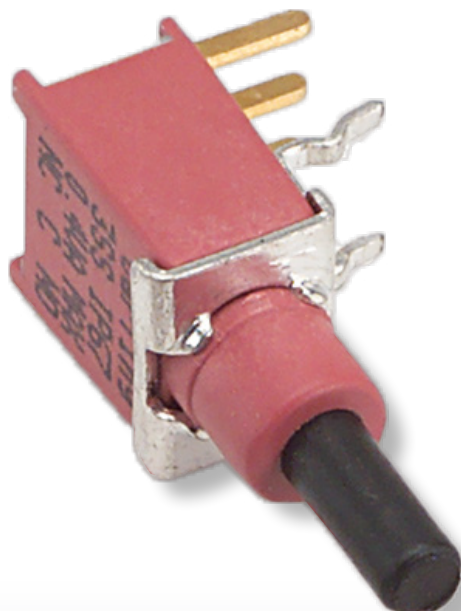


# 3S-Series

Miniature Pushbutton Switches

**PRODUCT WEBPAGE**

*request sample, configure part*



The 3S family of sub-miniature pushbutton switches is composed of three switch series; the 3SI-Series sub-miniature pushbutton switch, the 3SS-Series sealed sub-miniature pushbutton switch, and the 3SM-Series surface mount sealed sub-miniature pushbutton switch. All switches are available with a variety of rating, termination and actuator choices, and will withstand temperatures from -30°C to +85°C.

**1-2**  
Poles

**.4-6**  
Amps

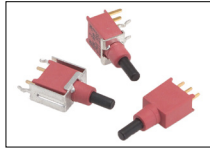
**125, 250**  
VAC

**28**  
VDC

## Typical Applications

- Instrumentation
- Networking
- Computers
- Telecommunications
- Performance Audio
- Low Power On/Off Designs

# Tech Specs



**3SS-Series**  
Sealed  
Sub-Miniature  
Pushbutton Switch



**3S1-Series**  
Sub-Miniature  
Pushbutton Switch



**3SM-Series**  
Sealed Surface Mount  
Sub-Miniature  
Pushbutton Switch

## Electrical

Contact Rating	refer to ordering scheme
Electrical Life	50,000 make & break cycles @ full load
Contact Resistance	20 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts
Insulation Resistance	1000 MΩ min.
Dielectric Strength	1500 Volts RMS @ sea level

## Physical

Operating Temperature	-30°C to +85°C
Index of Protection	3SS & 3SM-Series: IP67
Solder Heat Resistance	MIL-STD-202, Method 210

## Material

Case	all UL94 V-0 3S1-Series: Dially phthalate (DAP) 3SS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized 3SM-Series: Glass filled nylon 4/6, flame retardant, heat stabilized
Plunger	3S1-Series: Thermoplastic polyester, black 3SS-Series: Thermoplastic polyester (UL 94V-0), with internal o-ring 3SM-Series: Glass filled nylon 4/6, flame retardant, heat stabilized
Bushing	3S1-Series: Brass, nickel plated 3SS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0) 3SM-Series: Glass filled nylon 4/6, flame retardant, heat stabilized (UL 94V-0)
Housing	Stainless Steel
Switch Support	Brass, tin plated
Terminal Seal	Epoxy

# Ordering Scheme

Sample Part Number	3SS	-	WSP	9	-	M6	R	E
Selection	1		2	3		4	5	6

### 1. SERIES

**3SS** Sealed Sub-Miniature Pushbutton Switch

### 2. POLES

**WSP** Single pole - uses terminals 1, 2 & 3  
**WDP** Double pole - uses terminals 1, 2, 3, 4, 5 & 6

### 3. CIRCUIT

( ) - momentary  
**Switching Position:** 1 2  
2-3, 5-6 2-1, 5-4  
**8** ON (ON)  
**9** OFF (ON)

Note: Plunger at rest in Position 1. Plunger depressed in Position 2.

### 4. ACTUATOR STYLE 4

**M2** PCB  
**M6** PC Mount, 90° horizontal  
**M61** Snap-In, 90° horizontal  
**M7** PC Mount, 90° vertical  
**M71** Snap-In, 90° vertical  
**VS2** PC Mount, U bracket  
**VS21** Snap-In, U bracket

### 5. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
G silver <sup>1</sup>	gold over silver	1A 125VAC or 28VDC	IP67
K gold <sup>2</sup>	tin <sup>3,4</sup>	0.4VA max 20V max (AC/DC)	IP67
P silver <sup>1</sup>	tin <sup>3,4</sup>	1A 125VAC or 28VDC	IP67
R gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max 20V max (AC/DC)	IP67

### 8. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

#### Notes:

- Movable contact & terminal platings: silver over copper alloy
- Movable contact & terminal platings: gold over nickel over copper alloy
- Terminal platings: tin over nickel over copper alloy
- Tin option available with PC terminations only.

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

# Ordering Schemes

Sample Part Number **3S1 - SP 9 - B6 - M7 - R E**

Selection 1 2 3 4 5 6 7

## 1. SERIES

**3S1** Sub-Miniature Pushbutton Switch

## 2. POLES

**SP** Single pole - uses terminals 1, 2 & 3

## 3. CIRCUIT

( ) - momentary  
**Switching Position:** 1 2  
2-3, 5-6 2-1, 5-4  
8 ON (ON)  
9 OFF (ON)

Note: Plunger at rest in Position 1. Plunger depressed in Position 2.

## 4. ACTUATOR STYLE

**B5** 1 10-48 Threaded  
**B6** 1/4" Unthreaded "D"  
**B7** Unthreaded  
**B8** 2 1/4-40 Threaded "D"  
**B9** Flush Bushing  
**B0** 1/4" Unthreaded "D"  
**OP1** Snap-In with bezel  
**P0** Flush Plunger

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

## 5. TERMINATION

**M1** Solder Lug  
**M7** PC Mount, 90° vertical  
**M2** PCB M71  
Snap-In, 90° vertical  
**M6** PC Mount, 90° horizontal  
**VS2** PC Mount, U bracket  
**M61** Snap-In, 90° horizontal  
**VS21** Snap-In, U bracket

## 6. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating
<b>G</b> silver <sup>3</sup>	gold over silver	1A@125VAC or 28VDC
<b>K</b> gold <sup>4,7</sup>	tin <sup>6</sup>	0.4VA max @ 20V max (AC/DC)
<b>P</b> silver <sup>3,8</sup>	tin <sup>6</sup>	1A@125VAC or 28VDC
<b>Q</b> silver <sup>3</sup>	silver <sup>3</sup>	1A@125VAC or 28VDC
<b>R</b> gold <sup>4</sup>	gold <sup>5</sup>	0.4VA max @ 20V max (AC/DC)

## 7. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

### Notes:

- Hardware includes (2) 2M1-HDW21 nuts, and (1) 2M1-HDW22 washer
- Hardware includes (2) 2M1-HDW2 nuts, (1) 2M1-HDW11 washer, and (1) 2M1-HDW16 locking ring
- Movable contact and terminal platings: silver over copper alloy
- Movable contact and terminal platings: gold over nickel over copper alloy
- Terminal platings: gold over nickel over copper alloy
- Terminal platings: tin over copper alloy
- Terminal contact platings: Gold over nickel alloy
- Terminal contact platings: silver over nickel alloy

Sample Part Number **3S1 - SP 9 - B6 - M7 - R E**

Selection 1 2 3 4 5 6 7

## 1. SERIES

**3MS** Sealed Snap-Action Miniature Pushbutton Switch

## 2. POLES

**SP** Single pole - uses terminals 1, 2 & 3

## 3. CIRCUIT

( ) - momentary  
**Switching Position:** 1 2  
2-3, 5-6 2-1, 5-4  
7 ON (ON)

Note: Plunger at rest in Position 1. Plunger depressed in Position 2.

## 4. TERMINATION

**K6** Surface Mount, horizontal .433 [11.00 mm]  
**M6** Surface Mount, 90° flat .286 [7.26 mm]  
**M7** Surface Mount, 90° right angle  
**S6** Surface Mount, 90° horizontal .353 [8.97 mm]

## 5. CONTACTS/TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
<b>G</b> silver <sup>1</sup>	gold over silver	1A 125VAC or 28VDC	IP67
<b>K</b> gold <sup>2,5</sup>	tin <sup>4</sup>	0.4VA max 20V max (AC/DC)	IP67
<b>P</b> silver <sup>1,6</sup>	tin <sup>4</sup>	1A 125VAC or 28VDC	IP67
<b>Q</b> silver <sup>1</sup>	silver <sup>1</sup>	1A 125VAC or 28VDC	IP67
<b>R</b> gold <sup>2</sup>	gold <sup>3</sup>	0.4VA max 20V max (AC/DC)	IP67

## 6. EPOXY SEAL

**E** Epoxy Seal **0** without Epoxy Seal

## 7. PACKAGING

**T/R** tape reel - 500 pieces per reel  
Switches are bulk packed, unless T/R is specified at the end of the part number.

### Notes:

- Movable contact and terminals platings: silver over copper alloy
- Movable contact platings: gold over nickel over copper alloy
- Terminal platings: gold over nickel over copper alloy
- Terminals platings: tin over copper alloy
- Terminal contact platings: gold over nickel alloy
- Terminal contact platings: silver over nickel alloy

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

## 3S-Series Accessories

To order accessories assembled on a switch, specify the switch number followed by the accessory part number and the word "assembled". Ex: 3S1-SP9-B6-M7-RE-C23 ASSEMBLED. To order accessories in bulk, specify the Series, followed by the accessory. Ex: 3S1-C13.

## Optional Cap

Sample Part Number **3S1 - C1 3**

Selection 1 2 3

## 1. SERIES

**3S1** Fits 3SS, 3S1 or 3MS

## 2. TOGGLE CAP SIZE

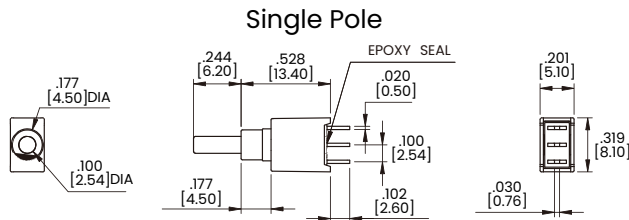
**C1** .158" [4.01 mm] height **C2** .138" [35.05 mm] height

## 3. CAP COLOR

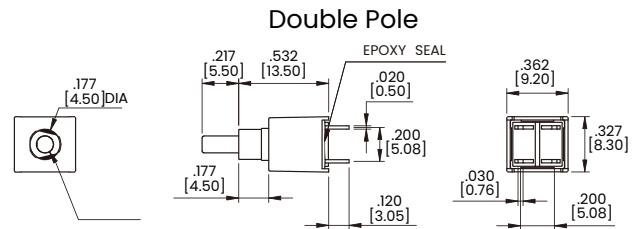
<b>1</b> White	<b>5</b> Yellow
<b>2</b> Black	<b>6</b> Green
<b>3</b> Red	<b>7</b> Blue
<b>4</b> Orange	

# Dimensional Specs

inches [millimeters]

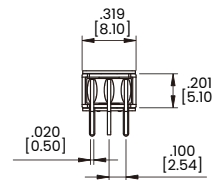
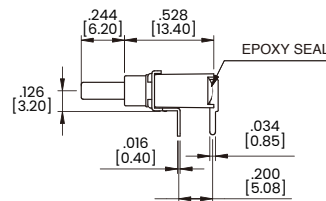
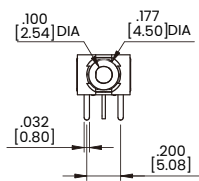


\* Double Thrown Shown. Single Throw uses two outer terminals only.

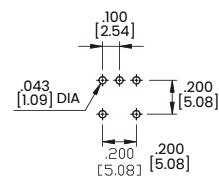


## Termination Options

### M6 Single Pole

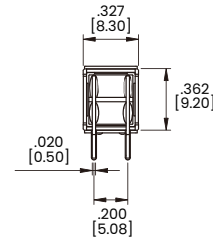
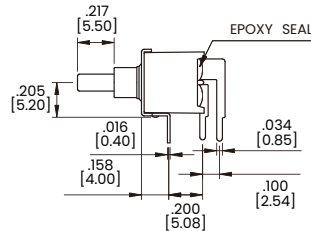
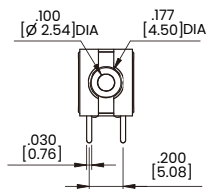


### P.C.MOUNTING

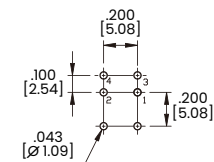


\* Double Thrown Shown. Single Throw uses two outer terminals only.

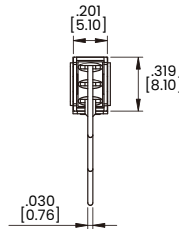
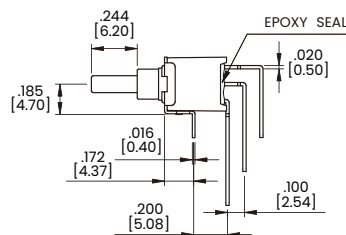
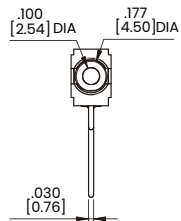
### M6 Double Pole



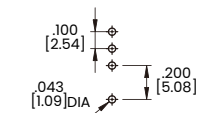
### P.C.MOUNTING



### M7 Single Pole

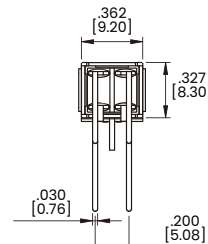
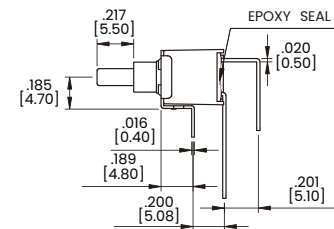
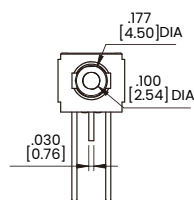


### P.C.MOUNTING

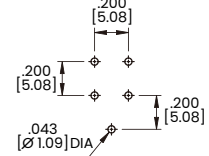


\* Double Thrown Shown. Single Throw uses two outer terminals only.

### M7 Double Pole



### P.C.MOUNTING

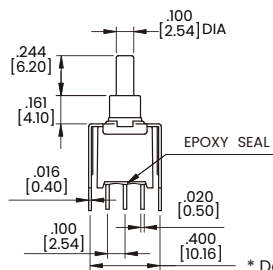
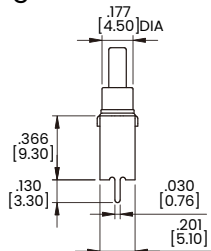


# Dimensional Specs

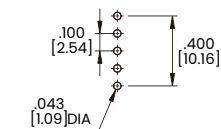
inches [millimeters]

## Termination Options

### VS2 Single Pole

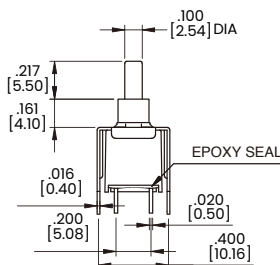
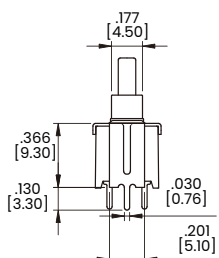


### P.C.MOUNTING

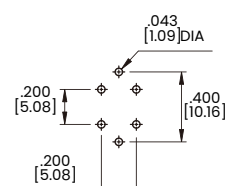


\* Double Throw Shown. Single Throw uses outer terminals only.

### VS2 Double Pole

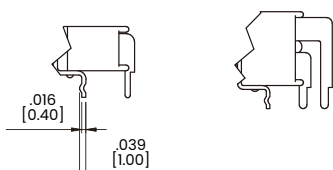


### P.C.MOUNTING

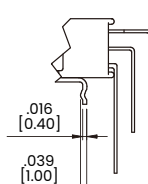


## Snap-In Termination Options

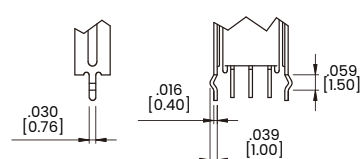
### M61



### M71



### VS21

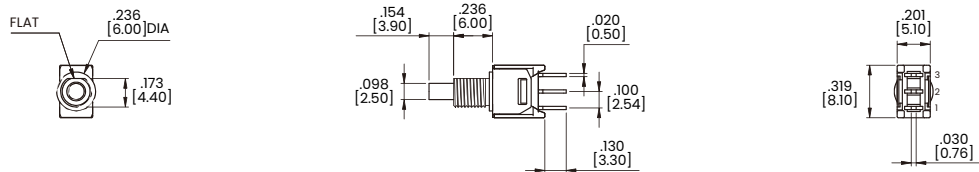


\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

# Dimensional Specs

inches [millimeters]

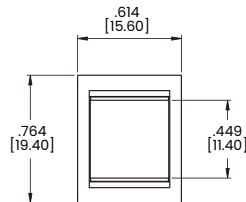
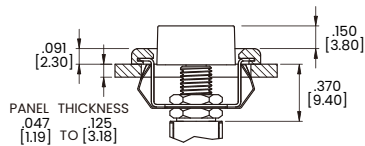
## Single Pole



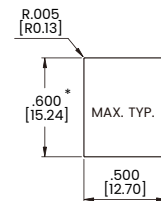
\* Double Throw shown. Single Throw uses two outer terminals only.

## Actuator Options for Snap-In Front Mount

### OP1

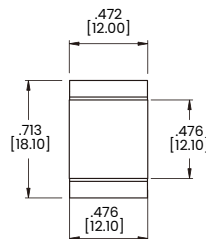
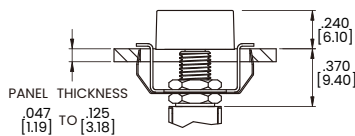


### PANEL MOUNTING

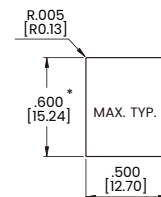


\*Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

### OP1 Without Frame



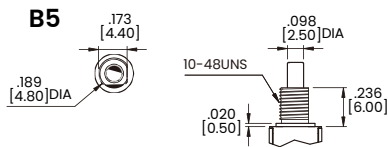
### PANEL MOUNTING



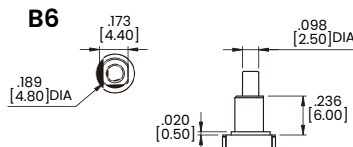
\*Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

## Bushing Options

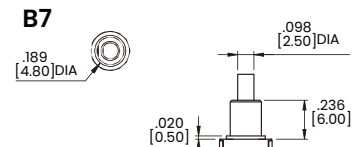
### B5



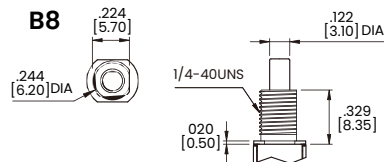
### B6



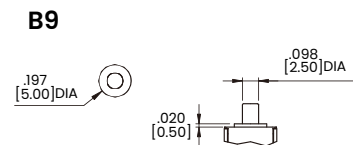
### B7



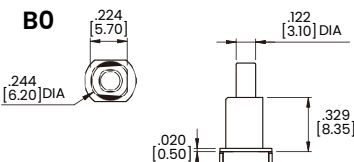
### B8



### B9

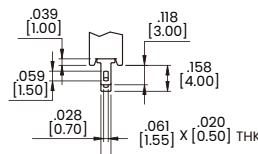


### B0

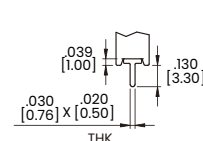


## Termination Options

### M1



### M2

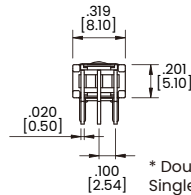
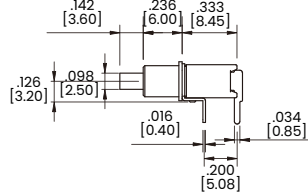
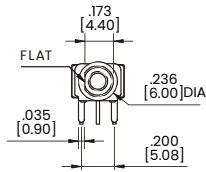


# Dimensional Specs

inches [millimeters]

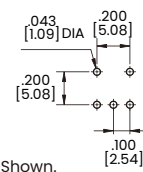
## Termination Options

### M6 Single Pole

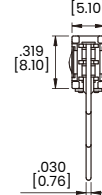
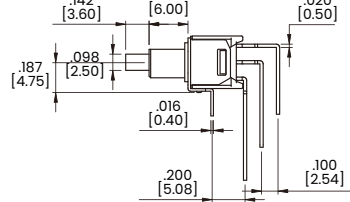
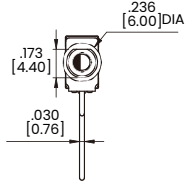


\* Double Thrown Shown.  
Single Throw uses two outer terminals only.

### P.C.MOUNTING

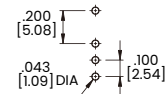


### M7 Single Pole

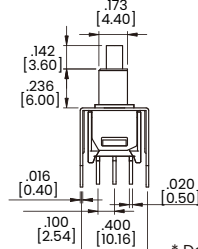
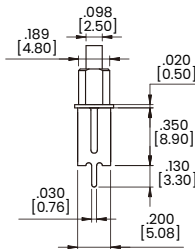


\* Double Thrown Shown.  
Single Throw uses two outer terminals only.

### P.C.MOUNTING

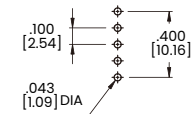


### VS2 Single Pole



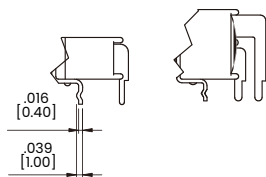
\* Double Thrown Shown. Single Throw uses outer terminals only.

### P.C.MOUNTING

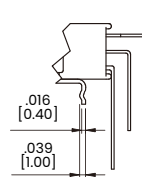


## Snap-In Termination Options

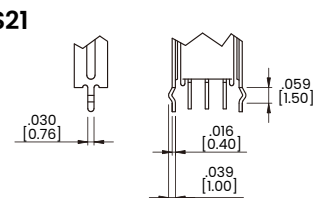
### M61



### M71



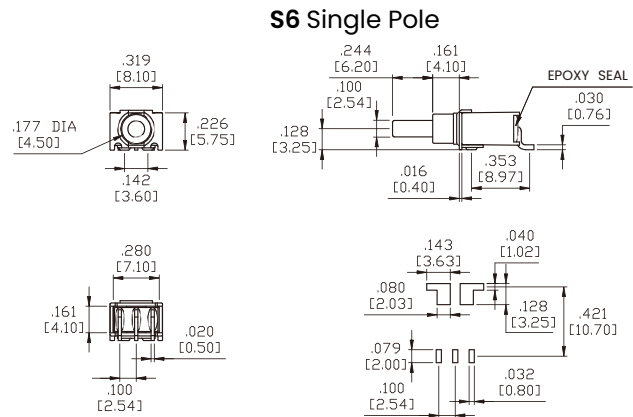
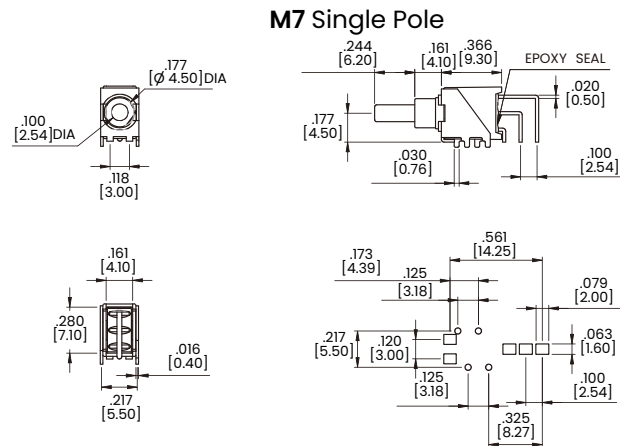
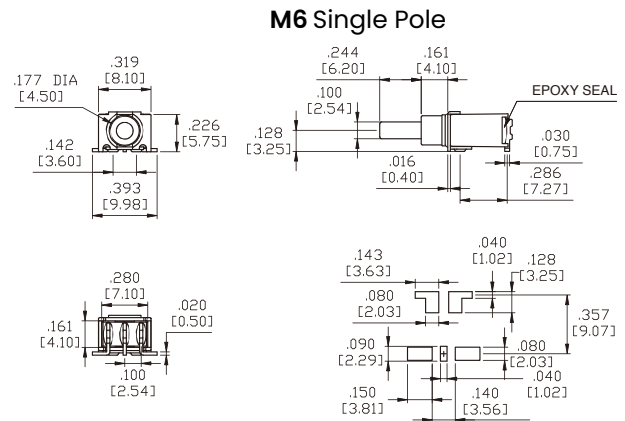
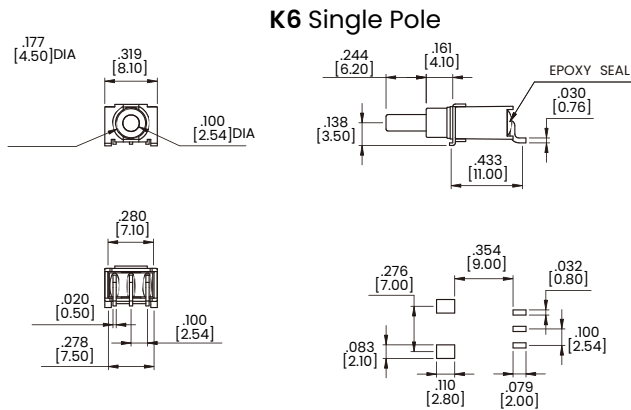
### VS21



\* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

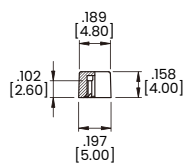
# Dimensional Specs

inches [millimeters]



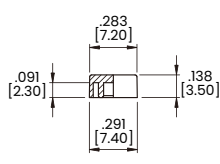
\* Double Throw Shown. Single Throw uses two outer terminals only.

**C1**



\* MATERIAL: ABS.

**C2**



\* MATERIAL: ABS.

## Plunger Caps

CAP COLORS			
1	White	6	Green
2	Black	7	Blue
3	Red	8	Brown
4	Orange	9	Gray
5	Yellow		

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