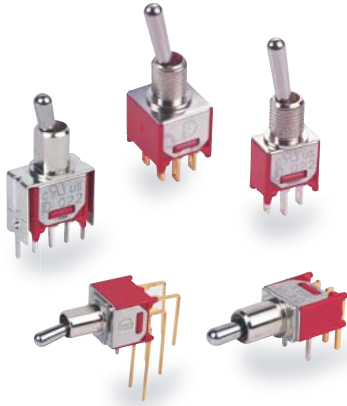


# 2M Series

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



Model NO.

- 2MS1 SP On-None-On
- 2MS2 SP On-None-Mom.
- 2MS3 SP On- Off -On
- 2MS4 SP Mom.-Off-Mom.
- 2MS5 SP On- Off -Mom.
- 2MS6 SP Off- None -On.
- 2MD1 DP On-None-On
- 2MD2 DP On-None-Mom.
- 2MD3 DP On- Off -On.
- 2MD6 DP On- On -On.

Actuator

- T1 9.40 high
- T2 5.33 high
- T3 7.37 high
- T4 10.41 high
- T5 5.59 high
- TL1 Locking lever  
16.00 high
- TL2 Locking lever  
16.26 high

Bushing

- B1 5.59 high, flat (thd)
- B2 5.59 high, flat (non-thd)
- B3 5.59 high, keyway (thd)
- B4 5.59 high, keyway (non-thd)
- B5 7.87 high, flat (thd)
- B6 7.87 high, flat (non-thd)
- B7 6.60 high, keyway (thd)
- B8 6.60 high, keyway (non-thd)
- B25 8.00 high, keyway, locking lever (thd)

Terminations

- M1 Solder Lug
- M2 PC thru-hole
- M5 Wire wrap
- M6 Right angle, PC thru-hole
- M6N Right angle, snap-in, PC thru-hole
- M7 Vertical right angle, PC thru-hole
- M7N Vertical right angle, snap-in, PC thru-hole
- VS2 V-bracket
- V2N Snap-in V-bracket
- VS3 V-bracket
- V3N Snap-in V-bracket

Terminal plating

- Q Silver
- R Gold
- C Gold over silver

Seal

- E EPOXY (std)
- N NO EPOXY

RoHS soldering

- RoHS Compliant
- S RoHS & Lead Free

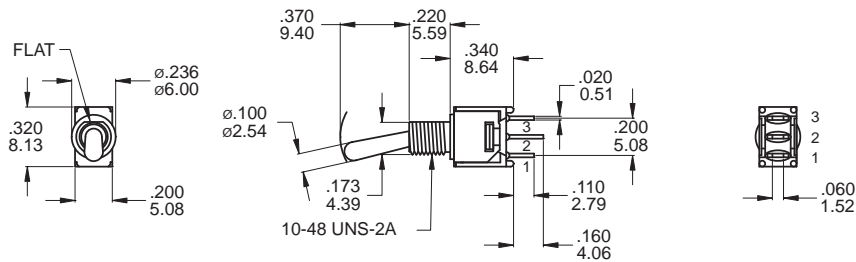
SWITCH FUNCTION

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	2-3,5-6		

MOM=MOMENTARY

▲ Please check the availability in advance before order

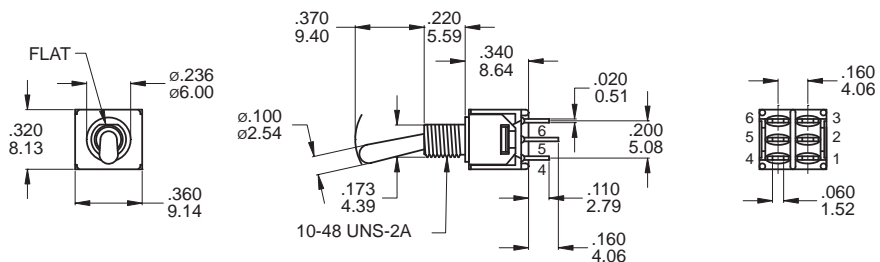
POLE OPTIONS



2MS6 Models : Omit 2nd terminal

SPDT

Part No. Shown : 2MS1T1B1M1QE



DPDT

Part No. Shown : 2MD1T1B1M1RE



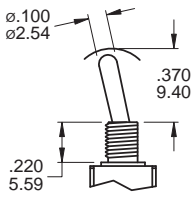
2M  
Toggle Switches

# 2M Series

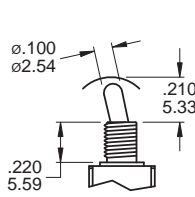
Sub-Miniature Toggle Switches

## ACTUATOR OPTIONS

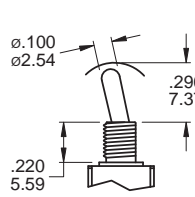
T1



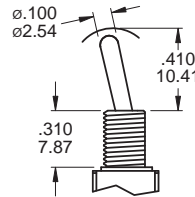
T2



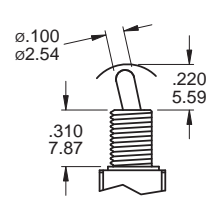
T3



T4

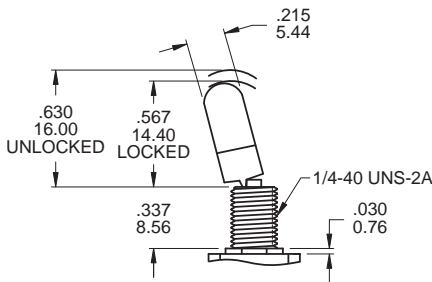


T5

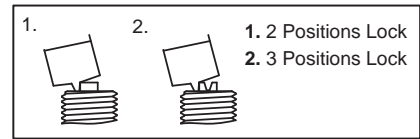
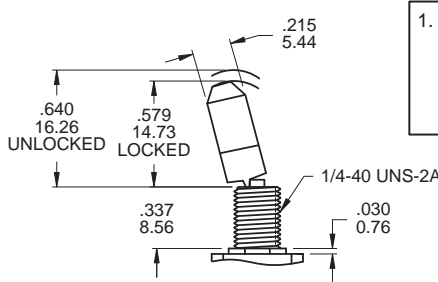


**NONE:** T1,T2,T3 Actuator shown with B1 to B4 bushing, subtract 0.09 ( 2.29 ) for B5 bushing, subtract 0.04 ( 1.02 ) for B7 bushing.  
 T4,T5 Actuator shown with B5,B6 bushing, add 0.09 ( 2.29 ) for B1 to B3 bushing, add 0.05 ( 1.27 ) for B7 bushing.  
 Std for M1,M2 Terminal sub .016(.040) for M6,M7,VSX

TL1B25

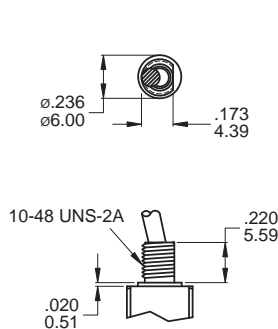


TL2B25

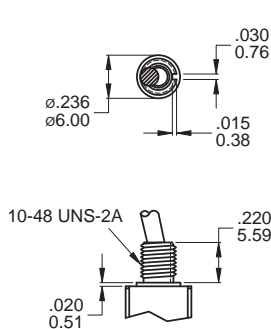


## BUSHING OPTIONS

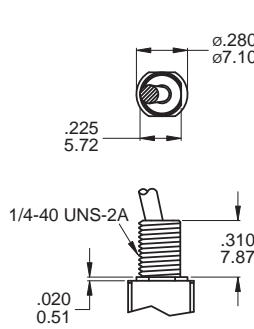
B1 THD  
B2 NON-THD



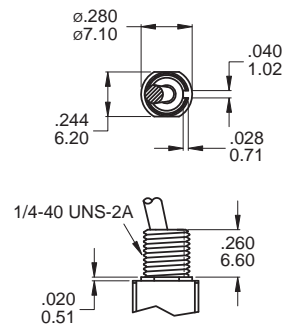
B3 THD  
B4 NON-THD



B5 THD  
B6 NON-THD

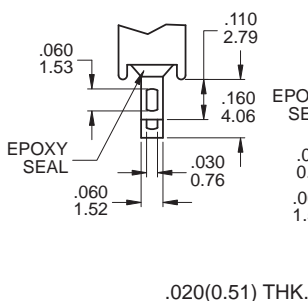


B7 THD  
B8 NON-THD

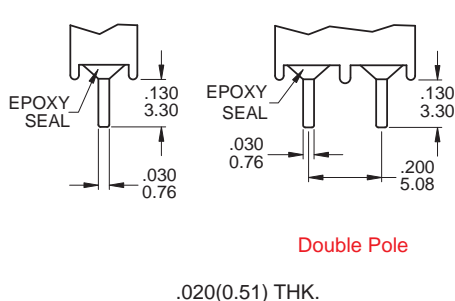


## TERMINATION OPTIONS

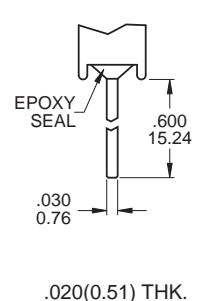
M1 Solder lug



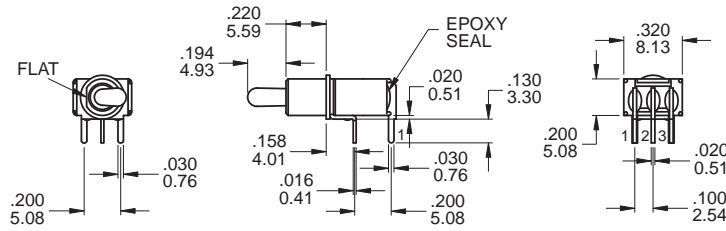
M2 PC Thru-hole



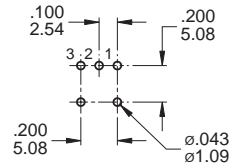
M5 Wire Wrap



## M6



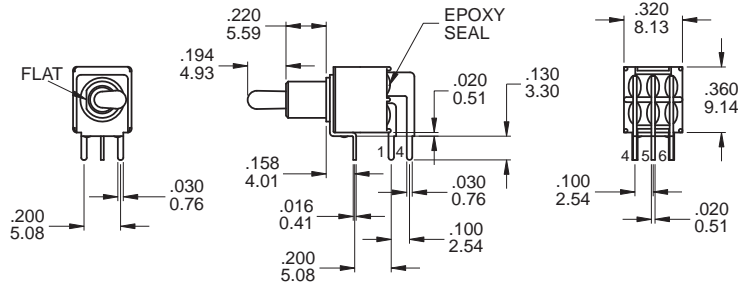
### P.C. MOUNTING



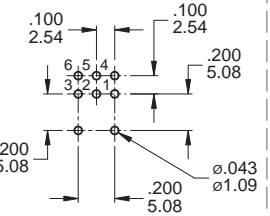
## SPDT

Part No. Shown : 2MS1T2B2M6RE

## M6



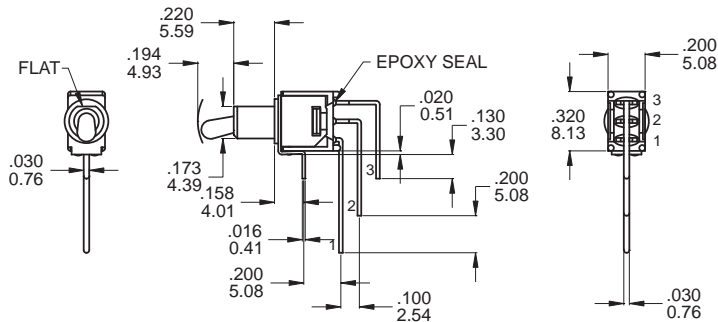
### P.C. MOUNTING



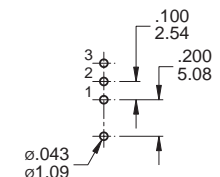
## DPDT

Part No. Shown : 2MD1T2B2M6QE

## M7



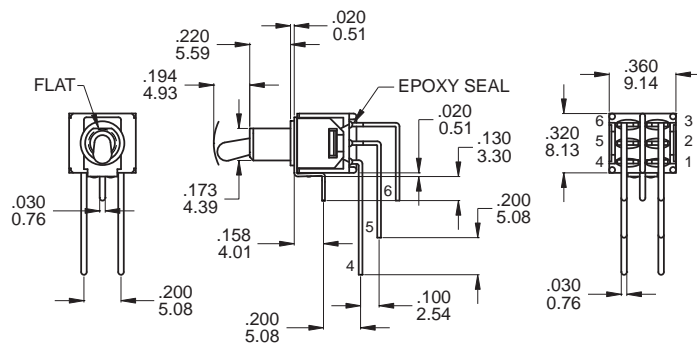
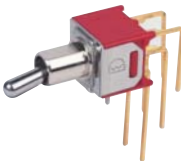
### P.C. MOUNTING



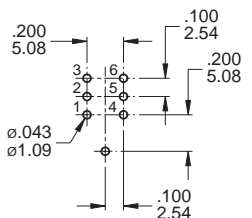
## SPDT

Part No. Shown : 2MS1T2B2M7RE

## M7



### P.C. MOUNTING



## DPDT

Part No. Shown : 2MD1T2B2M7RE



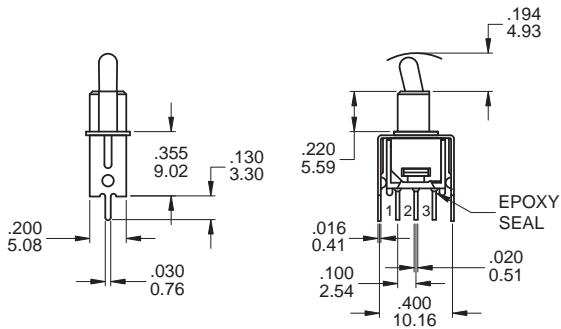
2M  
Toggle Switches

# 2M Series

Sub-Miniature Toggle Switches

2M  
Toggle Switches

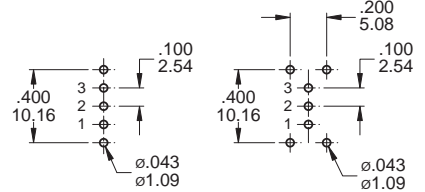
## VS2 - VS3



SPDT

Part No. Shown : 2MS1T2B2VS2QE

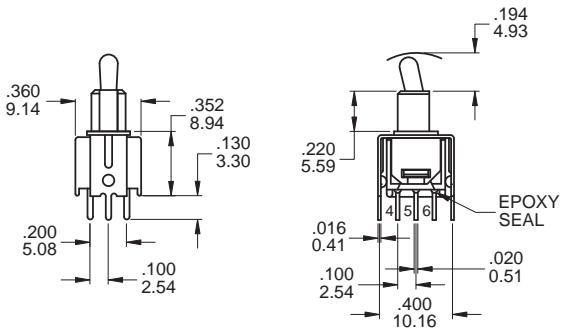
### P.C. MOUNTING



VS2

VS3

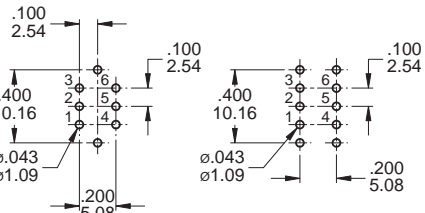
## VS2 - VS3



DPDT

Part No. Shown : 2MD1T2B2VS2QE

### P.C. MOUNTING

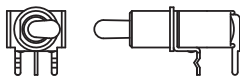


VS2

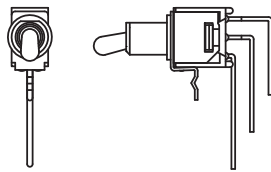
VS3

## SNAP-IN TERMINATION OPTIONS

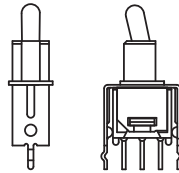
M6N



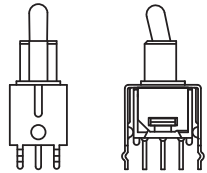
M7N



V2N

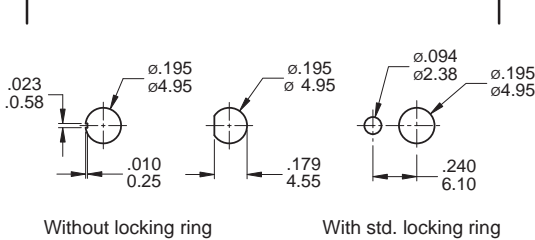


V3N



## PANEL MOUNTING

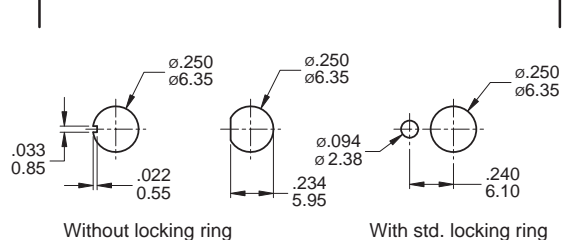
### 10-48 BUSHING



Without locking ring

With std. locking ring

### 1/4 IN. BUSHING

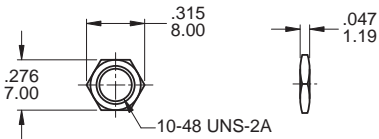


Without locking ring

With std. locking ring

## HARDWARE

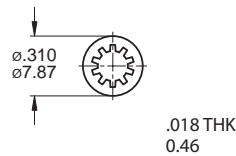
### 10-48 NUT



**MNU-2M01**

Supplied standard with  
B1/ B3 bushing

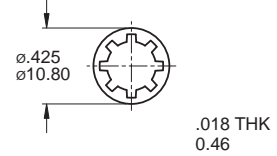
### LOCKWASHER



**MNU-2M03**

Supplied standard with  
B1 / B3 bushing

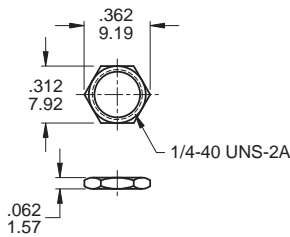
### LOCKWASHER



**MNU-1M03**

Supplied standard with  
B5 / B7 bushing

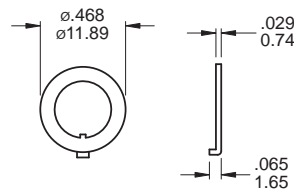
### 1/4 NUT



**MNU-1M01A**

Supplied standard with  
B5/ B7 bushing

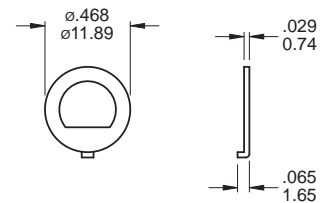
### LOCKING RING



**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)