHT)

units: mm [inch]
 tolerance:
 $X \leq 10$: ± 0.3 mm
 $10 < X \leq 30$: ± 0.5 mm
 $30 < X \leq 100$: ± 1.0 mm
 unless otherwise noted

| ITEM | DESCRIPTION | MATERIAL | PLATING/COLOR |
|------|-------------|-------------------|---------------|
| A | base | PBT (UL94V-0) | black |
| B | shaft | PC (UL94V-0) | black |
| C | reed | nickel-zinc alloy | |
| D | bracket | iron | bright tin |
| E | terminals | cold rolled steel | dark tin |

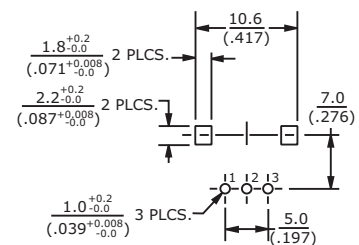
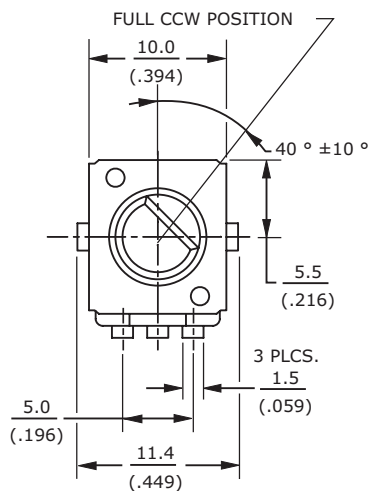
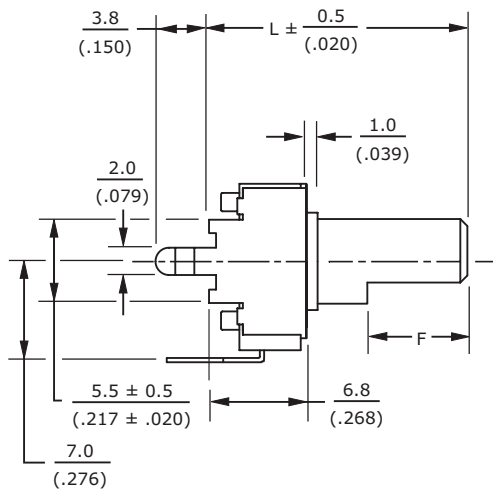


Recommended PCB Layout
Top View

MECHANICAL DRAWING (HORIZONTAL/REAR MOUNT, BUSHINGLESS)

units: mm [inch]
 tolerance:
 $X \leq 10$: ± 0.3 mm
 $10 < X \leq 30$: ± 0.5 mm
 $30 < X \leq 100$: ± 1.0 mm
 unless otherwise noted

| ITEM | DESCRIPTION | MATERIAL | PLATING/COLOR |
|------|-------------|-------------------|---------------|
| A | base | PBT [UL94V-0] | black |
| B | shaft | PC [UL94V-0] | black |
| C | reed | nickel-zinc alloy | |
| D | bracket | iron | bright tin |
| E | terminals | cold rolled steel | dark tin |

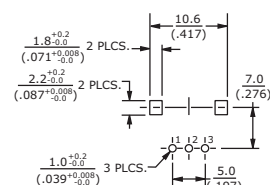
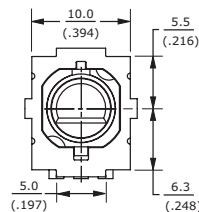
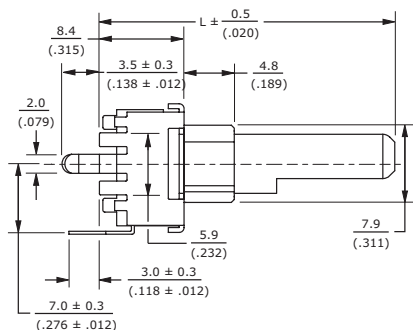


Recommended PCB Layout Top View

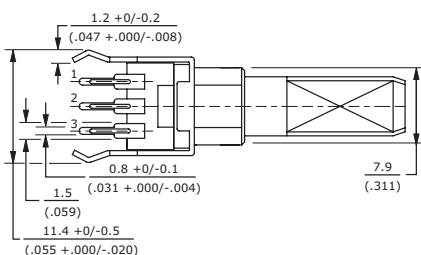
MECHANICAL DRAWING (HORIZONTAL/REAR MOUNT W/PLASTIC PLAIN BUSHING)

units: mm [inch]
 tolerance:
 $X \leq 10$: ± 0.3 mm
 $10 < X \leq 30$: ± 0.5 mm
 $30 < X \leq 100$: ± 1.0 mm
 unless otherwise noted

| ITEM | DESCRIPTION | MATERIAL | PLATING/COLOR |
|------|-------------|-------------------|---------------|
| A | base | PBT [UL94V-0] | black |
| B | shaft | PC [UL94V-0] | black |
| C | reed | nickel-zinc alloy | |
| D | bracket | iron | bright tin |
| E | terminals | cold rolled steel | dark tin |

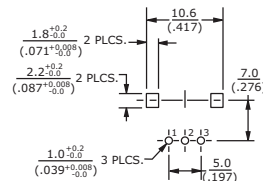
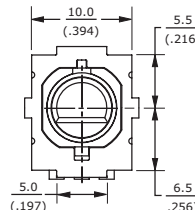
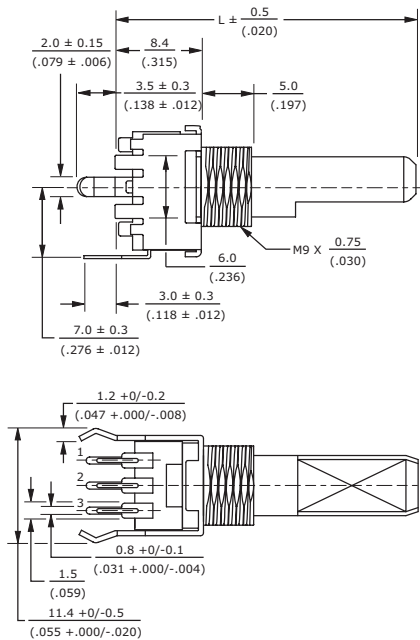


Recommended PCB Layout Top View



MECHANICAL DRAWING (HORIZONTAL/REAR MOUNT W/METAL THREADED BUSHING)

units: mm [inch]
 tolerance:
 $X \leq 10$: ± 0.3 mm
 $10 < X \leq 30$: ± 0.5 mm
 $30 < X \leq 100$: ± 1.0 mm
 unless otherwise noted

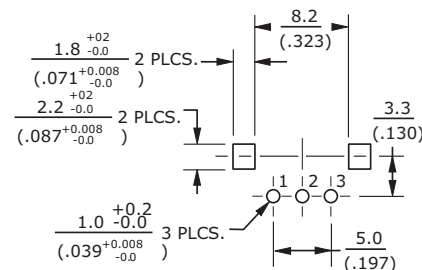
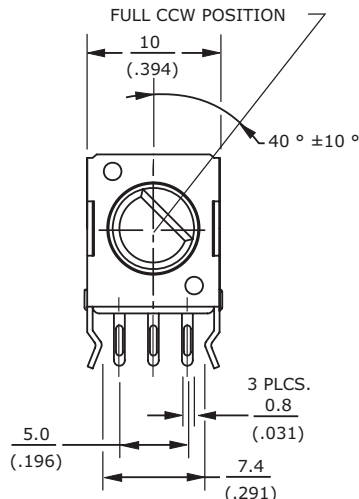
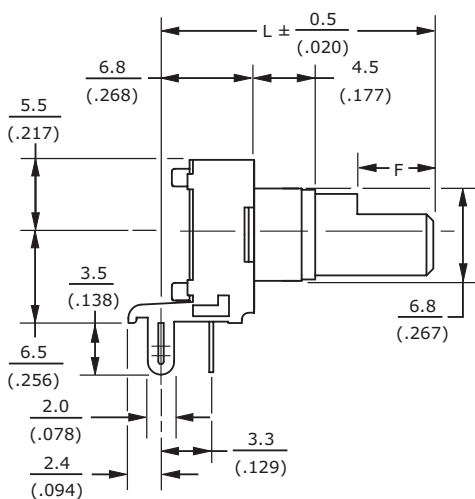


Recommended PCB Layout Top View

| ITEM | DESCRIPTION | MATERIAL | PLATING/COLOR |
|------|-------------|-------------------|---------------|
| A | base | PBT (UL94V-0) | black |
| B | shaft | PC (UL94V-0) | black |
| C | reed | nickel-zinc alloy | |
| D | bracket | iron | bright tin |
| E | terminals | cold rolled steel | dark tin |

MECHANICAL DRAWING (VERTICAL/SIDE MNT W/SLEEVE BUSHING, 6.5 MM HEIGHT)

units: mm [inch]
 tolerance:
 $X \leq 10$: ± 0.3 mm
 $10 < X \leq 30$: ± 0.5 mm
 $30 < X \leq 100$: ± 1.0 mm
 unless otherwise noted



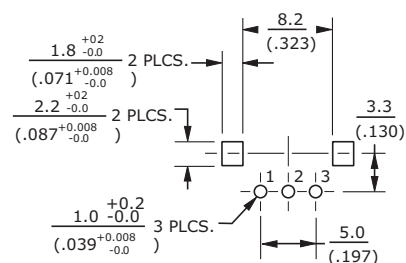
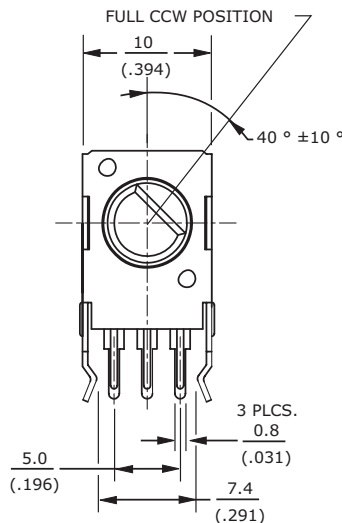
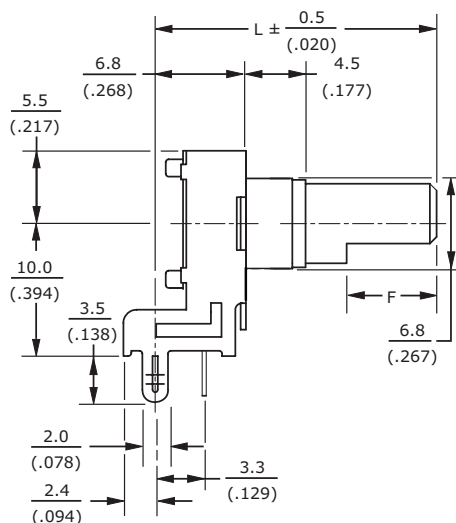
Recommended PCB Layout Top View

| ITEM | DESCRIPTION | MATERIAL | PLATING/COLOR |
|------|-------------|-------------------|---------------|
| A | base | PBT (UL94V-0) | black |
| B | shaft | PC (UL94V-0) | black |
| C | reed | nickel-zinc alloy | |
| D | bracket | iron | bright tin |
| E | terminals | cold rolled steel | dark tin |

MECHANICAL DRAWING (VERTICAL/SIDE MNT W/SLEEVE BUSHING, 10 MM HEIGHT)

units: mm [inch]
 tolerance:
 $X \leq 10$: ± 0.3 mm
 $10 < X \leq 30$: ± 0.5 mm
 $30 < X \leq 100$: ± 1.0 mm
 unless otherwise noted

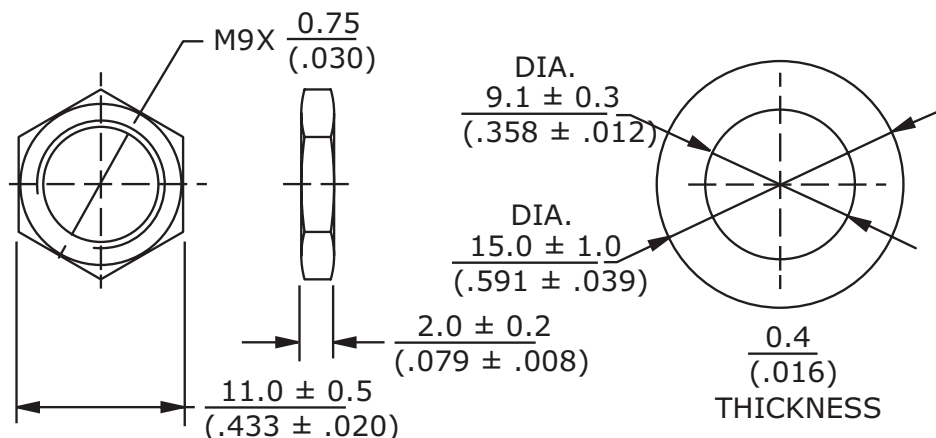
| ITEM | DESCRIPTION | MATERIAL | PLATING/COLOR |
|------|-------------|-------------------|---------------|
| A | base | PBT [UL94V-0] | black |
| B | shaft | PC [UL94V-0] | black |
| C | reed | nickel-zinc alloy | |
| D | bracket | iron | bright tin |
| E | terminals | cold rolled steel | dark tin |



Recommended PCB Layout
Top View

MOUNTING HARDWARE

units: mm [inch]



Note: Hex nut and washer supplied with threaded bushing version.

REVISION HISTORY

| rev. | description | date |
|------|------------------------------|------------|
| 1.0 | initial release | 12/15/2021 |
| 1.01 | logo, datasheet style update | 08/05/2022 |

The revision history provided is for informational purposes only and is believed to be accurate.



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