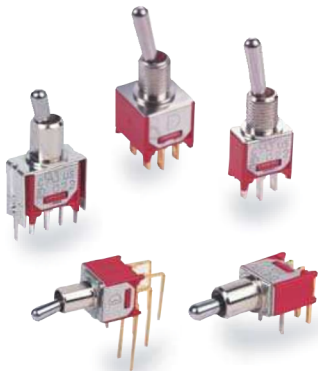


# 2M Series

Sub-Miniature Toggle Switches



2M  
Toggle Switches



## SPECIFICATIONS

**CONTACT RATING:** Dependent upon contact material See Page 29.

**MECHANICAL LIFE:** 30,000 make-and-break cycles.

**CONTACT RESISTANCE:** 20 mΩ max, initial @ 2-4VDC  
100mA for both silver and gold plated contacts.

**INSULATION RESISTANCE:** 1,000 MΩ min.

**DIELECTRIC STRENGTH:** 1,000 Vrms min.@sea level.

**OPERATING TEMPERATURE:** -40°C to 85°C.

## MATERIALS

**CASE:** Diallyl phthalate (DAP) (UL94v-0).

**ACTUATOR:** Brass, chrome plated.

**BUSHING:** Brass or zinc, nickel plated.

**HOUSING:** Stainless Steel.

**SWITCH SUPPORT:** Brass,tin plated.

**TERMINAL/CONTACT:** Brass or copper alloy,with Silver or gold plated.(See Page 29 )

## HOW TO ORDER

MODEL NO.	ACTUATOR	BUSHING	TERMINATIONS	TERMINAL PLATING	SEAL	RoHS SOLDERING
<div style="display: flex; justify-content: space-around;"> <div style="width: 15%;"> <p>Model NO.</p> <p><b>2MS1</b> SP On-None-On</p> <p><b>2MS2</b> SP On-None-Mom.</p> <p><b>2MS3</b> SP On- Off -On</p> <p><b>2MS4</b> SP Mom.-Off-Mom.</p> <p><b>2MS5</b> SP On- Off -Mom.</p> <p><b>2MS6</b> SP Off- None -On.</p> <p><b>2MD1</b> DP On-None-On</p> <p><b>2MD2</b> DP On-None-Mom.</p> <p><b>2MD3</b> DP On- Off -On.</p> <p><b>2MD6</b> DP On- On -On.</p> </div> <div style="width: 15%;"> <p>Actuator</p> <p><b>T1</b> 9.40 high</p> <p><b>T2</b> 5.33 high</p> <p><b>T3</b> 7.37 high</p> <p><b>T4</b> 10.41 high</p> <p><b>T5</b> 5.59 high</p> <p><b>TL1</b> Locking lever 16.00 high</p> <p><b>TL2</b> Locking lever 16.26 high</p> </div> <div style="width: 15%;"> <p>Bushing</p> <p><b>B1</b> 5.59 high,flat (thd)</p> <p><b>B2</b> 5.59 high,flat (non-thd)</p> <p><b>B3</b> 5.59 high,keyway (thd)</p> <p><b>B4</b> 5.59 high,keyway (non-thd)</p> <p><b>B5</b> 7.87 high,flat (thd)</p> <p><b>B6</b> 7.87 high,flat (non-thd)</p> <p><b>B7</b> 6.60 high,keyway (thd)</p> <p><b>B8</b> 6.60 high,keyway (non-thd)</p> <p><b>B25</b> 8.00 high,keyway,locking lever (thd )</p> </div> <div style="width: 15%;"> <p>Terminations</p> <p><b>M1</b> Solder Lug</p> <p><b>M2</b> PC thru-hole</p> <p><b>M51</b> 15.24 high, wire wrap</p> <p><b>M52</b> 6.00 high, wire wrap</p> <p><b>M6</b> Right angle, PC thru-hole</p> <p><b>M6N</b> Right angle, snap-in, PC thru-hole</p> <p><b>M7</b> Vertical right angle, PC thru-hole</p> <p><b>M7N</b> Vertical right angle, snap-in, PC thru-hole</p> <p><b>VS2</b> V-bracket</p> <p><b>V2N</b> Snap-in V-bracket</p> <p><b>VS3</b> V-bracket</p> <p><b>V3N</b> Snap-in V-bracket</p> </div> <div style="width: 15%;"> <p>Terminal plating</p> <p><b>Q</b> Silver</p> <p><b>R</b> Gold</p> <p><b>C</b> Gold over silver</p> </div> <div style="width: 15%;"> <p>Seal</p> <p><b>E</b> EPOXY (std)</p> <p><b>N</b> NO EPOXY</p> </div> <div style="width: 15%;"> <p>RoHS soldering</p> <p><b>S</b> RoHS &amp; Lead Free</p> </div> </div>						
<p>* 2MS6 model type not applicable to M6/M6N/M7/M7N terminations</p>						

## SWITCH FUNCTION

NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS / SCHEMATIC		
			POS.1	POS.2	POS.3	POS.1	POS.2	POS.3
SP	Q2211	2MS1	ON	NONE	ON	2-3	N/A	2-1
	Q2212	2MS2	ON	NONE	MOM			
	Q2213	2MS3	ON	OFF	ON		OPEN	
	Q2214	2MS4	MOM	OFF	MOM			
	Q2215	2MS5	ON	OFF	MOM	OPEN	N/A	3-1
	Q2216	2MS6	OFF	NONE	ON			
DP	Q2221	2MD1	ON	NONE	ON	2-3,5-6	N/A	2-1,5-4
	Q2222	2MD2	ON	NONE	MOM			
	Q2223	2MD3	ON	OFF	ON		OPEN	
	▲ Q2226	2MD6	ON	ON	ON			

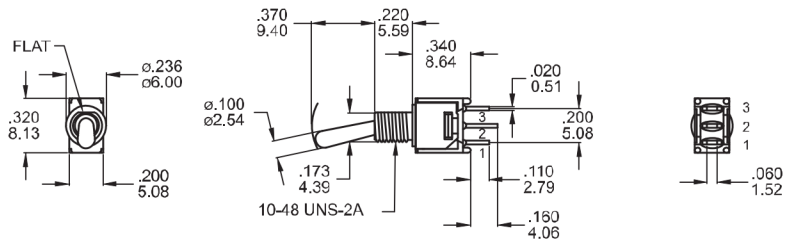
MOM=MOMENTARY

▲ Please check the availability in advance before order



2M  
Toggle Switches

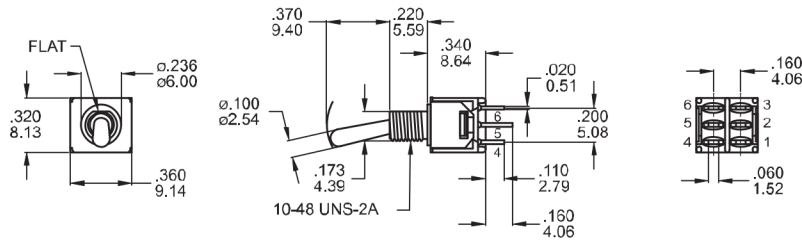
## POLE OPTIONS



SPDT

2MS6 Models : Omit 2nd terminal

Part No. Shown : 2MS1T1B1M1QES



DPDT

Part No. Shown : 2MD1T1B1M1RES

# 2M Series

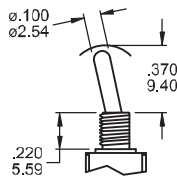
Sub-Miniature Toggle Switches

## ACTUATOR OPTIONS

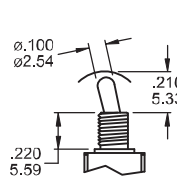


2M  
Toggle Switches

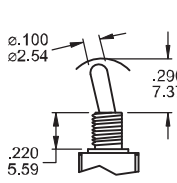
T1



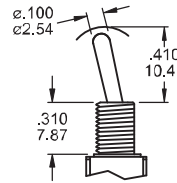
T2



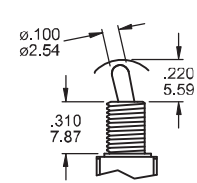
T3



T4



T5

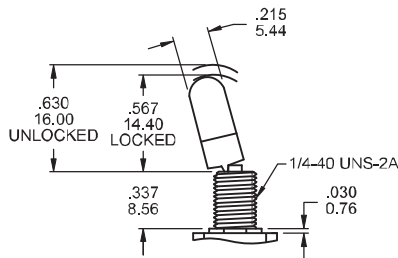


NONE: T1,T2,T3 Actuator shown with B1 to B4 bushing, subtract 0.09 ( 2.29 ) for B5 bushing, subtract 0.04 ( 1.02 ) for B7 bushing.

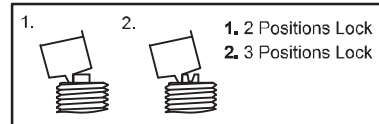
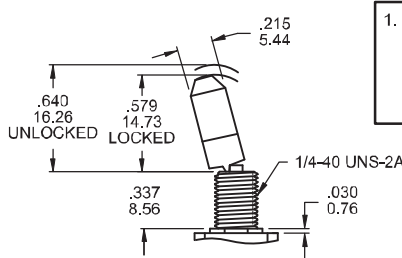
T4,T5 Actuator shown with B5,B6 bushing, add 0.09 ( 2.29 ) for B1 to B3 bushing, add 0.05 ( 1.27 ) for B7 bushing.

Std for M1,M2 Terminal sub .016(.040) for M6,M7,VSX

TL1B25

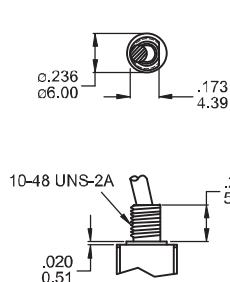


TL2B25

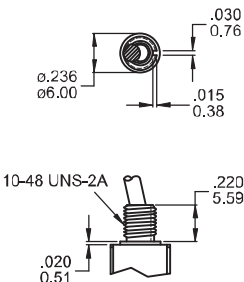


## BUSHING OPTIONS

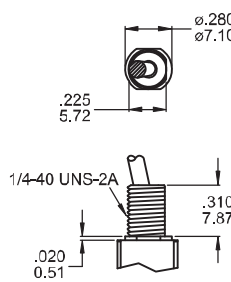
B1 THD  
B2 NON-THD



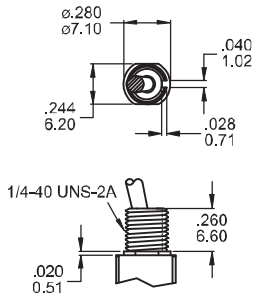
B3 THD  
B4 NON-THD



B5 THD  
B6 NON-THD

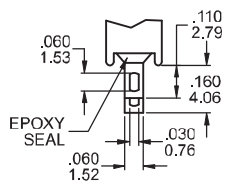


B7 THD  
B8 NON-THD

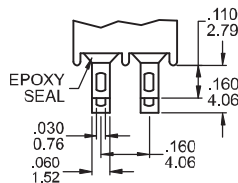


## TERMINATION OPTIONS

M1 Solder lug

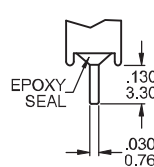


.020(.051) THK.

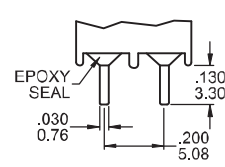


Double Pole

M2 PC Thru-hole



.020(.051) THK.



Double Pole

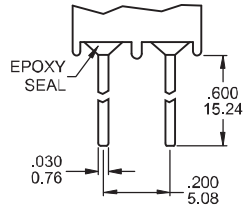
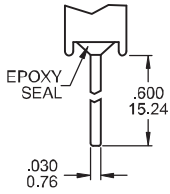
# 2M Series

Sub-Miniature Toggle Switches



2M  
Toggle Switches

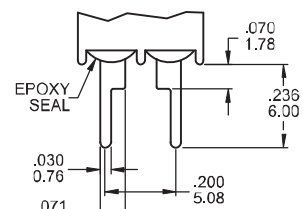
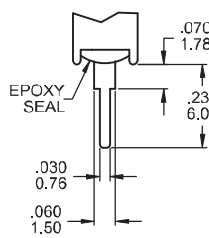
## M51 Wire Wrap



Double Pole

.020(0.51) THK.

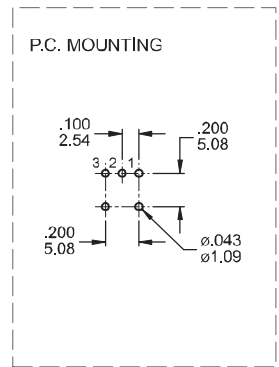
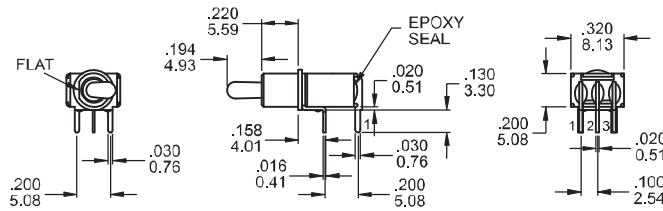
## M52 Wire Wrap



Double Pole

.020(0.51) THK.

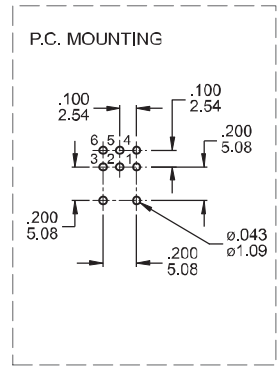
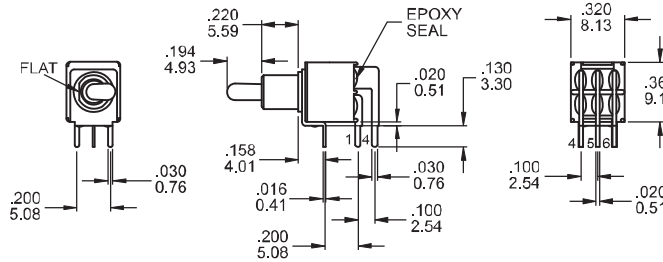
## M6



## SPDT

Part No. Shown : 2MS1T2B2M6RES

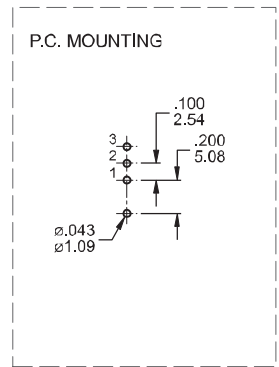
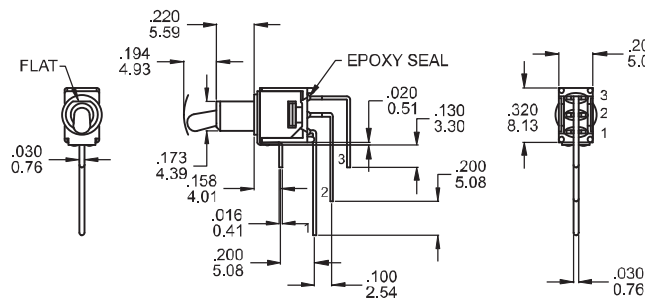
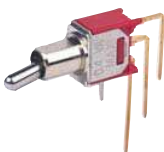
## M6



## DPDT

Part No. Shown : 2MD1T2B2M6QES

## M7



## SPDT

Part No. Shown : 2MS1T2B2M7RES

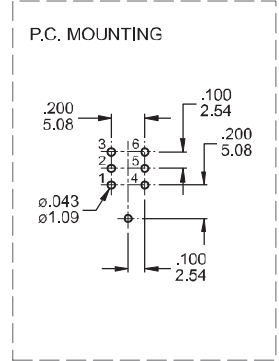
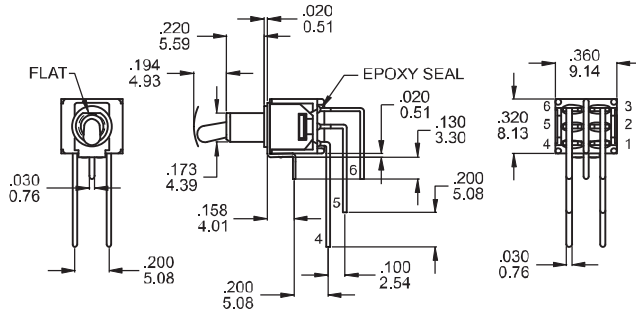
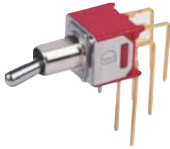
# 2M Series

Sub-Miniature Toggle Switches



2M  
Toggle Switches

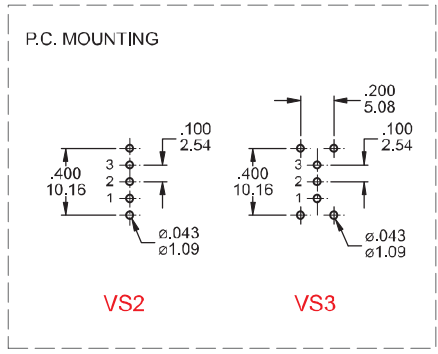
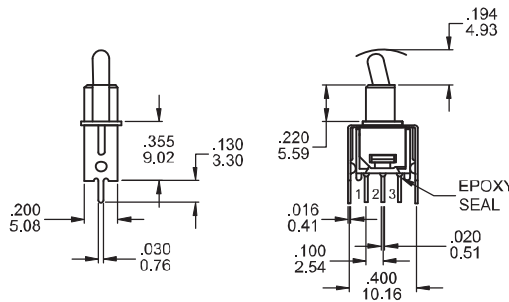
M7



DPDT

Part No. Shown : 2MD1T2B2M7RES

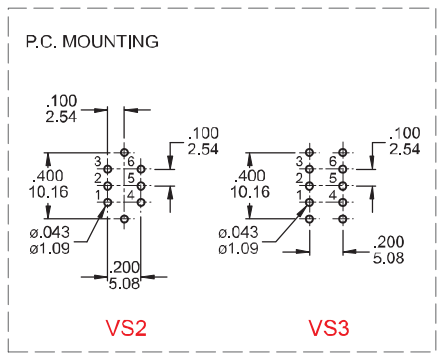
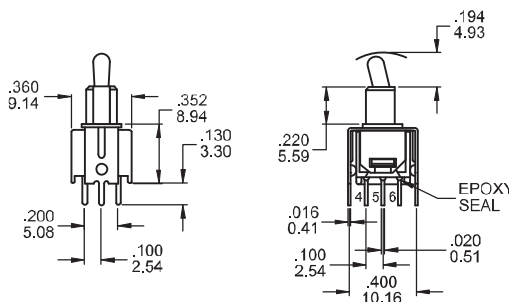
VS2 - VS3



SPDT

Part No. Shown : 2MS1T2B2VS2QES

VS2 - VS3



DPDT

Part No. Shown : 2MD1T2B2VS2QES

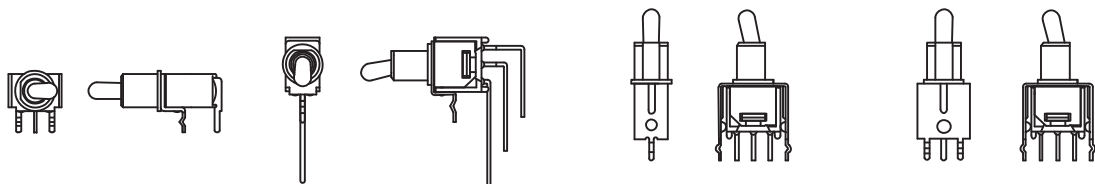
## SNAP-IN TERMINATION OPTIONS

M6N

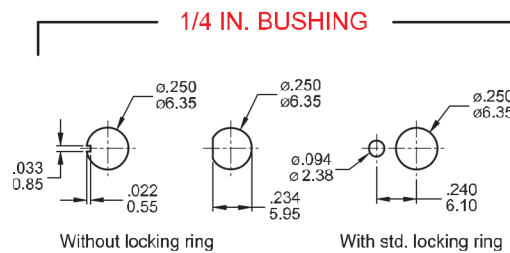
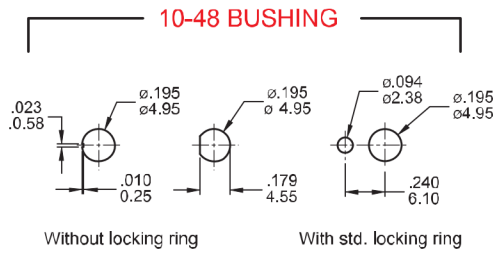
M7N

V2N

V3N



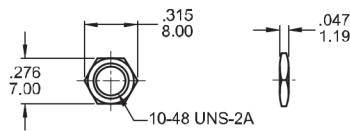
**PANEL MOUNTING**



**2M**  
Toggle Switches

**HARDWARE**

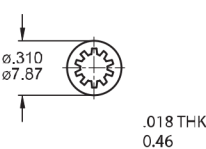
**10-48 NUT**



**MNU-2M01**

Supplied standard with B1 / B3 bushing

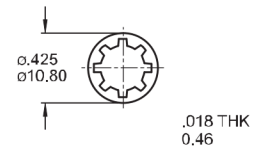
**LOCKWASHER**



**MNU-2M03**

Supplied standard with B1 / B3 bushing

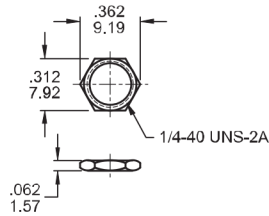
**LOCKWASHER**



**MNU-1M03**

Supplied standard with B5 / B7 bushing

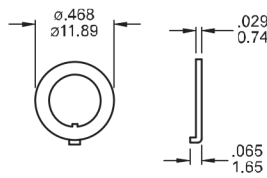
**1/4 NUT**



**MNU-1M01A**

Supplied standard with B5 / B7 bushing

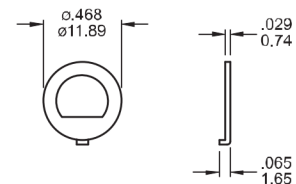
**LOCKING RING**



**MNU-1M02**

Supplied standard with B7 bushing

**LOCKING RING**



**MNU-1M11**

Supplied standard with B5 bushing

**CONTACT MATERIAL OPTIONS**

	CONTACT PLATING	TERMINAL PLATING	RATINGS
<b>Q</b>	Silver	<b>Q</b> = Silver	3 Amps with resistant load @ 120VAC or 28VDC 1 Amps with resistant load @ 250VAC
<b>C</b>	Gold over Silver	<b>C</b> = Gold over silver	
<b>R</b>	Gold	<b>R</b> = Gold	0.4 Volt - Amps ( VA ) max. @ 20V max. ( AC or DC )

**SOLDERING PROCESSES**

**MANUAL SOLDERING:** Use soldering iron of 30 watts, controlled at 350°C approximately 5 seconds while applying solder.

**WAVE SOLDERING:** Recommended Soldering Temperature: 270 ± 5°C

Duration of Solder Immersion: Max 5 sec. (PCB is 1.6mm in thickness)