



Carling Technologies®
/// NOW PART OF



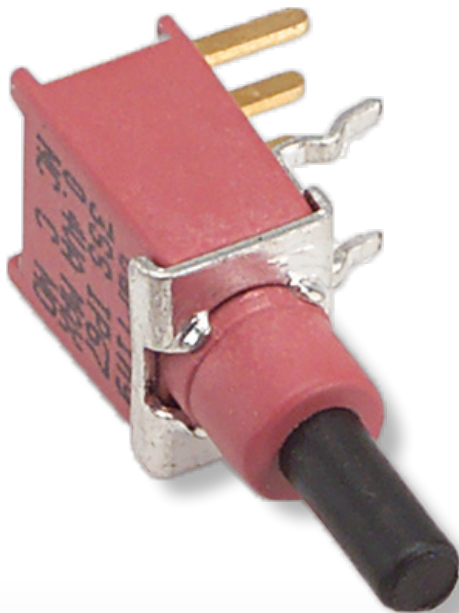
Littelfuse®

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

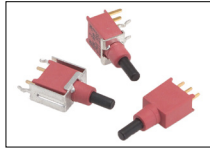
125, 250
VAC

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 ¹	gold over silver	1A 125VAC or 28VDC	IP67
K gold ²	tin ^{3,4}	0.4VA max 20V max (AC/DC)	IP67
P silver ¹	tin ^{3,4}	1A 125VAC or 28VDC	IP67
R gold ²	gold ²	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

B5¹ 10-48 Threaded **B9** Flush Bushing
B6 Unthreaded "D" **B0** 1/4" Unthreaded "D"
B7 Unthreaded **OP1** Snap-In with bezel
B8² 1/4-40 Threaded "D" **P0** Flush Plunger

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

5. TERMINATION

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

6. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating
G silver ³	gold over silver	1A@125VAC or 28VDC
K gold ^{4,7}	tin ⁶	0.4VA max @ 20V max (AC/DC)
P silver ^{3,8}	tin ⁶	1A@125VAC or 28VDC
Q silver ³	silver ³	1A@125VAC or 28VDC
R gold ⁴	gold ⁵	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
G silver ¹	gold over silver	1A 125VAC or 28VDC	IP67
K gold ^{2,5}	tin ⁴	0.4VA max 20V max (AC/DC)	IP67
P silver ^{1,6}	tin ⁴	1A 125VAC or 28VDC	IP67
Q silver ¹	silver ¹	1A 125VAC or 28VDC	IP67
R gold ²	gold ³	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

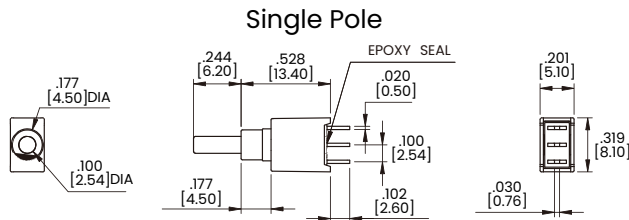
C1 .158" [4.01 mm] height **C2** .138" [35.05 mm] height

3. CAP COLOR

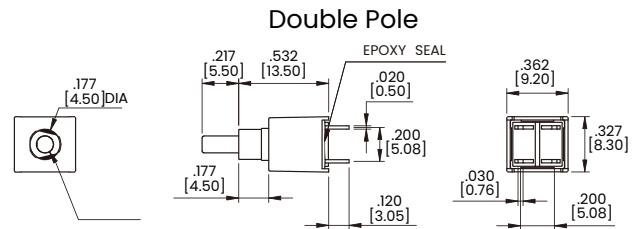
1 White	5 Yellow
2 Black	6 Green
3 Red	7 Blue
4 Orange	

Dimensional Specs

inches [millimeters]

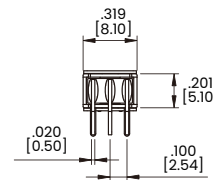
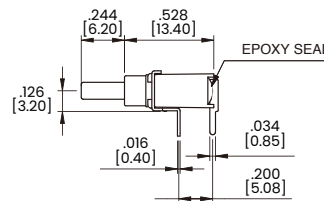
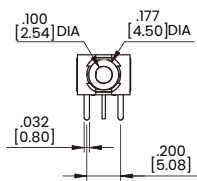


* Double Thrown Shown. Single Throw uses two outer terminals only.

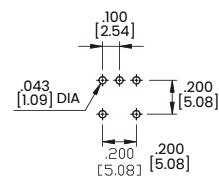


Termination Options

M6 Single Pole

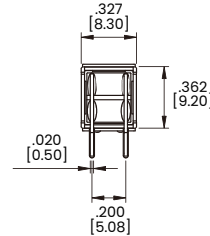
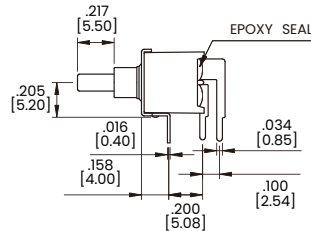
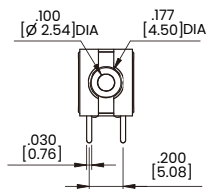


P.C.MOUNTING

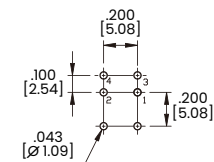


* Double Thrown Shown. Single Throw uses two outer terminals only.

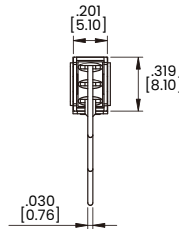
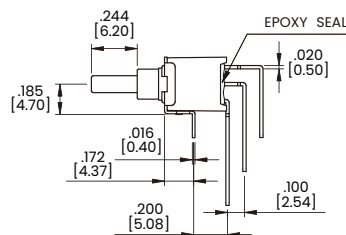
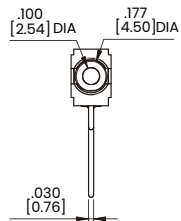
M6 Double Pole



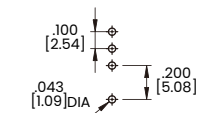
P.C.MOUNTING



M7 Single Pole

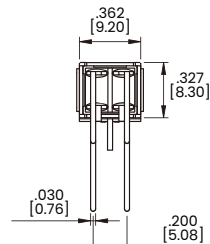
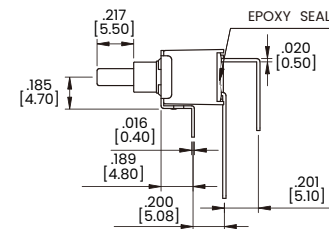
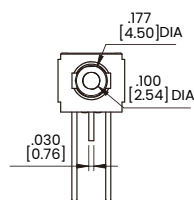


P.C.MOUNTING

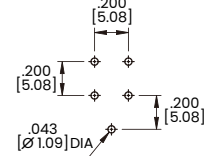


* Double Thrown Shown. Single Throw uses two outer terminals only.

M7 Double Pole



P.C.MOUNTING

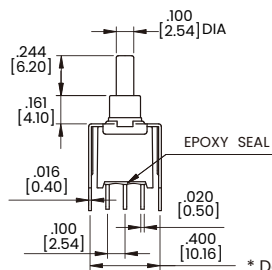
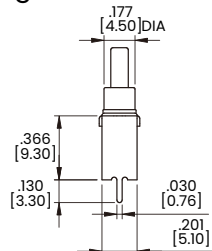


Dimensional Specs

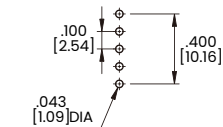
inches [millimeters]

Termination Options

VS2 Single Pole

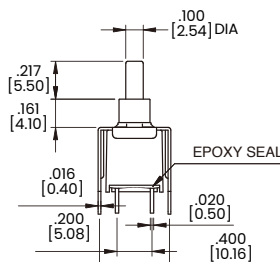
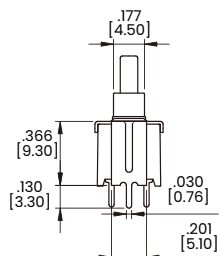


P.C.MOUNTING

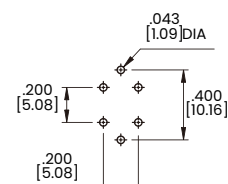


* Double Throw Shown. Single Throw uses outer terminals only.

VS2 Double Pole

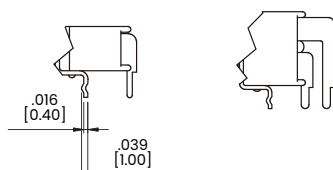


P.C.MOUNTING

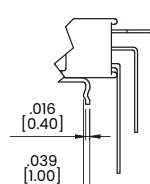


Snap-In Termination Options

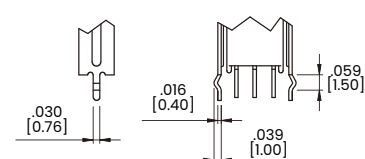
M61



M71



VS21

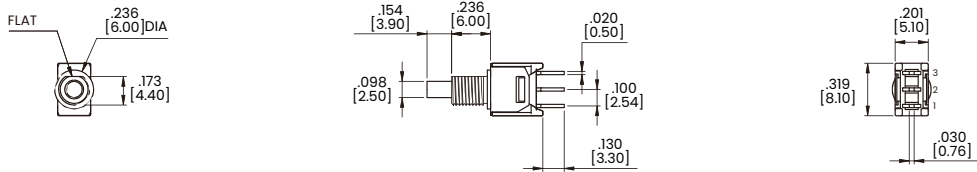


* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.

Dimensional Specs

inches [millimeters]

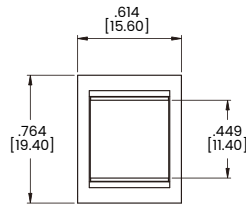
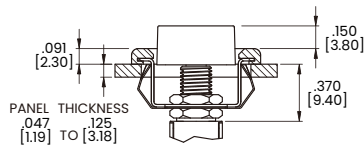
Single Pole



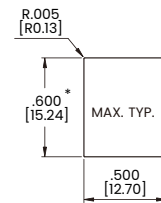
* Double Throw shown. Single Throw uses two outer terminals only.

Actuator Options for Snap-In Front Mount

OP1

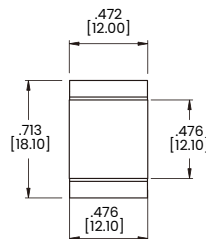
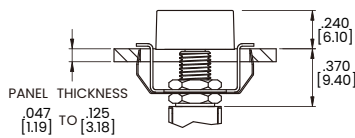


PANEL MOUNTING

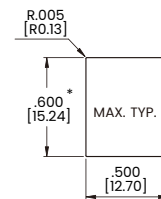


*Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

OP1 Without Frame



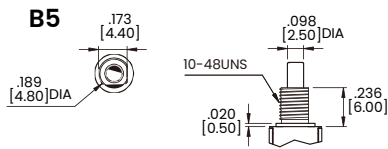
PANEL MOUNTING



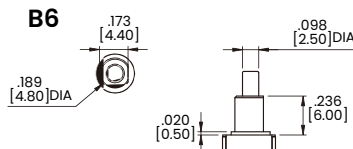
*Increase this dimension to .620/.625 [15.75/15.88] for .091/.125 [2.31/3.18] thk. panels.

Bushing Options

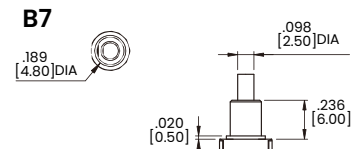
B5



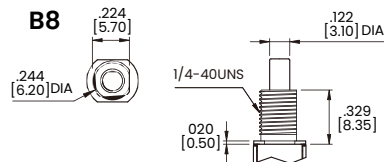
B6



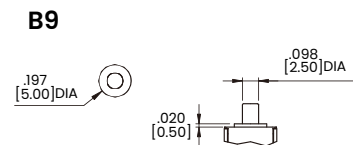
B7



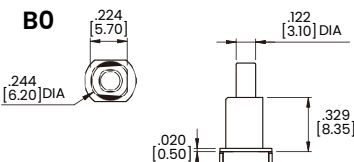
B8



B9

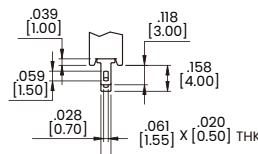


B0

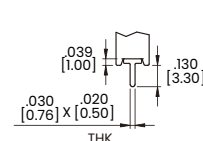


Termination Options

M1



M2

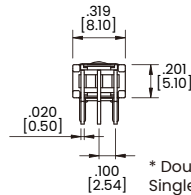
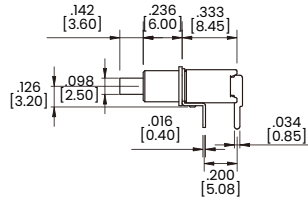
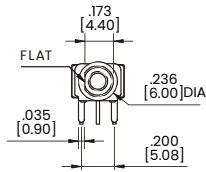


Dimensional Specs

inches [millimeters]

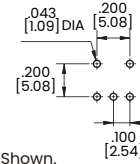
Termination Options

M6 Single Pole

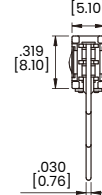
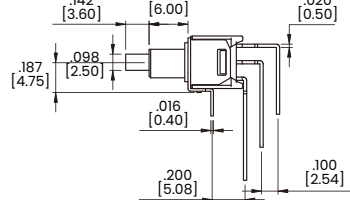
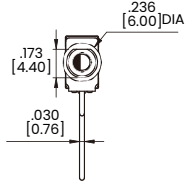


* Double Thrown Shown.
Single Throw uses two outer terminals only.

P.C.MOUNTING

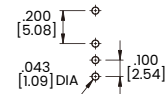


M7 Single Pole

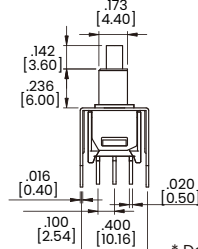
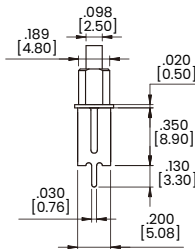


* Double Thrown Shown.
Single Throw uses two outer terminals only.

P.C.MOUNTING

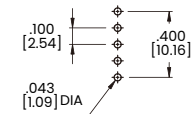


VS2 Single Pole



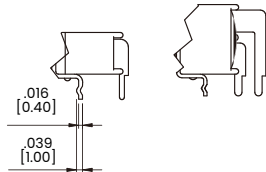
* Double Thrown Shown. Single Throw uses outer terminals only.

P.C.MOUNTING

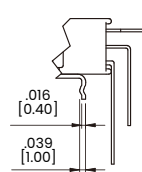


Snap-In Termination Options

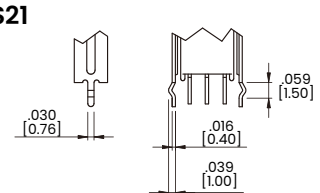
M61



M71



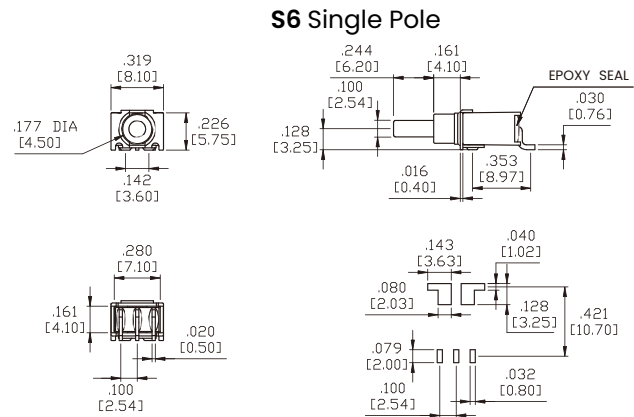
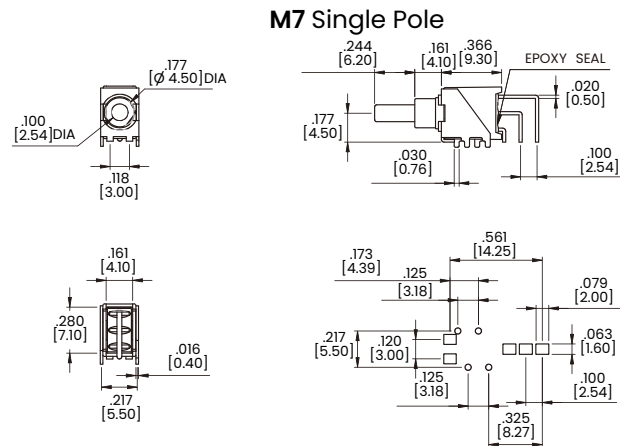
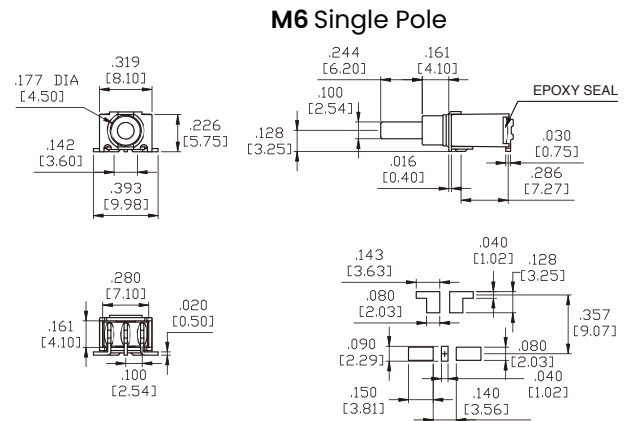
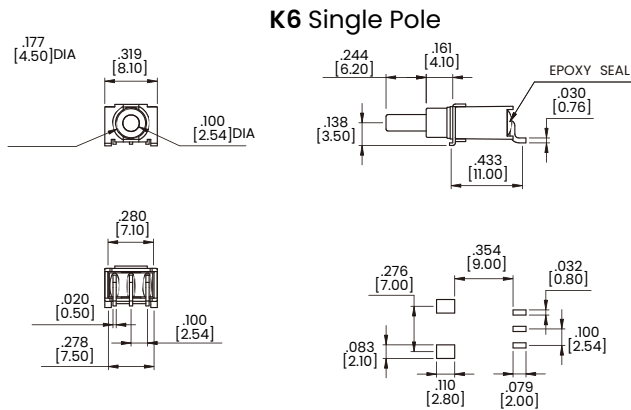
VS21



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

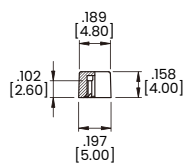
Dimensional Specs

inches [millimeters]



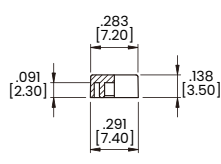
* Double Throw Shown. Single Throw uses two outer terminals only.

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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