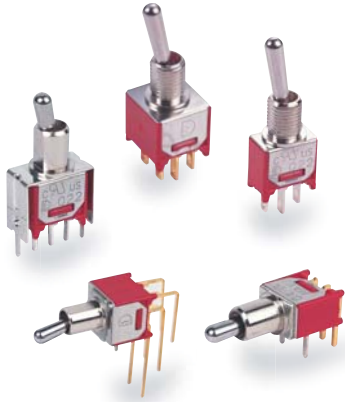


# 2M Series

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-between;"> <div style="width: 20%;"> <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: 20%;"> <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>	<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>	<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>	<p>Terminal plating</p> <p><b>Q</b> Silver</p> <p><b>R</b> Gold</p> <p><b>C</b> Gold over silver</p>	<p>Seal</p> <p><b>E</b> EPOXY (std)</p> <p><b>N</b> NO EPOXY</p>	<p>RoHS soldering</p> <p><b>S</b> RoHS &amp; Lead Free</p>	
			<p>* 2MS6 model type not applicable to M6/M6N/M7/M7N terminations</p>			

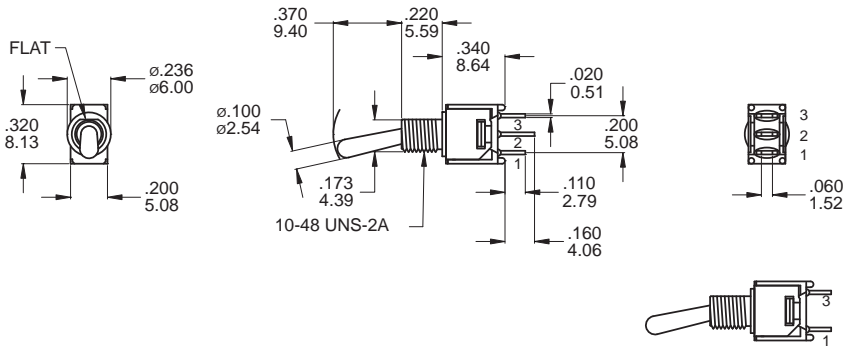
## SWITCH FUNCTION

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			OPEN
	Q2213	2MS3	ON	OFF	ON			
	Q2214	2MS4	MOM	OFF	MOM			
	Q2215	2MS5	ON	OFF	MOM			
	Q2216	2MS6	OFF	NONE	ON	OPEN	N/A	3-1
DP	Q2221	2MD1	ON	NONE	ON	2-3,5-6	N/A	2-1,5-4
	Q2222	2MD2	ON	NONE	MOM		OPEN	
	Q2223	2MD3	ON	OFF	ON			
	▲ Q2226	2MD6	ON	ON	ON	2-3,5-6	2-3,5-4	2-1,5-4

MOM=MOMENTARY

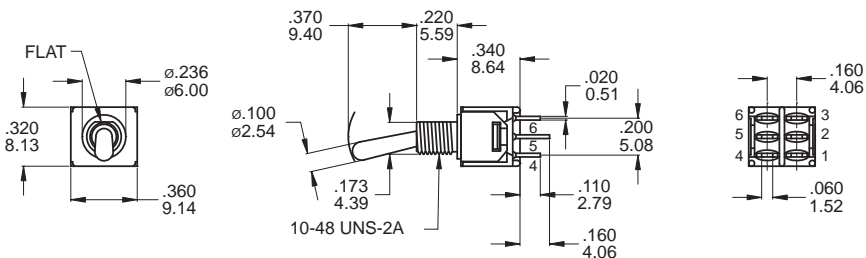
▲ Please check the availability in advance before order

## POLE OPTIONS



SPDT

Part No. Shown : 2MS1T1B1M1QES



DPDT

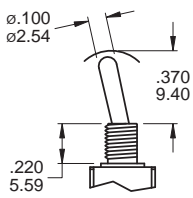
Part No. Shown : 2MD1T1B1M1RES

# 2M Series

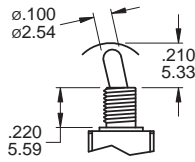
Sub-Miniature Toggle Switches

## ACTUATOR OPTIONS

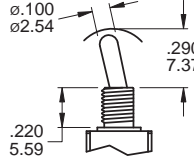
T1



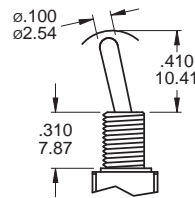
T2



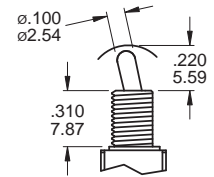
T3



T4

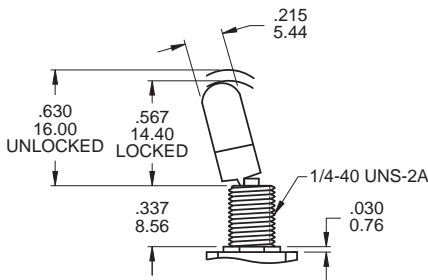


T5

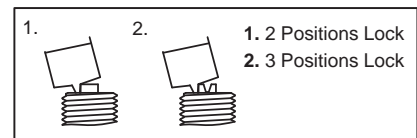
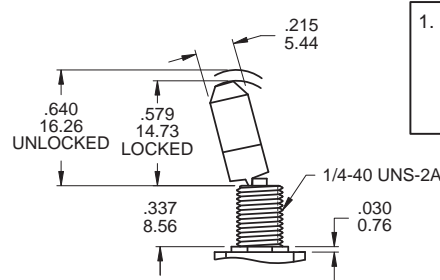


NONE: T1,T2,T3 Actuator shown with B1 to B4 bushing, subtract 0.09 ( 2.29 ) for B5 bushing, subtract 0.04 ( 1.02 ) for B7 bushing.  
 T4,T5 Actuator shown with B5,B6 bushing, add 0.09 ( 2.29 ) for B1 to B3 bushing, add 0.05 ( 1.27 ) for B7 bushing.  
 Std for M1,M2 Terminal sub .016(.040) for M6,M7,VSX

TL1B25

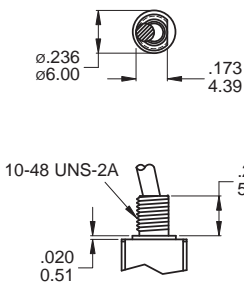


TL2B25

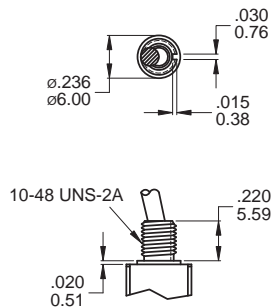


## BUSHING OPTIONS

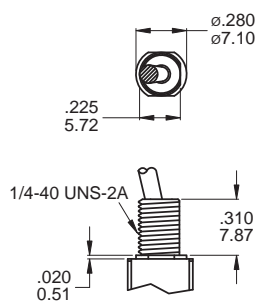
B1 THD  
B2 NON-THD



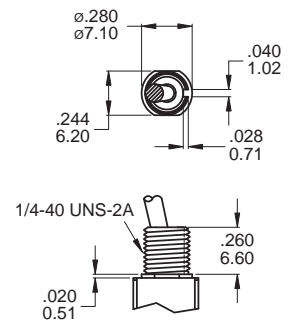
B3 THD  
B4 NON-THD



B5 THD  
B6 NON-THD

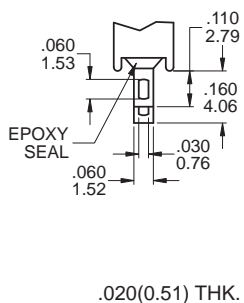


B7 THD  
B8 NON-THD

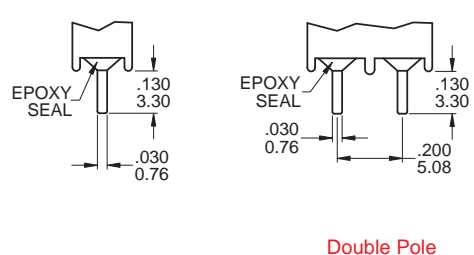
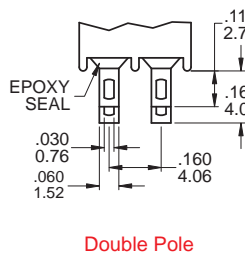


## TERMINATION OPTIONS

M1 Solder lug

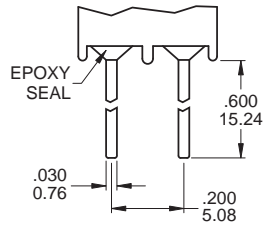
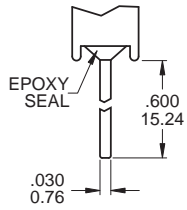


M2 PC Thru-hole



.020(0.51) THK.

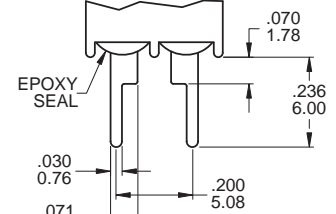
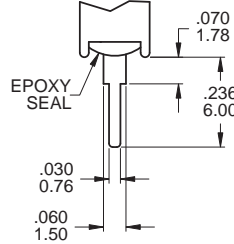
## M51 Wire Wrap



Double Pole

.020(0.51) THK.

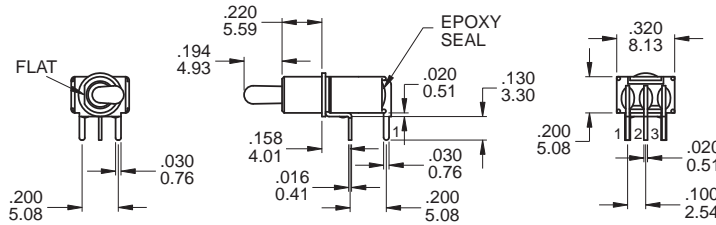
## M52 Wire Wrap



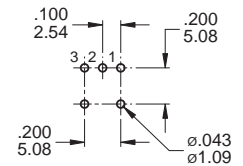
Double Pole

.020(0.51) THK.

## M6



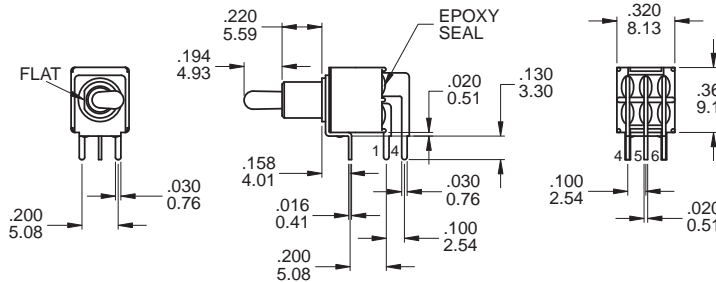
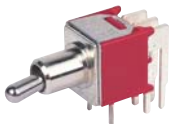
### P.C. MOUNTING



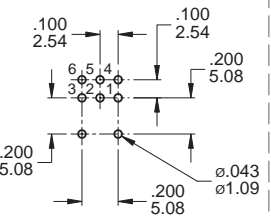
## SPDT

Part No. Shown : 2MS1T2B2M6RES

## M6



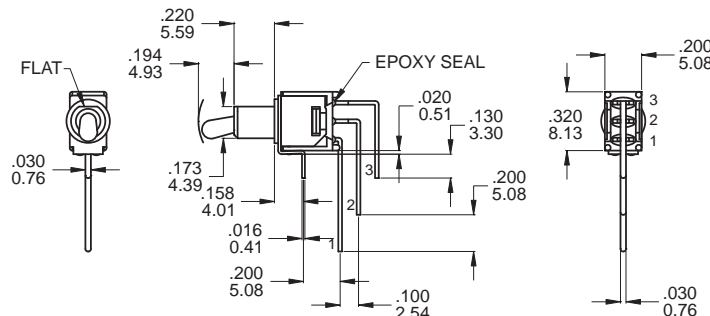
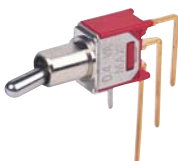
### P.C. MOUNTING



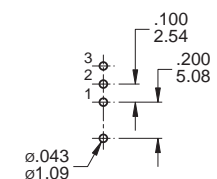
## DPDT

Part No. Shown : 2MD1T2B2M6QES

## M7



### P.C. MOUNTING



## SPDT

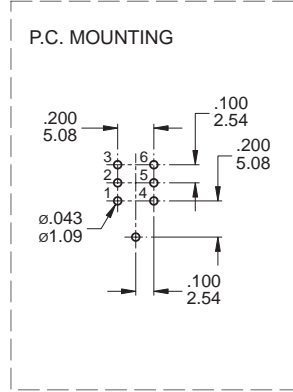
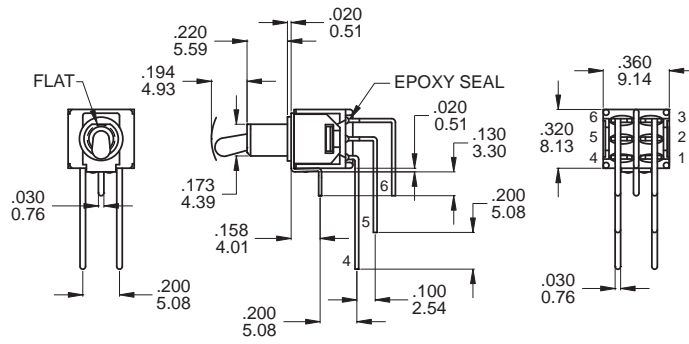
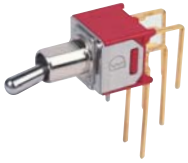
Part No. Shown : 2MS1T2B2M7RES

# 2M Series

Sub-Miniature Toggle Switches

2M  
Toggle Switches

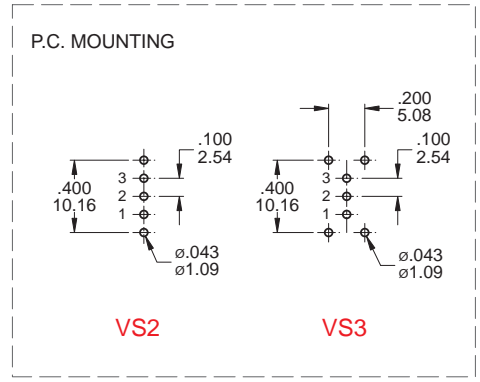
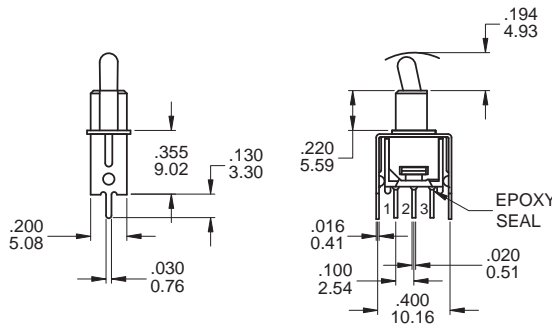
M7



DPDT

Part No. Shown : 2MD1T2B2M7RES

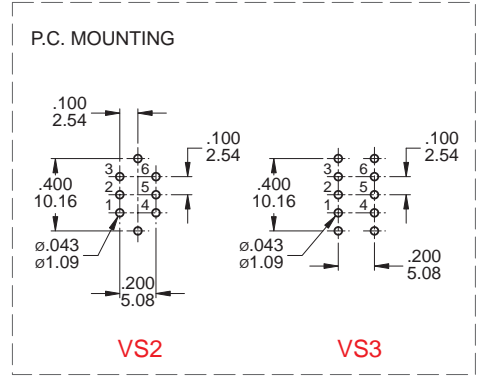
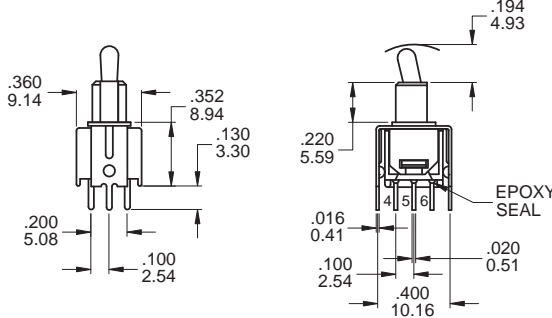
VS2 - VS3



SPDT

Part No. Shown : 2MS1T2B2VS2QES

VS2 - VS3



DPDT

Part No. Shown : 2MD1T2B2VS2QES

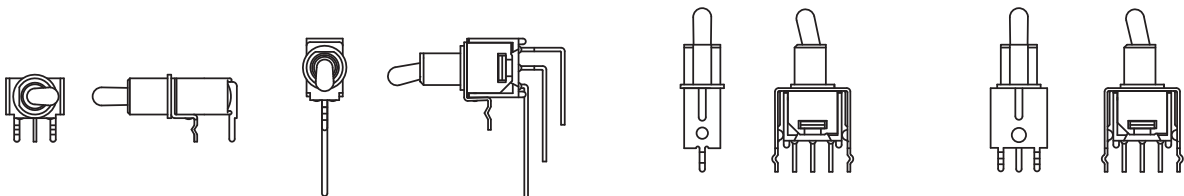
## SNAP-IN TERMINATION OPTIONS

M6N

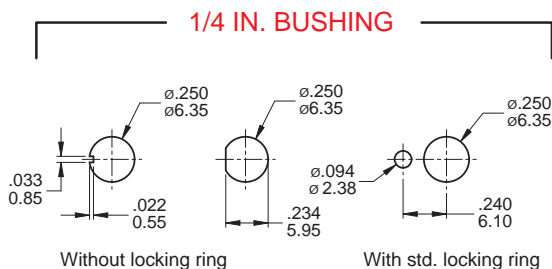
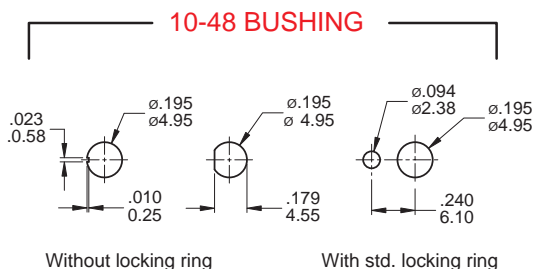
M7N

V2N

V3N

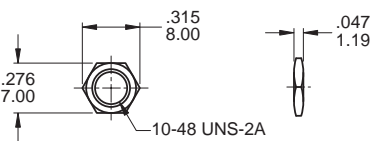


## PANEL MOUNTING



## HARDWARE

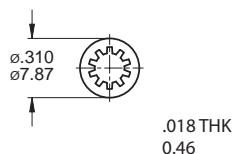
### 10-48 NUT



MNU-2M01

Supplied standard with B1/ B3 bushing

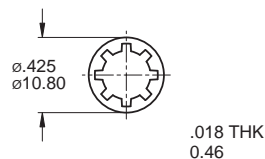
### LOCKWASHER



MNU-2M03

Supplied standard with B1 / B3 bushing

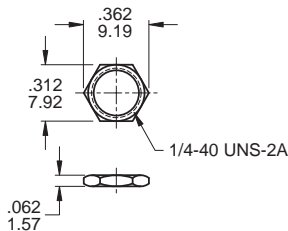
### LOCKWASHER



MNU-1M03

Supplied standard with B5 / B7 bushing

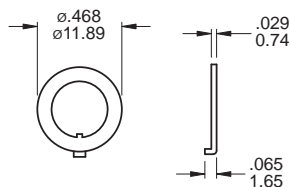
### 1/4 NUT



MNU-1M01A

Supplied standard with B5/ B7 bushing

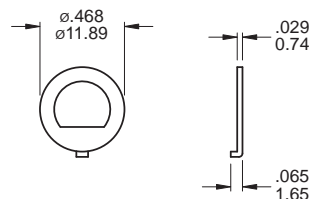
### LOCKING RING



MNU-1M02

Supplied standard with B7 bushing

### LOCKING RING



MNU-1M11

Supplied standard with B5 bushing

## CONTACT MATERIAL OPTIONS

	CONTACT PLATING	TERMINAL PLATING	RATINGS
Q	Silver	Q = Silver	3 Amps with resistant load @ 120VAC or 28VDC 1 Amps with resistant load @ 250VAC
C	Gold over Silver	C = Gold over silver	
R	Gold	R = 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)

