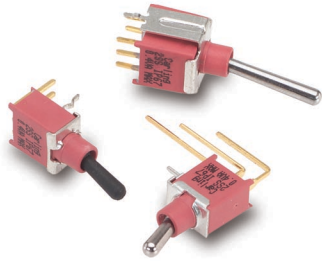
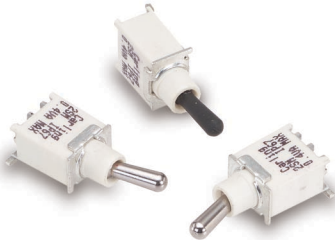


**2S1-Series**  
Sub-Miniature Toggle Switch



**2SS-Series**  
**Sealed** Sub-Miniature Toggle Switch



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

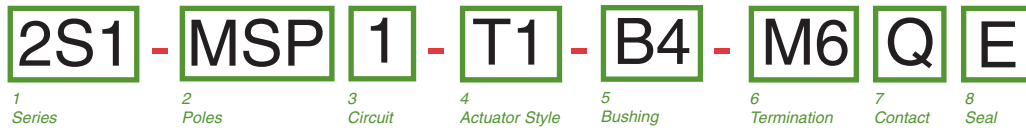
### Specifications

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

	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)

**4 ACTUATOR STYLE**

<b>T1</b> Round toggle .358 length	<b>T3</b> Round toggle .299 length
<b>T2</b> Round toggle .220 length	<b>T4</b> Round toggle .433 length

**5 BUSHING<sup>1</sup>**

<b>B1</b> 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.
<b>B2</b> Non-Threaded Standard, keyway	
<b>B3</b> Threaded Short, keyway	
<b>B4</b> Non-Threaded Short, keyway	
<b>B5</b> High Torque, 7.5mm, flat	
<b>B6</b> High Torque, 8.0mm, keyway	
<b>B7</b> Long threaded	
<b>B8</b> Metric	

**6 TERMINATION**

<b>M1</b>	Solder Lug
<b>M2</b>	PCB
<b>M6</b>	PC Mount, 90° horizontal
<b>M7</b>	PC Mount, 90° vertical
<b>VS2</b>	PC Mount, U bracket, .620 mounting x .460 high
<b>VS3</b>	PC Mount, U bracket, .620 mounting x .630 high
<b>VS21</b>	Snap-In, U bracket

**7 CONTACT**

	Material	Terminal Plating	Rating	Approvals
<b>G</b>	silver <sup>1</sup>	gold over silver <sup>3</sup>	3A@125VAC or 28VDC, 1.5A @ 250VAC	UL CSA
<b>K</b>	gold <sup>2</sup>	tin-lead <sup>4</sup>	0.4VA max. @20V max (AC/DC)	-
<b>P</b>	silver <sup>1</sup>	tin-lead <sup>4</sup>	3A@125VAC or 28VDC, 1.5A @ 250VAC	UL CSA
<b>Q</b>	silver <sup>1</sup>	silver <sup>1</sup>	3A@125VAC or 28VDC, 1.5A @ 250VAC	UL CSA
<b>R</b>	gold <sup>2</sup>	gold <sup>2</sup>	0.4VA max. @20V max (AC/DC)	-

**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

**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

<b>Switching Position:</b>			
	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**

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

**5 BUSHING**  
**B4** Unthreaded bushing

**6 TERMINATION**

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

**7 CONTACT**

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

<b>Switching Position:</b>			
	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**

<b>T1</b> Round toggle .358 length	<b>P1</b> ESD resistant plastic toggle .421 length
<b>T2</b> Round toggle .220 length	<b>P2</b> ESD resistant plastic toggle .272 length

**5 TERMINATION**

<b>M6</b>	Surface Mount, 90° flat
<b>M7</b>	Surface Mount, 90° vertical
<b>S6</b>	Surface Mount, 90° horizontal

**6 CONTACT**

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

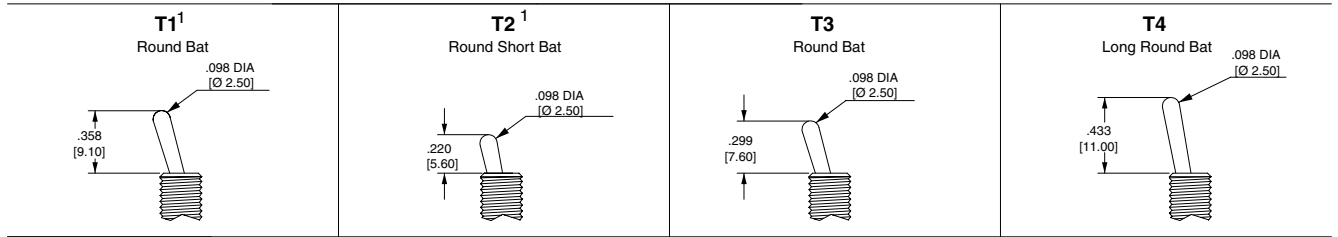
**7 EPOXY SEAL**  
**E** epoxy seal

**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

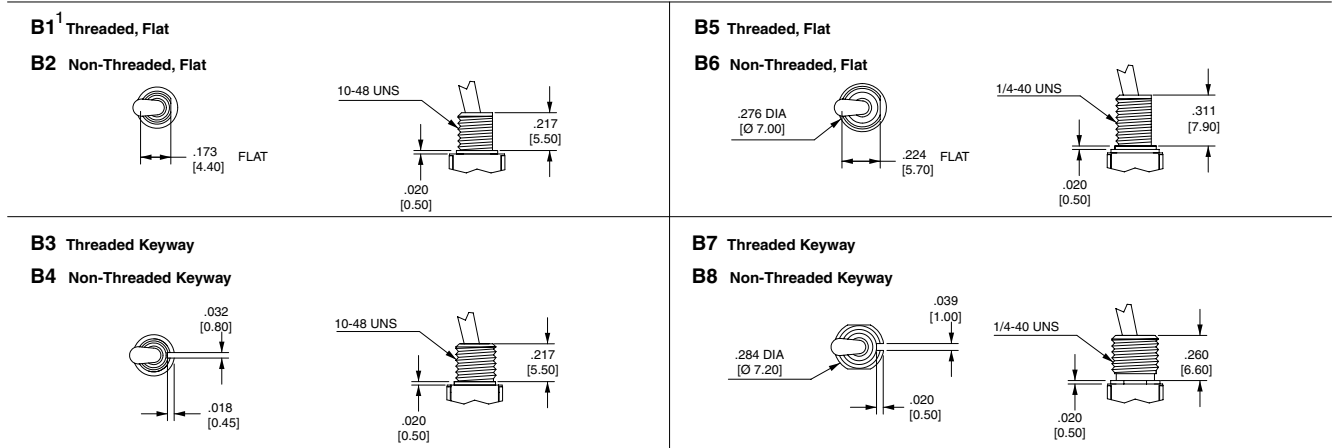
**2S-Series Dimensional Specifications: in. [mm]**

**2S1-Series**

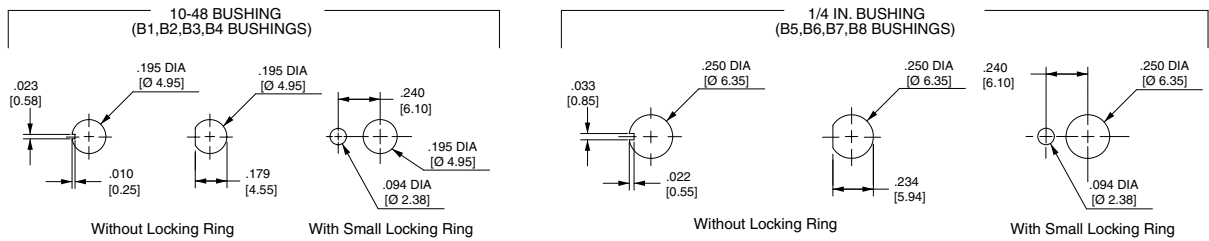
**ACTUATOR**



**BUSHING**

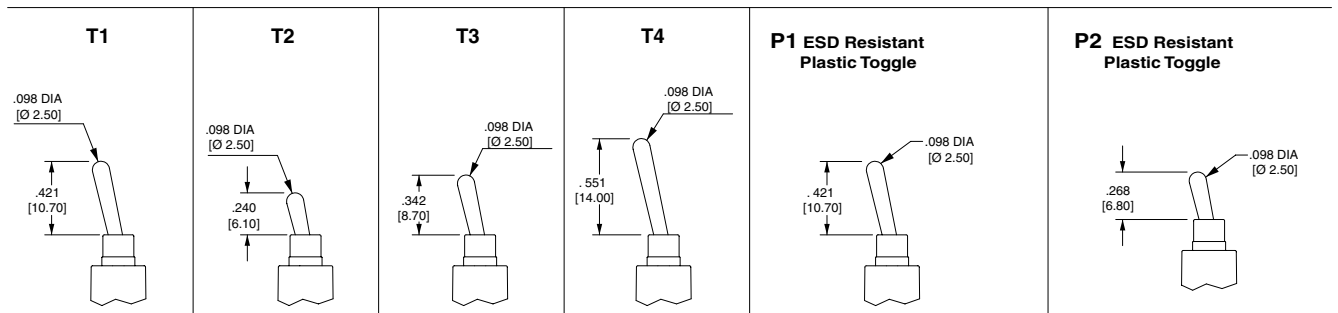


**PANEL MOUNTING**



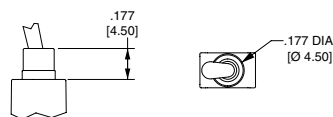
**2SS-Series**

**ACTUATOR**



**BUSHING**

**B4**

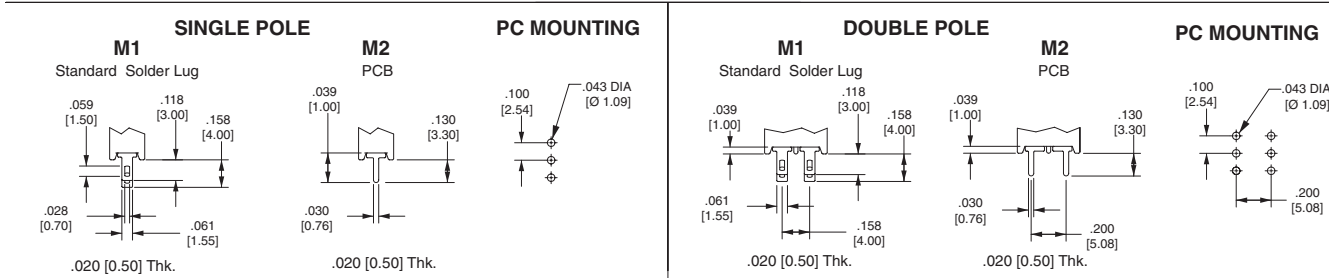


NOTE:  
1 Subtract 2.55mm from toggle length for B1 bushing.

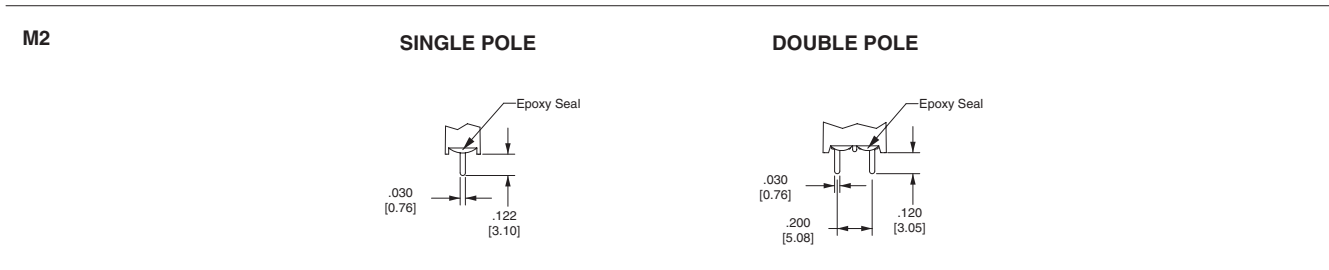
**2S-Series Dimensional Specifications: in. [mm]**

**TERMINATION**

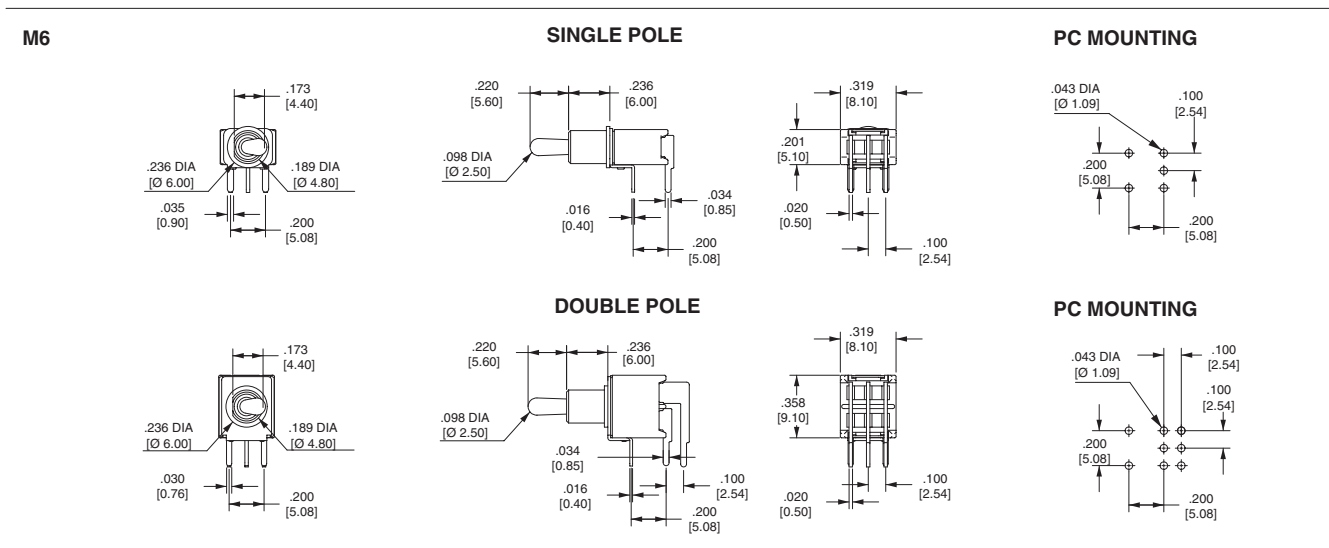
**2S1-Series**



**2SS-Series**



**2S-Series**



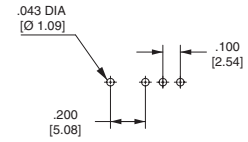
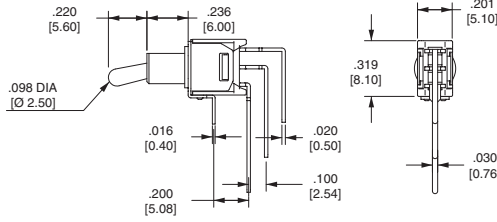
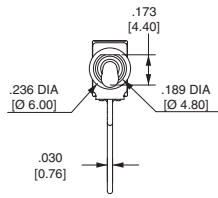
**2S-Series Dimensional Specifications: in. [mm]**

**TERMINATION**

**M7**

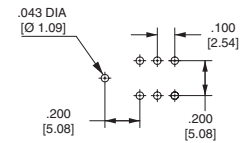
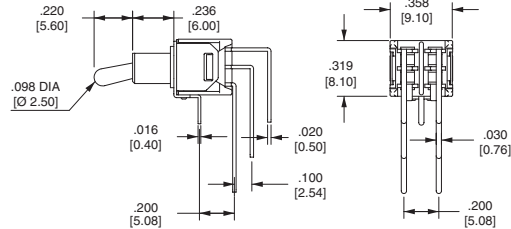
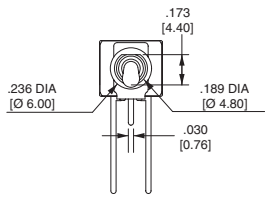
**SINGLE POLE**

**PC MOUNTING**



**DOUBLE POLE**

**PC MOUNTING**



**VS2-VS3**

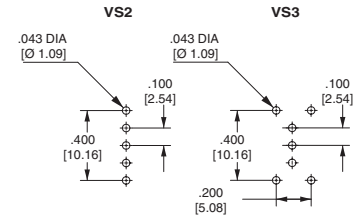
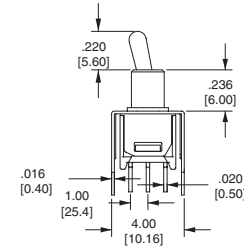
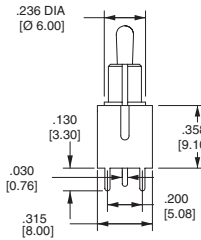
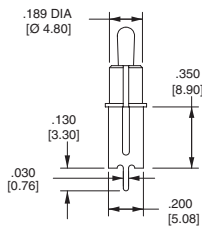
U Bracket Snap-in

**VS2**

**VS3**

**SINGLE POLE**

**PC MOUNTING**

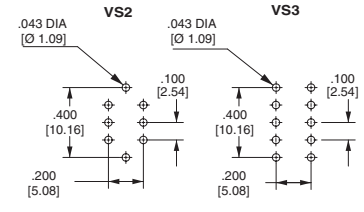
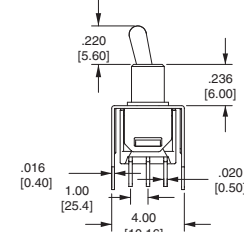
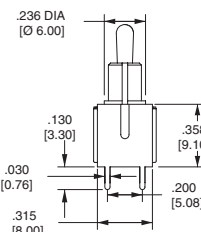
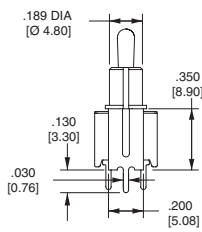


**VS2**

**VS3**

**DOUBLE POLE**

**PC MOUNTING**

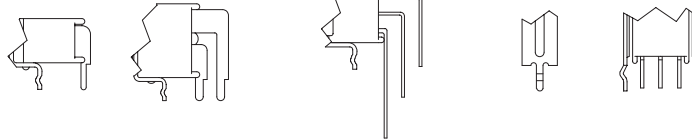


**SNAP-IN TERMINATION**

**M61**

**M71**

**VS21**



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

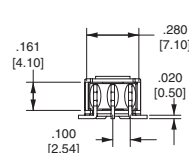
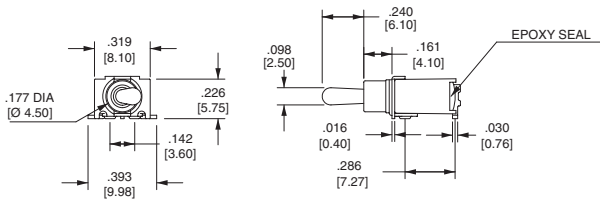
## 2SM-Series Dimensional Specifications: in. [mm]

### ACTUATOR

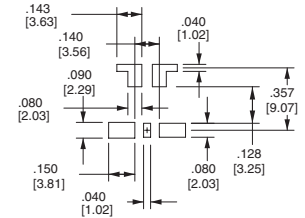
T1 Round Bat	T2 Round Bat	P1 ESD Resistant Plastic Toggle	P2 ESD Resistant Plastic Toggle
<p>For S6,M7 Only</p>			

### TERMINATION

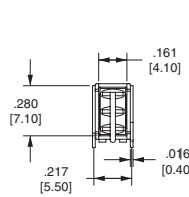
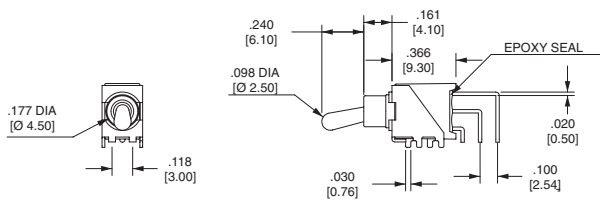
#### M6 90° Horizontal



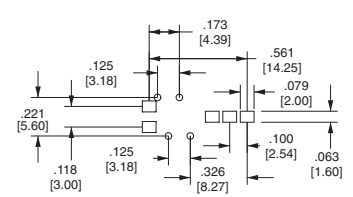
#### PC MOUNTING



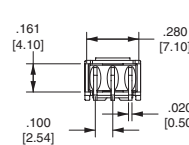
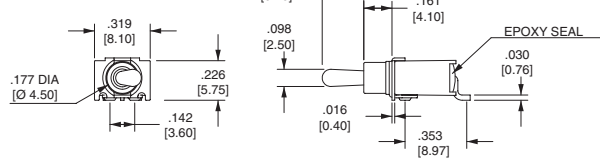
#### M7 90° Vertical



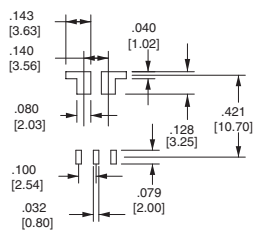
#### PC MOUNTING



#### S6 90° Horizontal

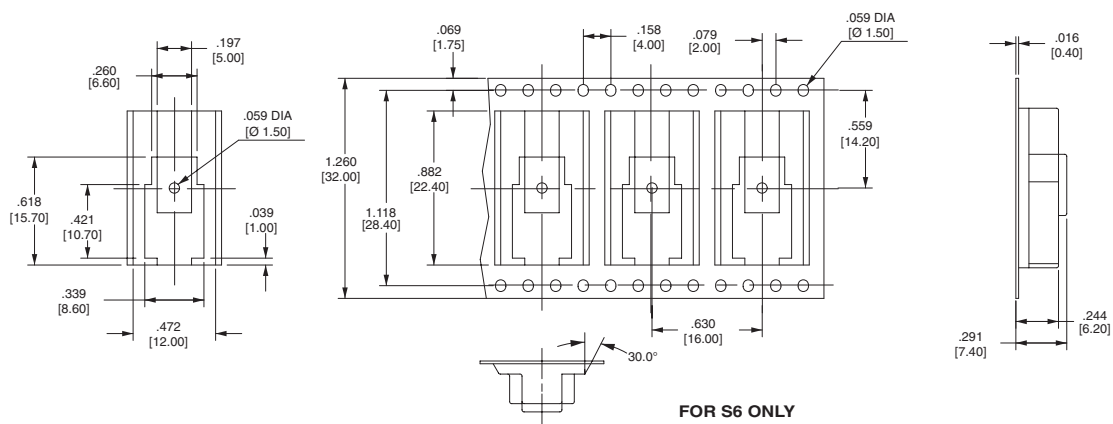
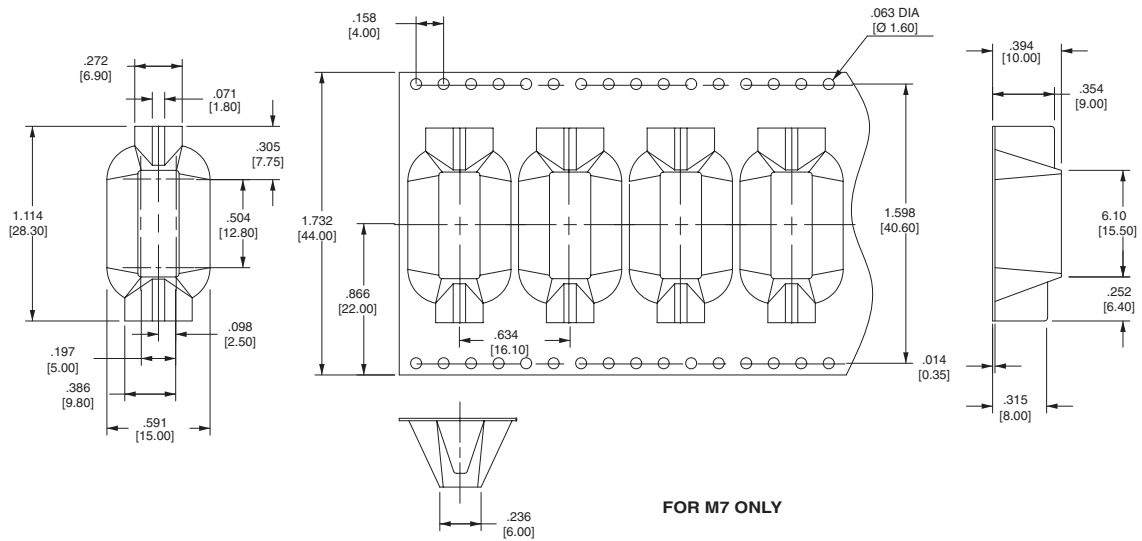
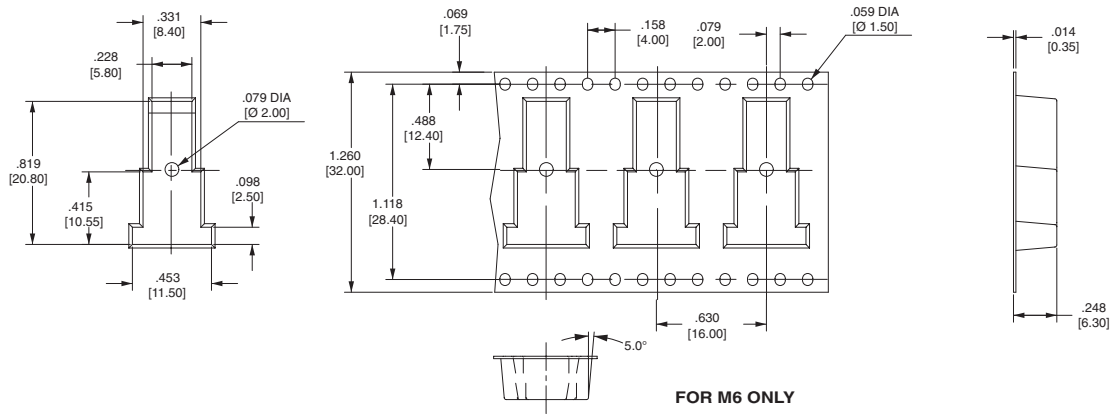


#### PC MOUNTING



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

**REEL TAPING**



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