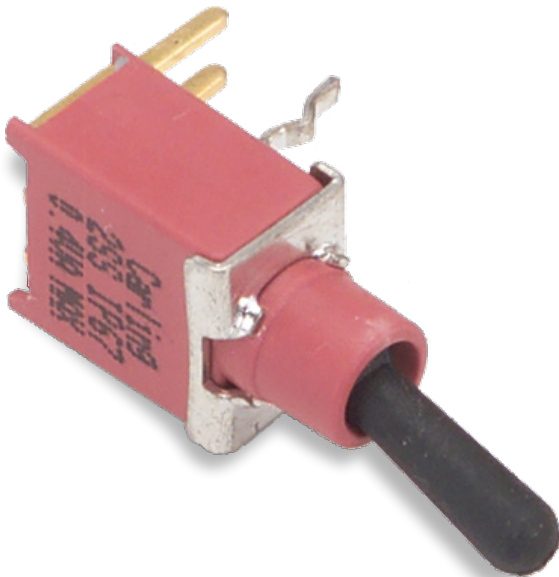
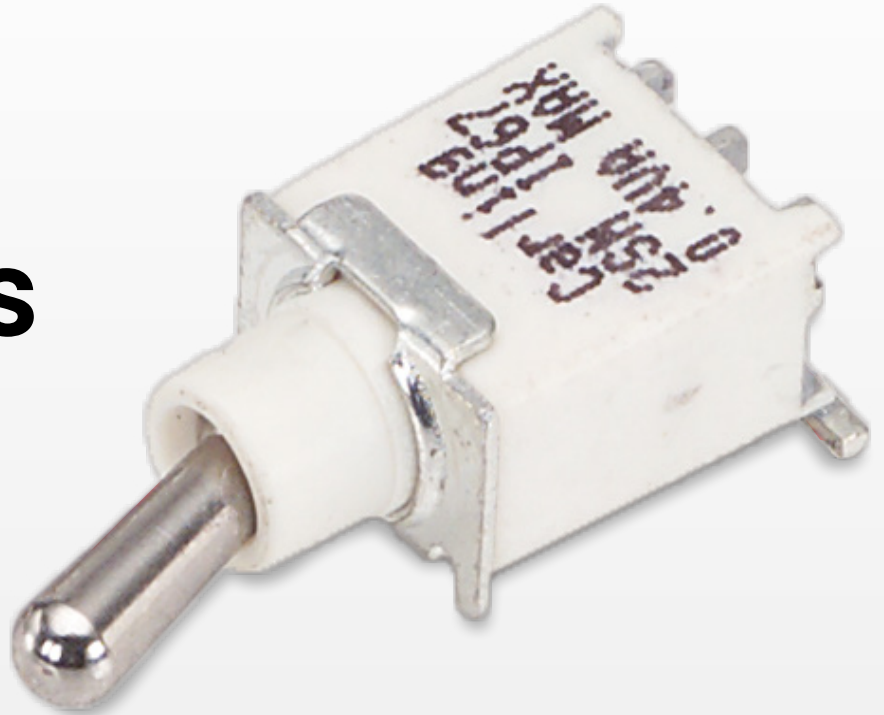


2S-Series

Miniature Toggles Switches

PRODUCT WEBPAGE

request sample, configure part



The 2S family of sub-miniature toggle switches is composed of three switch series; the 2S1-Series toggle switch, the 2SS-Series sealed toggle switch, and the 2SM-Series surface mount sealed sub-miniature toggle switch. All of these series offer a variety of ratings, circuits, contact materials, terminal platings, and actuator types.

1-2
Poles

.4-3
Amps

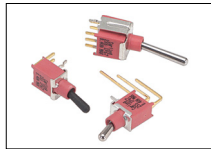
125, 250
VAC

28
VDC

Typical Applications

- Instrumentation
- Telecommunications
- Networking
- Medical Equipment
- Military

Tech Specs



2SS-Series
Sealed
Sub-Miniature
Toggle Switch



2SI-Series
Sub-Miniature
Toggle Switch



2SM-Series
Sealed Surface Mount
Sub-Miniature
Toggle Switch

Electrical

Contact Rating	refer to ordering scheme
Electrical Life	30,000 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	2SS & 2SM-Series: IP67
Solder Heat Resistance	MIL-STD-202, Method 210
Actuator Travel	25°

Material

Case	all UL94 V-0 2SI-Series: Dially phthalate (DAP) 2SS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized 2SM-Series: Glass filled nylon 4/6, flame retardant, heat stabilized
Rocker	2SI-Series: Brass, chrome plated. 2SS & 2SM-Series: Brass, chrome plated or nylon, internal o-ring seal
Bushing	2SI-Series: Brass, nickel plated 2SS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0) 2SM-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 **2SS - MSP 1 - T1 - B4 - M6 G E**

Selection 1 2 3 4 5 6 7 8

1. SERIES

2SS Sealed Sub-Miniature Toggle Switch

2. POLES

MSP Single pole - uses terminals 1, 2 & 3
MDP Double pole - uses terminals 1, 2, 3, 4, 5 & 6

3. CIRCUIT

() - momentary			
Position:	1	2	3
	2-3, 5-6	Connected Terminals	2-1, 5-4
1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON
4	(ON)	OFF	(ON)
5	ON	OFF	(ON)

4. ACTUATOR STYLE / LENGTH

T1 Round toggle .421" [10.70 mm]	P2 ESD resistant toggle .268" [6.80 mm]
T2 Round toggle .240" [6.10 mm]	
T3 Round toggle .342" [8.70 mm]	P3 ESD resistant toggle .244" [6.20 mm]
T4 Round toggle .551" [14.00 mm]	
P1 ESD resistant toggle .425" [10.80 mm]	P4 ESD resistant toggle .291" [7.40 mm]

5. BUSHING

B1 Threaded **B4** Unthreaded

6. TERMINATION

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

7. CONTACTS / TERMINALS

Contact	Material	Terminal Plating	Rating	Approvals
G	silver ¹	gold over silver	3A 125VAC or 28VDC, 1.5A 250VAC	IP67
K	gold ²	tin ³	0.4VA max 20V max (AC/DC)	IP67
P	silver ¹	tin ³	3A 125VAC o28VDC, 1.5A 250VAC	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:

Tin option not available with M1 terminal.

1 Movable contact & terminal platings: silver over copper alloy

2 Movable contact & terminal platings: gold over nickel over copper alloy

3 Terminal platings: tin over nickel over copper alloy

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

Ordering Schemes

Sample Part Number 2S1 - MSP 1 - T1 - B4 - M6 Q E

Selection 1 2 3 4 5 6 7 8

1. SERIES

2S1 Sub-Miniature Toggle Switch

2. POLES

MSP Single pole - uses terminals 1, 2 & 3
MDP Double pole - uses terminals 1, 2, 3, 4, 5 & 6

3. CIRCUIT

() - momentary
Position: 1 2 3
1 2-3, 5-6 ON Connected Terminals 2-1, 5-4
2 ON NONE ON (ON)
3 ON OFF OFF ON
4 (ON) OFF OFF (ON)
5 ON OFF OFF (ON)

4. ACTUATOR STYLE

T1 Round toggle .374" [9.50 mm] **T4** Round toggle .449" [11.40 mm]
T3 Round toggle .311" [7.90 mm]
T2 Round toggle .236" [6.00 mm]

5. BUSHING

B1 Threaded Standard, keyway **B5** High Torque, flat, .276"
B2 Non-Threaded Standard, keyway **B6** High Torque, keyway, .276"
B3 Threaded Short, keyway **B7** Long threaded
B4 Non-Threaded Short, keyway **B8** Non threaded Long, keyway

[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

6. TERMINATION

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

7. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
G silver ²	gold over silver	3A 125VAC or 28VDC, 1.5A 250VAC	UL, CE
K ⁸ gold ^{3,6}	tin ⁵	0.4VA max 20V max (AC/DC)	N/A
P ⁸ silver ^{2,7}	1.5A 250VAC silver ²	3A 125VAC or 28VDC	UL, CE
Q silver ²	1.5A 250VAC gold ⁴	0.4VA max 20V max (AC/DC)	N/A
R gold ³			

8. EPOXY SEAL

E Epoxy Seal **0** without Epoxy Seal

Notes: Tin option available with PC type terminations only.

- All Switches come with standard nut, washer and locking ring shipped bulk. B5 & B7 using styles use small locking ring. See page 76-77
- 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
- Not available with M1 terminal
- Lengths shown are with B1 - B4 bushings. For B5 & B6 subtract .108", for B7 & B8 subtract .043"

Sample Part Number 2SM - MSP 1 - T1 - M6 G E T/R

Selection 1 2 3 4 5 6 7 8

1. SERIES

2M1 Miniature Toggle Switch

2. POLES

MSP Single pole - uses terminals 1, 2 & 3

3. CIRCUIT

() - momentary
Position: 1 2 3
1 2-3 ON Connected Terminals 2-1
2 ON NONE ON (ON)
3 ON OFF OFF ON
4 (ON) OFF OFF (ON)
5 ON OFF OFF (ON)

4. ACTUATOR STYLE / LENGTH

T1 Round toggle .425" [10.80 mm] .244" [6.20 mm]
T2 Round toggle .240" [6.10 mm] **P4** ESD resistant plastic toggle .291" [7.40 mm]
P1 ESD resistant plastic toggle .425" [10.80 mm]
P2 ESD resistant plastic toggle .268" [6.80 mm]
P3 ESD resistant plastic toggle

5. TERMINATION

K6 Surface Mount, .433" [11.00 mm] **M7** Surface Mount, 90° vertical
L6 Surface Mount, .354" [9.00 mm] **S6** Surface Mount, 90°, .353" [8.96 mm]
M6 Surface Mount, 90° flat, .2X86" [7.26 mm] See dimensional specifications.

6. CONTACTS / TERMINALS

Contact Material	Terminal Plating	Rating	Approvals
G silver ²	gold over silver	3A 125VAC or 28VDC, 1.5A 250VAC	IP67
K gold ³	tin ⁴	0.4VA max 20V max (AC/DC)	IP67
P silver ²	tin ⁴	3A 125VAC or 28VDC, 250VAC	IP67
Q silver ²	1.5A silver ²	3A 125VAC or 28VDC, 250VAC	IP67
R gold ³	1.5A gold ³	0.4VA max 20V max (AC/DC)	IP67

7. EPOXY SEAL

E Epoxy Seal **0** without Epoxy Seal

8. 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:

Tin option available with PC type terminations only.

- Bushing is unthreaded .177" [4.50 mm] height
- 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

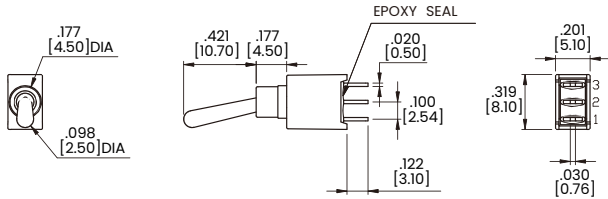
[Configure Complete Part Number >](#)

[Browse Standard Parts >](#)

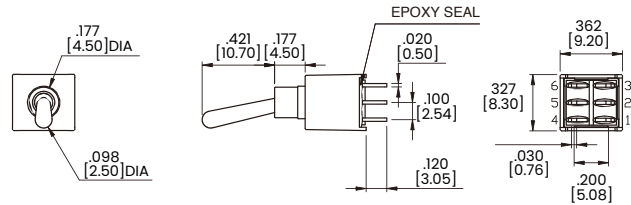
Dimensional Specs

inches [millimeters]

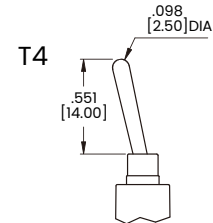
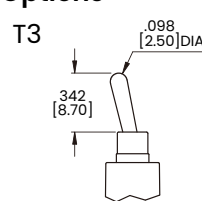
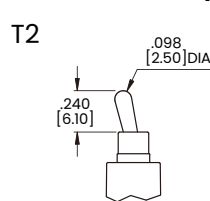
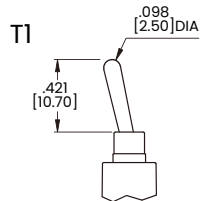
Single Pole



Double Pole

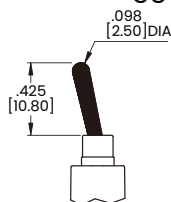


Actuator Options

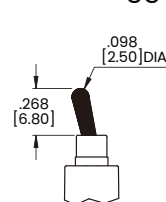


* B4 bushing shown. Subtract 2.55mm from toggle length for B1 bushing.

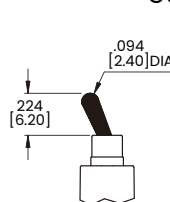
P1 Plastic Toggle



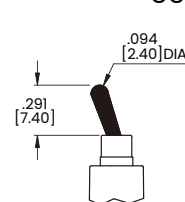
P2 Plastic Toggle



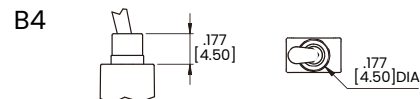
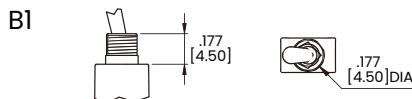
P3 Plastic Toggle



P4 Plastic Toggle



Bushing Options

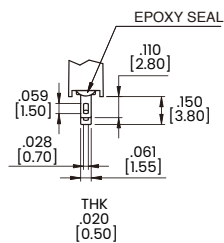


* Subtract 2.55mm from toggle length for B1 bushing.

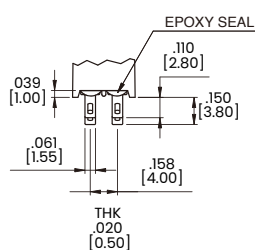
Termination Options

M1 STD. Solder Lug

SP

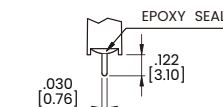


DP

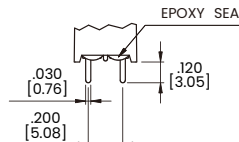


M2 PC Thru-Hole

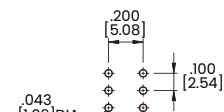
SP



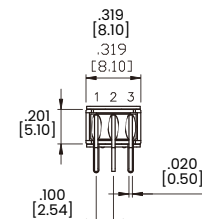
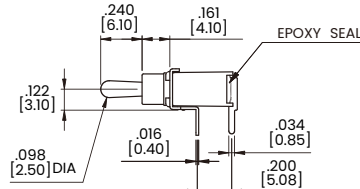
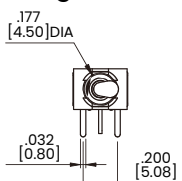
DP



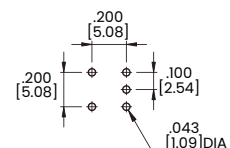
P.C.MOUNTING



M6 Single Pole



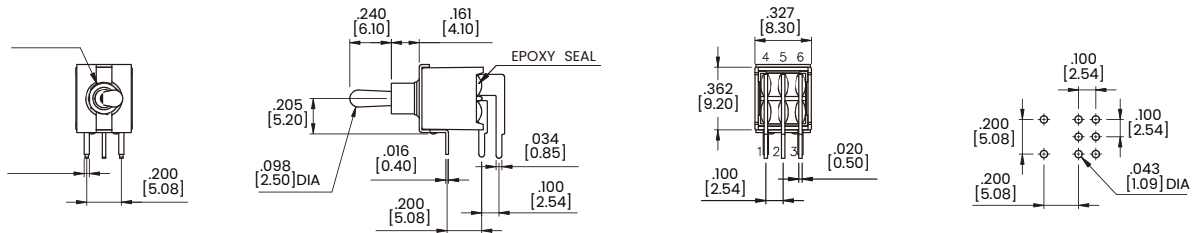
P.C.MOUNTING



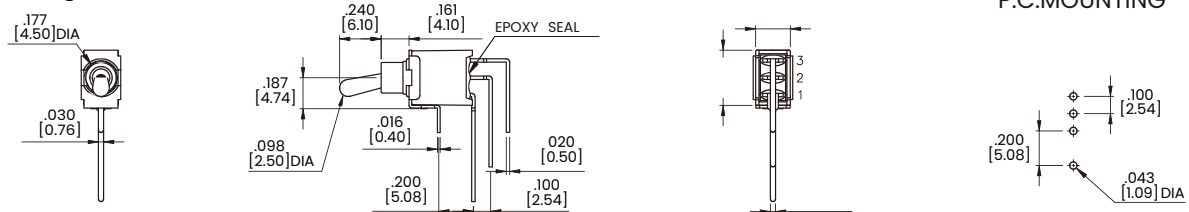
Dimensional Specs

inches [millimeters]

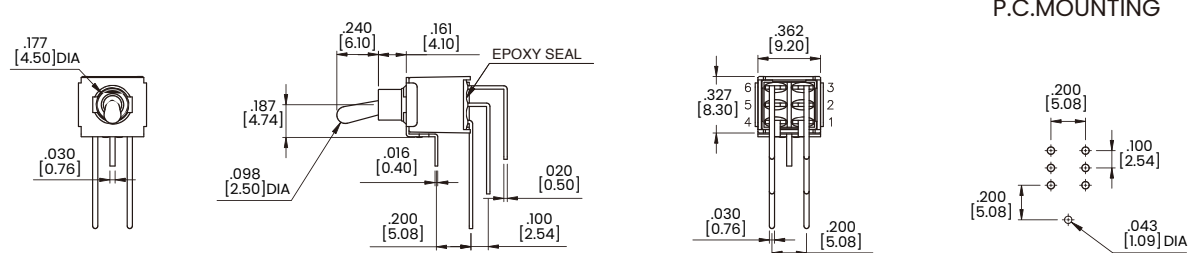
M6 Double Pole



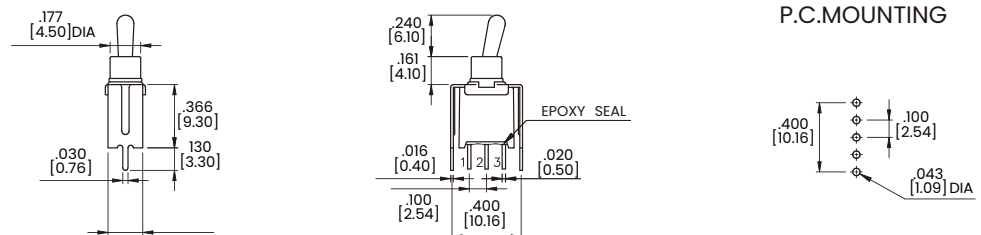
M7 Single Pole



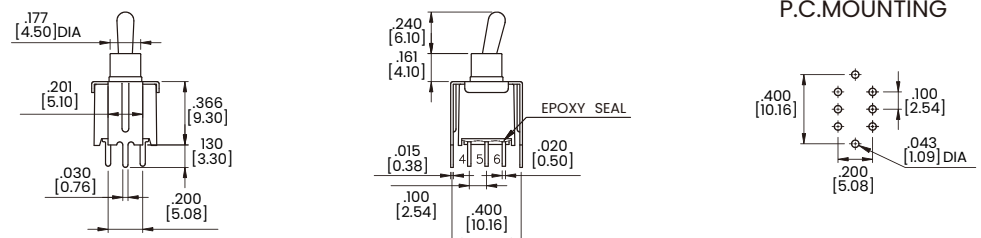
M7 Double Pole



VS2 Single Pole

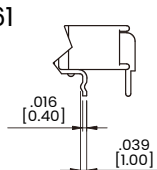


VS2 Double Pole

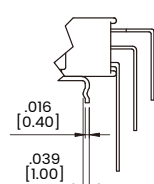


Snap-In Termination Options

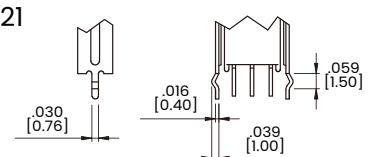
M61



M71



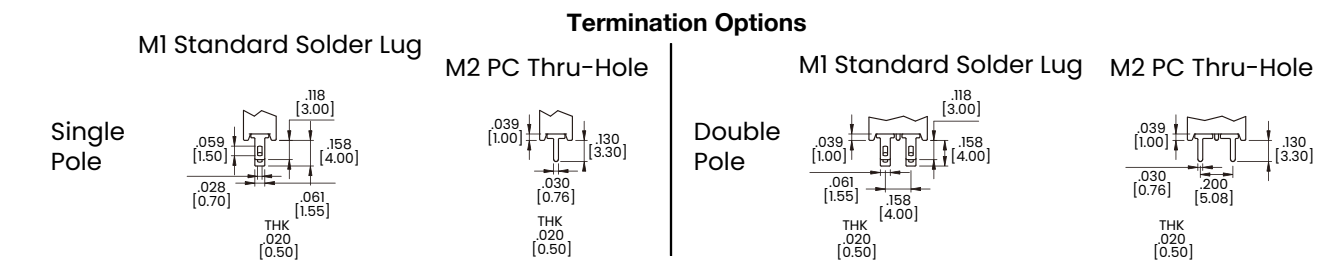
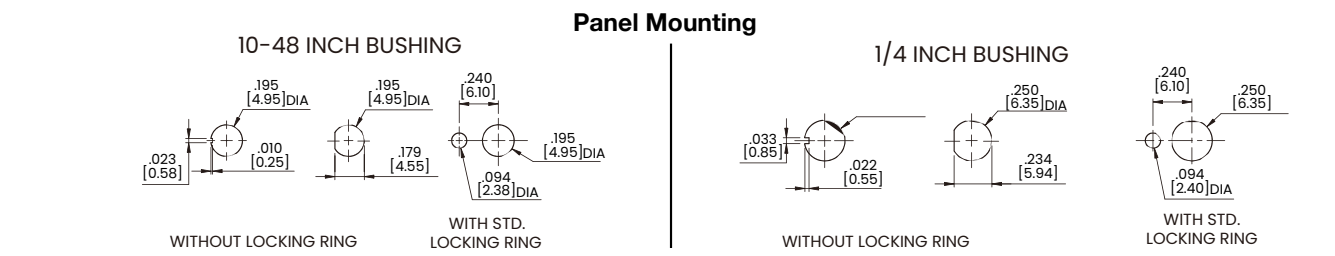
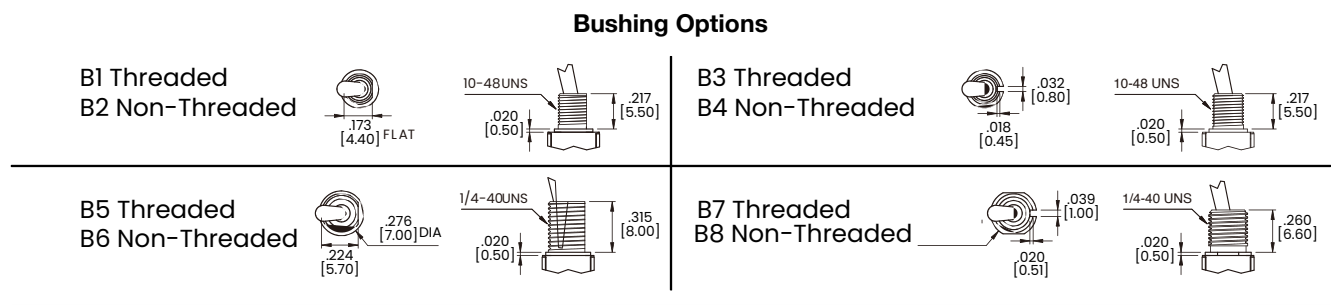
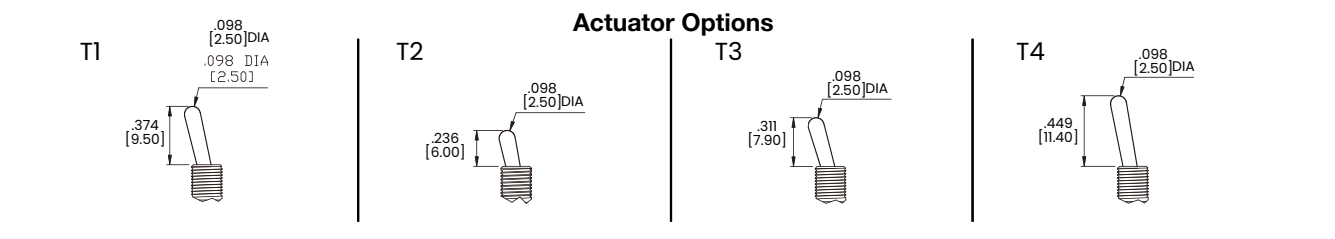
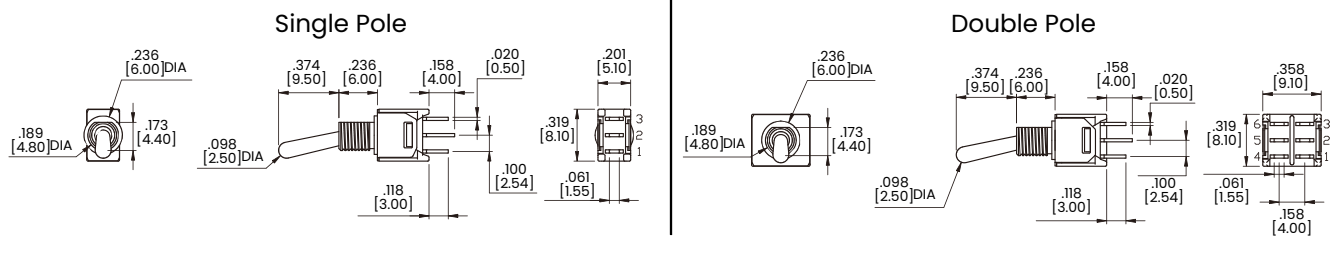
VS21



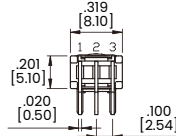
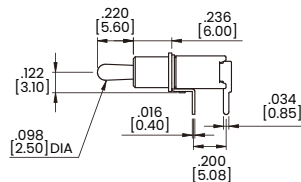
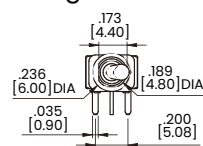
* PC Mounting for M61,M71,VS21 refer to M6,M7,VS2 respectively.

Dimensional Specs

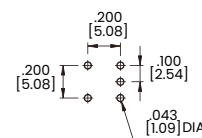
inches [millimeters]



M6 Single Pole



P.C. MOUNTING

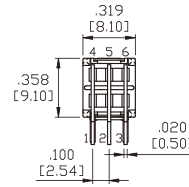
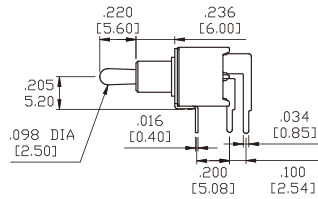
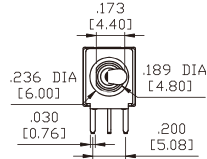


Dimensional Specs

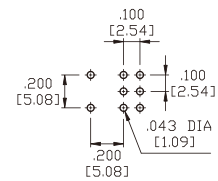
inches [millimeters]

Termination Options

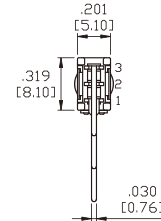
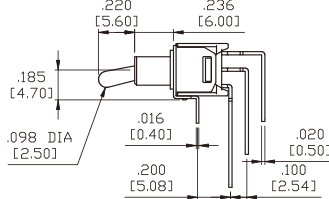
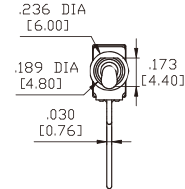
M6 Double Pole



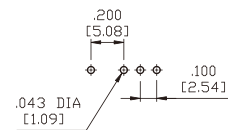
P.C.MOUNTING



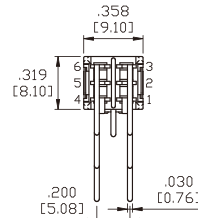
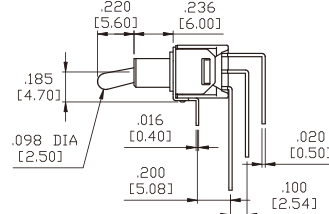
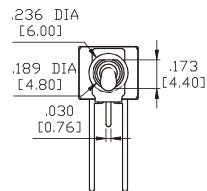
M7 Single Pole



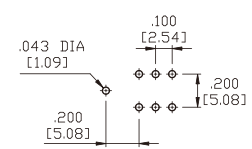
P.C.MOUNTING



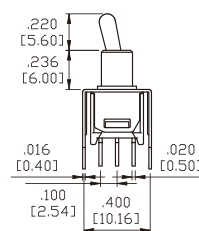
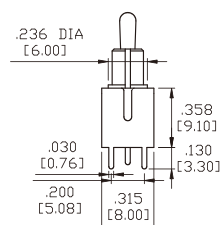
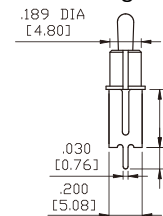
M7 Double Pole



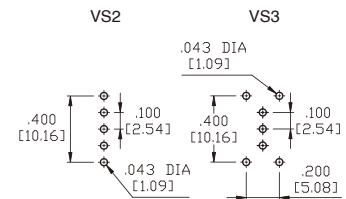
P.C.MOUNTING



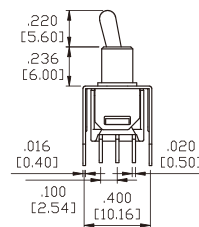
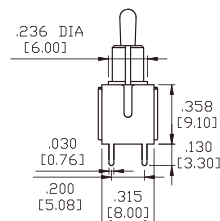
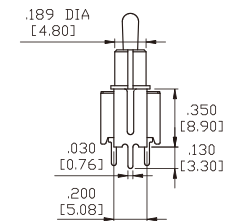
VS2-VS3 Single Pole



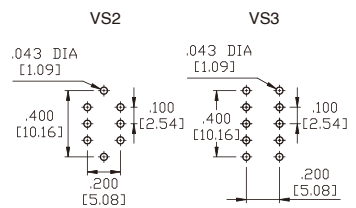
P.C.MOUNTING



VS2-VS3 Double Pole

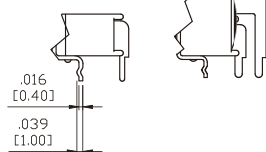


P.C.MOUNTING

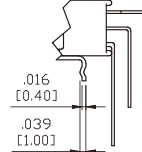


Snap-In Termination Options

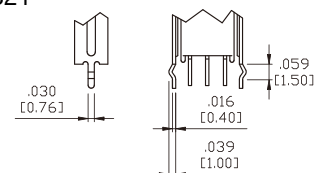
M61



M71



VS21

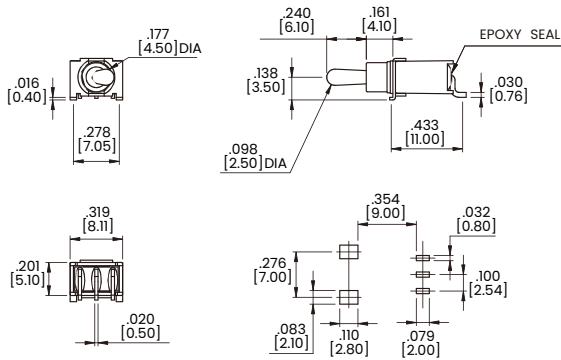


* PC Mounting for M61,M71,VS21 refer to M6,M7,VS2 respectively.

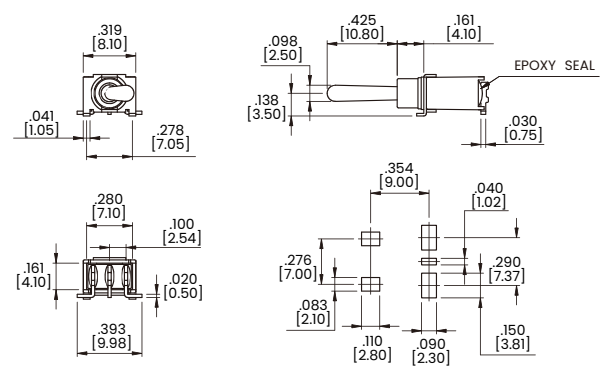
Dimensional Specs

inches [millimeters]

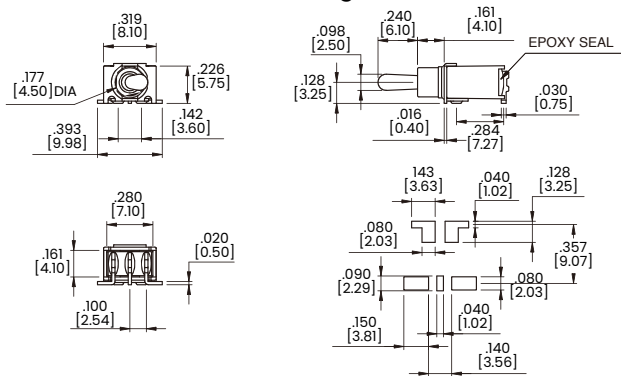
K6 Single Pole



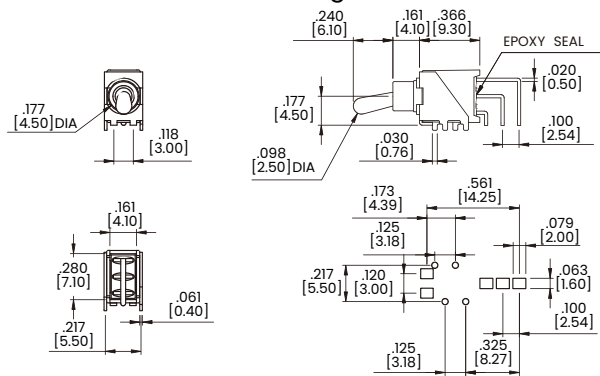
L6 Single Pole



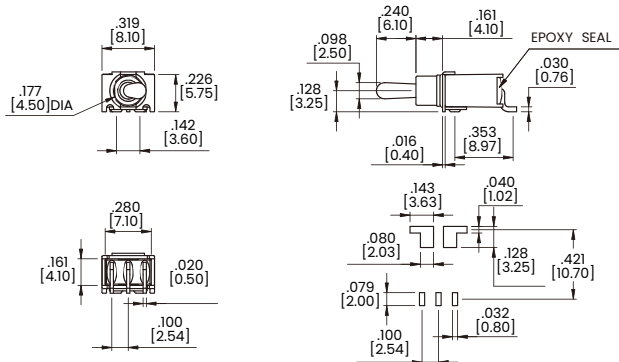
M6 Single Pole



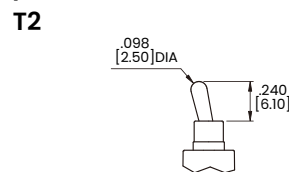
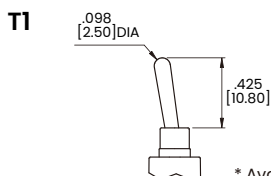
M7 Single Pole



S6 Single Pole

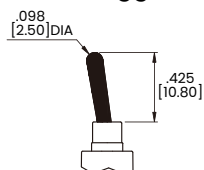


Actuator Options

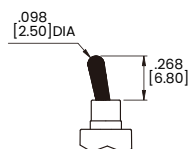


* Available with L6, S6, K6, M7 terminals only.

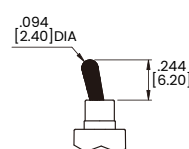
P1 Plastic Toggle



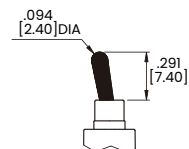
P2 Plastic Toggle



P3 Plastic Toggle



P4 Plastic Toggle



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