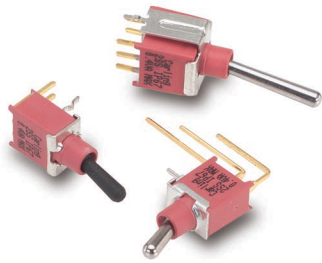
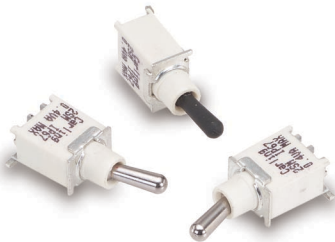


2S1-Series
Sub-Miniature Toggle Switch



2SS-Series
Sealed Sub-Miniature Toggle Switch



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

Specifications

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
 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°

Materials

Case all UL 94 V-0
2S1-Series: Diallyl phthalate (DAP)
2SS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized
2SM-Series: Glass filled nylon 4/6, flame retardant, heat stabilized
 Toggle. *2S1-Series:* Brass, chrome plated.
2SS & 2SM-Series: Brass, chrome plated or nylon, internal o-ring sealed
 Bushing *2S1-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

2S1-Series Ordering Scheme



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 <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 30%; text-align: left;">Switching Position: 2-3, 5-6</th> <th style="width: 30%;"></th> <th style="width: 30%;"></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ON</td> <td>OPEN</td> <td>2-1, 5-4</td> </tr> <tr> <td>2</td> <td>ON</td> <td>NONE</td> <td>ON</td> </tr> <tr> <td>3</td> <td>ON</td> <td>NONE</td> <td>(ON)</td> </tr> <tr> <td>4</td> <td>(ON)</td> <td>OFF</td> <td>(ON)</td> </tr> <tr> <td>5</td> <td>ON</td> <td>OFF</td> <td>(ON)</td> </tr> </tbody> </table>		Switching Position: 2-3, 5-6			1	ON	OPEN	2-1, 5-4	2	ON	NONE	ON	3	ON	NONE	(ON)	4	(ON)	OFF	(ON)	5	ON	OFF	(ON)
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3	ON	NONE	(ON)																					
4	(ON)	OFF	(ON)																					
5	ON	OFF	(ON)																					
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5 BUSHING¹ <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">B1</td> <td style="width: 65%;">Threaded Standard, keyway</td> <td rowspan="8" style="width: 20%; vertical-align: top; font-size: 8px;"> Note: 1 All Switches come with standard nut, washer and locking ring shipped bulk. B5 & B7 bushing styles use small locking ring. </td> </tr> <tr> <td>B2</td> <td>Non-Threaded Standard, keyway</td> </tr> <tr> <td>B3</td> <td>Threaded Short, keyway</td> </tr> <tr> <td>B4</td> <td>Non-Threaded Short, keyway</td> </tr> <tr> <td>B5</td> <td>High Torque, 7.5mm, flat</td> </tr> <tr> <td>B6</td> <td>High Torque, 8.0mm, keyway</td> </tr> <tr> <td>B7</td> <td>Long threaded</td> </tr> <tr> <td>B8</td> <td>Metric</td> </tr> </table>	B1	Threaded Standard, keyway	Note: 1 All Switches come with standard nut, washer and locking ring shipped bulk. B5 & B7 bushing styles use small locking ring.	B2	Non-Threaded Standard, keyway	B3	Threaded Short, keyway	B4	Non-Threaded Short, keyway	B5	High Torque, 7.5mm, flat	B6	High Torque, 8.0mm, keyway	B7	Long threaded	B8	Metric							
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6 TERMINATION M1 Solder Lug M2 PCB M6 PC Mount, 90° horizontal M7 PC Mount, 90° vertical VS2 PC Mount, U bracket, .620 mounting x .460 high VS3 PC Mount, U bracket, .620 mounting x .630 high VS21 Snap-In, U bracket																														
7 CONTACT <table style="width: 100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 15%;">Material</th> <th style="width: 15%;">Terminal Plating</th> <th style="width: 25%;">Rating</th> <th style="width: 35%;">Approvals</th> </tr> </thead> <tbody> <tr> <td>G</td> <td>silver¹</td> <td>gold over silver³</td> <td>3A@125VAC or 28VDC, 1.5A @ 250VAC</td> <td>UL CSA</td> </tr> <tr> <td>K</td> <td>gold²</td> <td>tin-lead⁴</td> <td>0.4VA max. @20V max (AC/DC)</td> <td>-</td> </tr> <tr> <td>P</td> <td>silver¹</td> <td>tin-lead⁴</td> <td>3A@125VAC or 28VDC, 1.5A @ 250VAC</td> <td>UL CSA</td> </tr> <tr> <td>Q</td> <td>silver¹</td> <td>silver¹</td> <td>3A@125VAC or 28VDC, 1.5A @ 250VAC</td> <td>UL CSA</td> </tr> <tr> <td>R</td> <td>gold²</td> <td>gold²</td> <td>0.4VA max. @20V max (AC/DC)</td> <td>-</td> </tr> </tbody> </table> <p style="font-size: 8px;">NOTE: Tin-lead option available with PC type terminations only. 1 Moveable contact & terminals: copper alloy, silver plate 2 Moveable contact & terminals: copper alloy with gold plated over nickel plate 3 Terminals: silver plate with outer layer in gold plating 4 Outer terminals: copper alloy with tin-lead over nickel plate</p>		Material	Terminal Plating	Rating	Approvals	G	silver ¹	gold over silver ³	3A@125VAC or 28VDC, 1.5A @ 250VAC	UL CSA	K	gold ²	tin-lead ⁴	0.4VA max. @20V max (AC/DC)	-	P	silver ¹	tin-lead ⁴	3A@125VAC or 28VDC, 1.5A @ 250VAC	UL CSA	Q	silver ¹	silver ¹	3A@125VAC or 28VDC, 1.5A @ 250VAC	UL CSA	R	gold ²	gold ²	0.4VA max. @20V max (AC/DC)	-
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8 EPOXY SEAL E epoxy seal																														

2SS-Series Ordering Scheme



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

Switching Position:			
	2-3, 5-6	OPEN	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

T1 Round toggle .358 length	P1 ESD resistant plastic toggle .421 length
T2 Round toggle .220 length	P2 ESD resistant plastic toggle .272 length
T3 Round toggle .299 length	
T4 Round toggle .433 length	

5 BUSHING
B4 Unthreaded bushing

6 TERMINATION

M2	PCB
M6	PC Mount, 90° horizontal
M61	Snap-In PC Mount, 90° horizontal
M7	PC Mount, 90° vertical
M71	Snap-In PC Mount, 90° vertical
VS2	PC Mount, U bracket, .620 mounting x .460 high
VS21	Snap-In, U bracket

7 CONTACT

Material	Terminal Plating	Rating	
G silver ¹	gold over silver ³	3A@125VAC or 28VDC, 1.5A @ 250VAC	IP67
K gold ²	tin-lead plated ⁴	0.4VA max. @20V max (AC/DC)	IP67
P silver ¹	tin-lead plated ⁴	3A@125VAC or 28VDC, 1.5A @ 250VAC	IP67
R gold ²	gold plated ²	0.4VA max. @20V max (AC/DC)	IP67

NOTE:
 Tin-lead option available with PC type terminations only.
 1 Moveable contact & terminals: copper alloy, silver plate
 2 Moveable contact & terminals: copper alloy with gold plate over nickel plate
 3 Terminals: silver plate with outer layer in gold plating
 4 Outer terminals: copper alloy with tin-lead over nickel plate

8 EPOXY SEAL
E epoxy seal

2SM-Series Ordering Scheme



1 SERIES
2SM Sealed Surface Mount Sub-Miniature Toggle Switch

2 POLES
MSP single pole - uses terminals 1, 2 & 3.

3 CIRCUIT
 () - momentary

Switching Position:			
	2-3	OPEN	2-1
1	ON	NONE	ON
2	ON	NONE	(ON)
3	ON	OFF	ON
4	(ON)	OFF	(ON)
5	ON	OFF	(ON)

4 ACTUATOR STYLE

T1 Round toggle .358 length	P1 ESD resistant plastic toggle .421 length
T2 Round toggle .220 length	P2 ESD resistant plastic toggle .272 length

5 TERMINATION

M6	Surface Mount, 90° flat
M7	Surface Mount, 90° vertical
S6	Surface Mount, 90° horizontal

6 CONTACT

Material	Terminal Plating	Rating	
G silver ¹	gold over silver ³	3A@125VAC or 28VDC, 1.5A @ 250VAC	IP67
K gold ²	tin-lead plated ⁴	0.4VA max. @20V max (AC/DC)	IP67
P silver ¹	tin-lead plated ⁴	3A@125VAC or 28VDC, 1.5A @ 250VAC	IP67
R gold ²	gold plated ²	0.4VA max. @20V max (AC/DC)	IP67

NOTE:
 Tin-lead option available with PC type terminations only.
 1 Moveable contact & terminals: copper alloy, silver plate
 2 Moveable contact & terminals: copper alloy with gold plate over nickel plate
 3 Terminals: silver plate with outer layer in gold plating
 4 Outer terminals: copper alloy with tin-lead over nickel plate

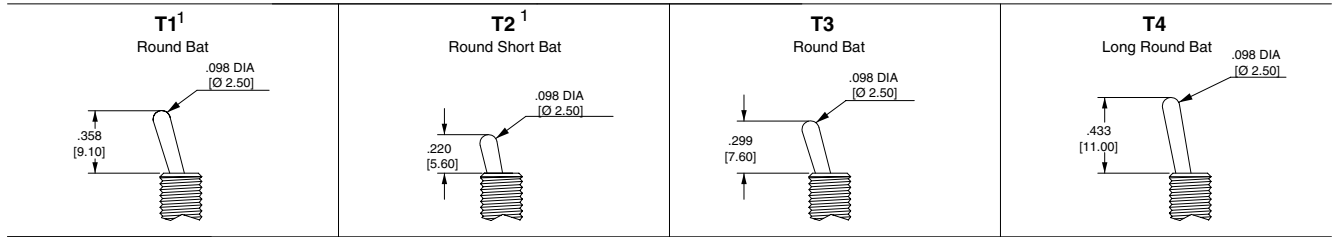
7 EPOXY SEAL
E epoxy seal

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

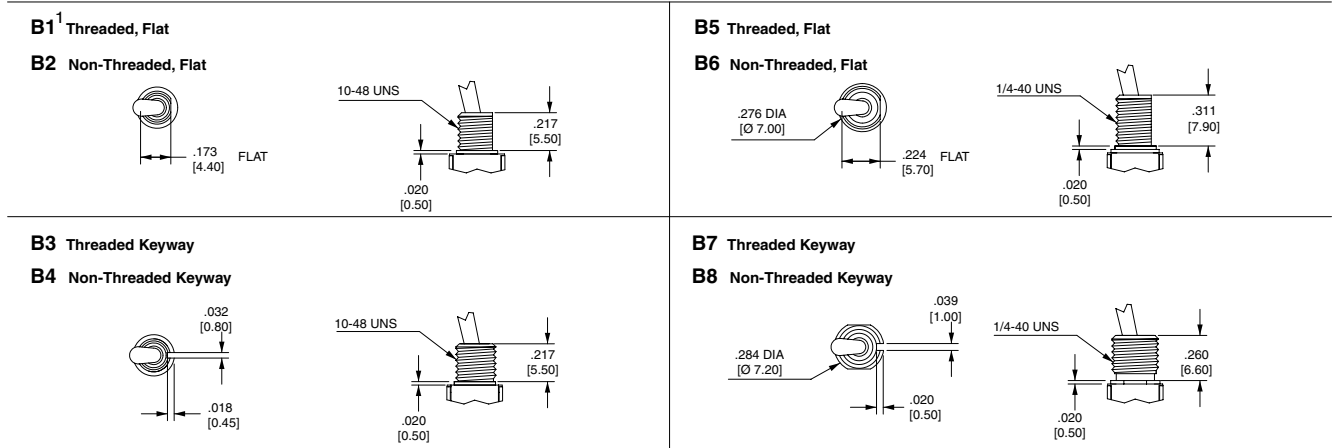
2S-Series Dimensional Specifications: in. [mm]

2S1-Series

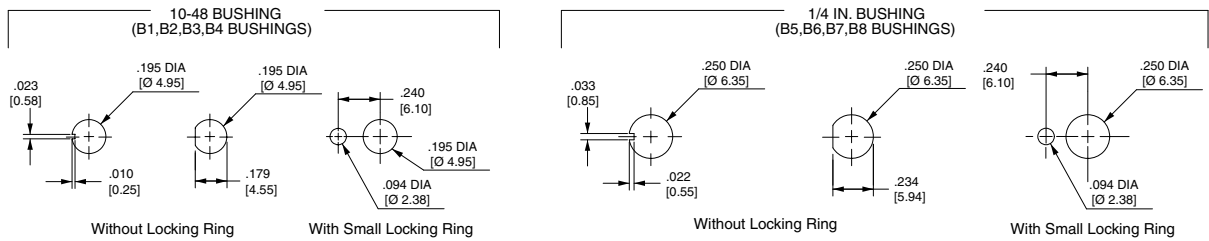
ACTUATOR



BUSHING

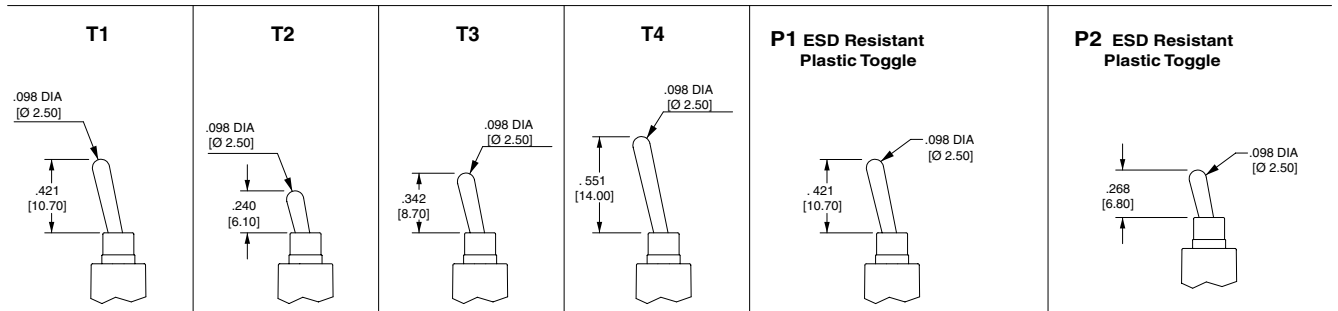


PANEL MOUNTING



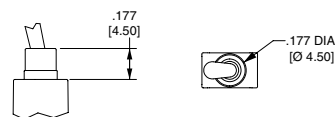
2SS-Series

ACTUATOR



BUSHING

B4

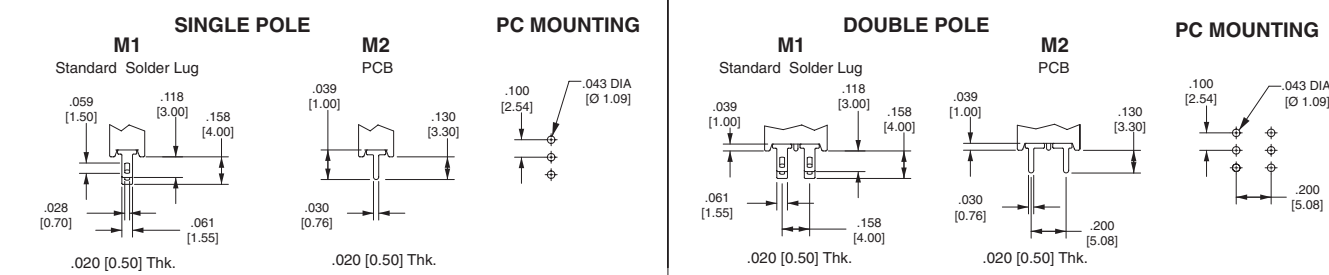


NOTE:
1 Subtract 2.55mm from toggle length for B1 bushing.

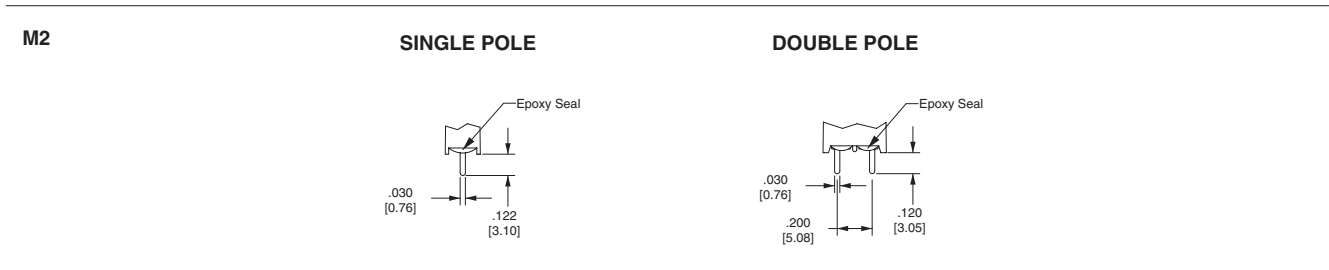
2S-Series Dimensional Specifications: in. [mm]

TERMINATION

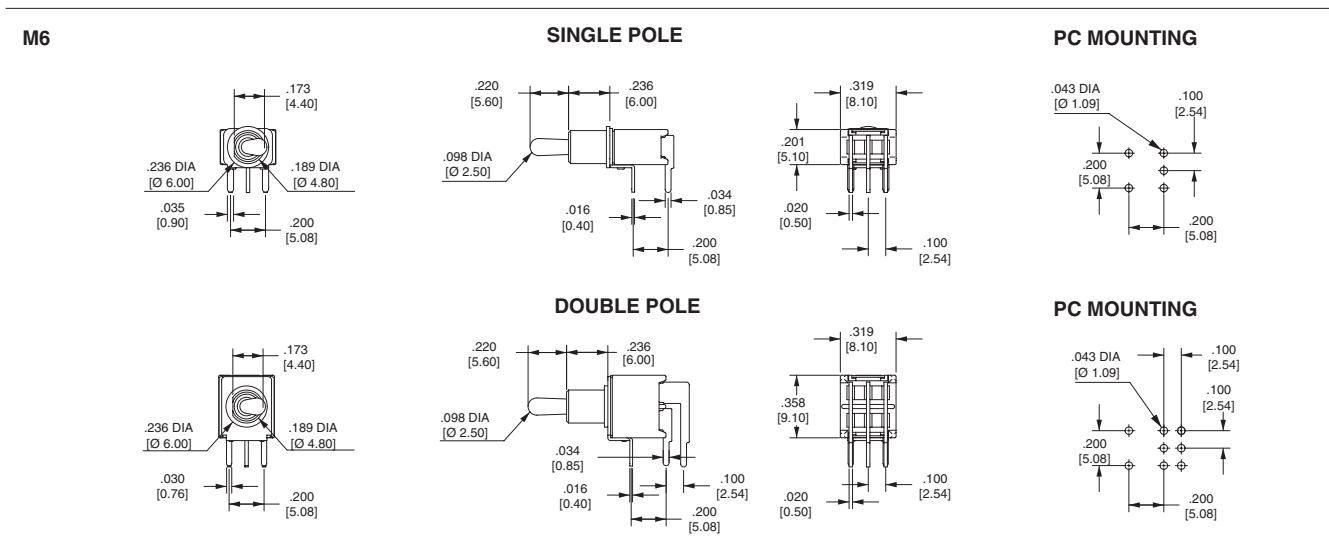
2S1-Series



2SS-Series



2S-Series



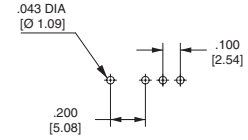
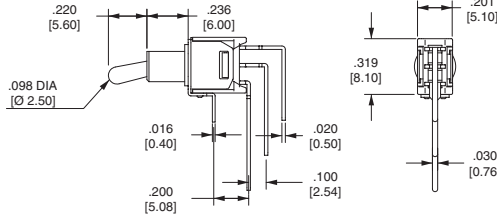
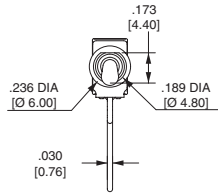
2S-Series Dimensional Specifications: in. [mm]

TERMINATION

M7

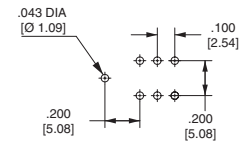
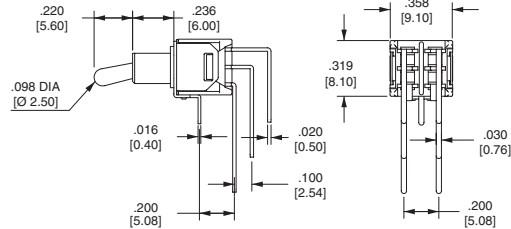
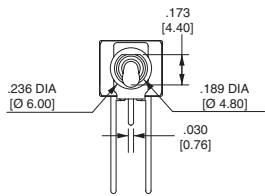
SINGLE POLE

PC MOUNTING



DOUBLE POLE

PC MOUNTING



VS2-VS3

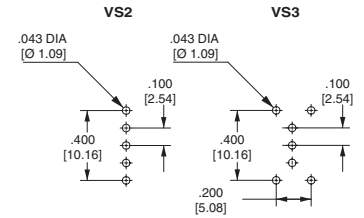
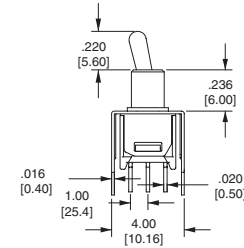
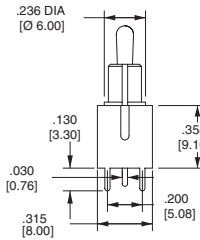
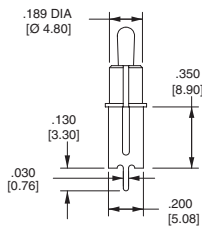
U Bracket Snap-in

VS2

VS3

SINGLE POLE

PC MOUNTING

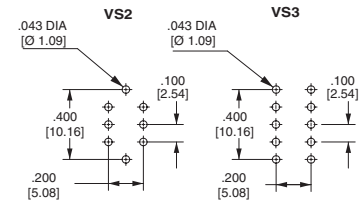
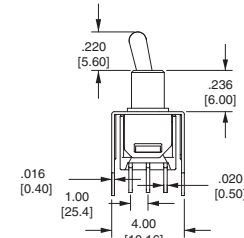
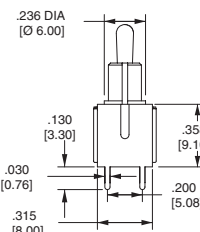
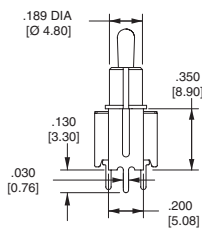


VS2

VS3

DOUBLE POLE

PC MOUNTING

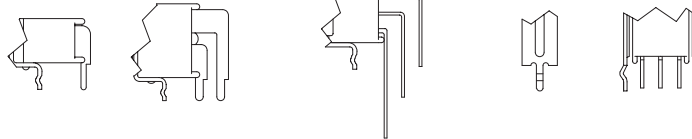


SNAP-IN TERMINATION

M61

M71

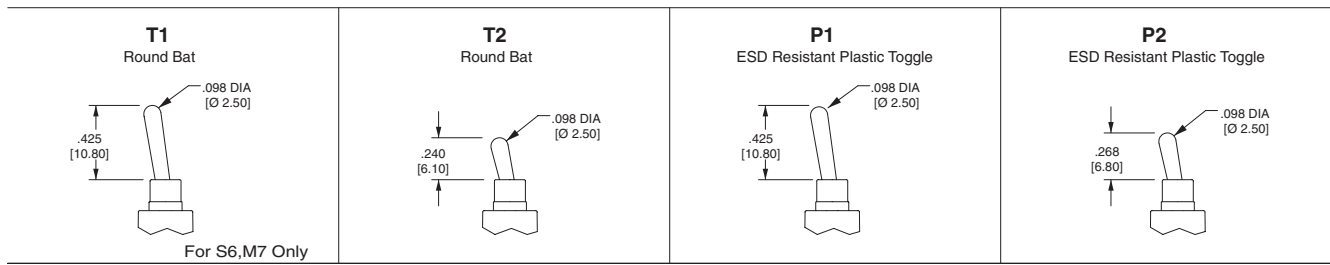
VS21



M61, M71, VS21 have the same P.C. mounting but with snap-in bracket.

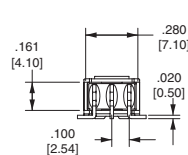
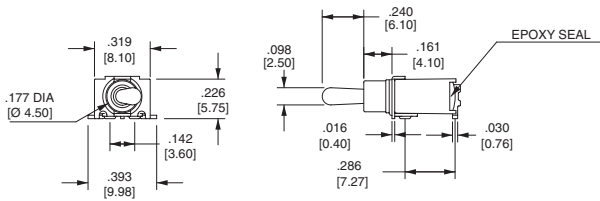
2SM-Series Dimensional Specifications: in. [mm]

ACTUATOR

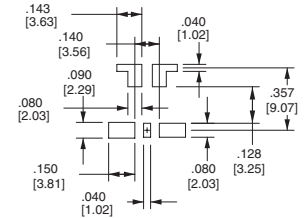


TERMINATION

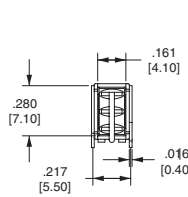
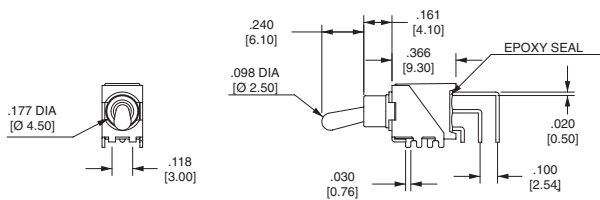
**M6
90° Horizontal**



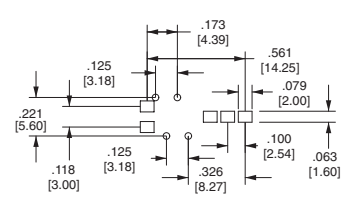
PC MOUNTING



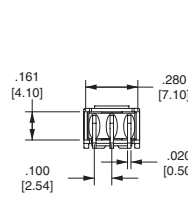
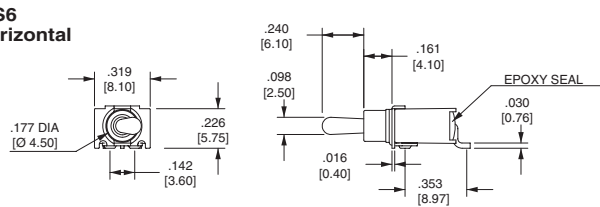
**M7
90° Vertical**



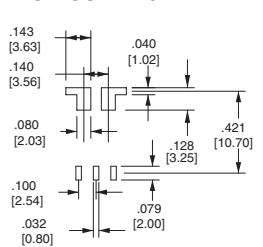
PC MOUNTING



**S6
90° Horizontal**



PC MOUNTING



2SM-Series Dimensional Specifications: in. [mm]

REEL TAPING

