



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

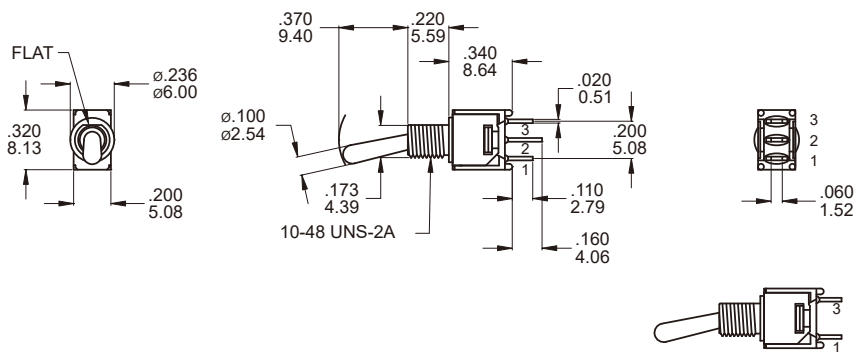
MODEL NO.	ACTUATOR	BUSHING	TERMINATIONS	TERMINAL PLATING	SEAL	RoHS SOLDERING
Model NO. <b>2MS1</b> SP ON-NONE-ON <b>2MS2</b> SP ON-NONE-(ON) <b>2MS3</b> SP ON-OFF-ON <b>2MS4</b> SP (ON)-OFF-(ON) <b>2MS5</b> SP ON-OFF-(ON) <b>2MS6</b> SP OFF-NONE-ON <b>2MD1</b> DP ON-NONE-ON <b>2MD2</b> DP ON-NONE-(ON) <b>2MD3</b> DP ON-OFF-ON <b>2MD6</b> DP ON- ON -ON.	Actuator <b>T1</b> 9.40 high <b>T2</b> 5.33 high <b>T3</b> 7.37 high <b>T4</b> 10.41 high <b>T5</b> 5.59 high <b>TL1</b> Locking lever 16.00 high <b>TL2</b> Locking lever 16.26 high	Bushing <b>B1</b> 5.59 high,flat (thd) <b>B2</b> 5.59 high,flat (non-thd) <b>B3</b> 5.59 high,keyway (thd) <b>B4</b> 5.59 high,keyway (non-thd) <b>B5</b> 7.87 high,flat (thd) <b>B6</b> 7.87 high,flat (non-thd) <b>B7</b> 6.60 high,keyway (thd) <b>B8</b> 6.60 high,keyway (non-thd) <b>B25</b> 8.00 high,keyway,locking lever (thd )	Terminations <b>M1</b> Solder Lug <b>M2</b> PC thru-hole <b>M51</b> 15.24 high, wire wrap <b>M52</b> 6.00 high, wire wrap <b>M6</b> Right angle, PC thru-hole <b>M6N</b> Right angle, snap-in, PC thru-hole <b>M7</b> Vertical right angle, PC thru-hole <b>M7N</b> Vertical right angle, snap-in, PC thru-hole <b>VS2</b> V-bracket <b>V2N</b> Snap-in V-bracket <b>VS3</b> V-bracket <b>V3N</b> Snap-in V-bracket * 2MS6 model type not applicable to M6/M6N/M7/M7N terminations	Terminal plating <b>Q</b> Silver <b>R</b> Gold <b>C</b> Gold over silver	Seal <b>E</b> EPOXY (std) <b>N</b> NO EPOXY	RoHS soldering <b>S</b> 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	(ON)			
	Q2213	2MS3	ON	OFF	ON			
	Q2214	2MS4	(ON)	OFF	(ON)		OPEN	
	Q2215	2MS5	ON	OFF	(ON)	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	(ON)			
	Q2223	2MD3	ON	OFF	ON		OPEN	
	▲ Q2226	2MD6	ON	ON	ON	2-3,5-6	2-3,5-4	2-1,5-4

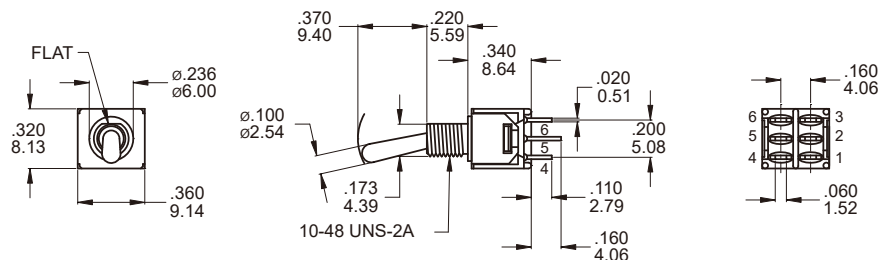
( )=MOMENTARY

▲ Please check the availability in advance before order

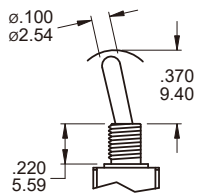
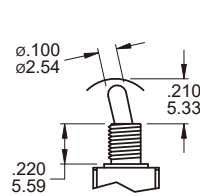
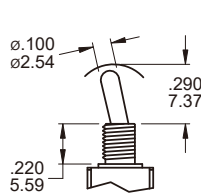
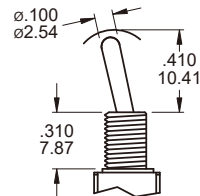
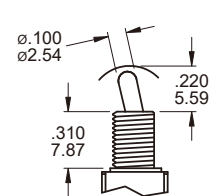
**POLE OPTIONS**

**SPDT**

2MS6 Models : Omit 2nd terminal

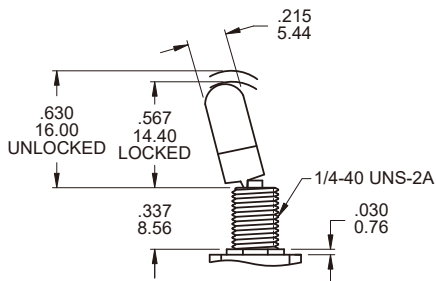
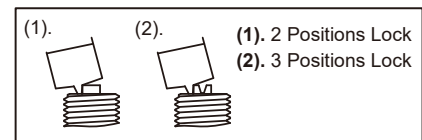
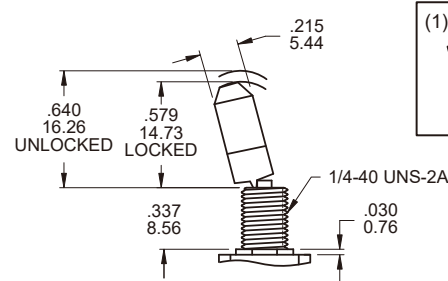
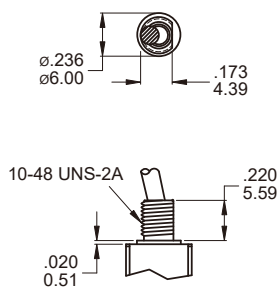
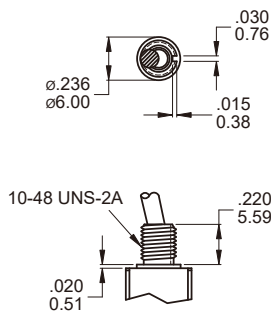
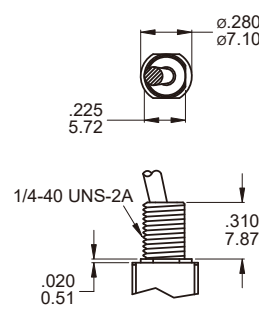
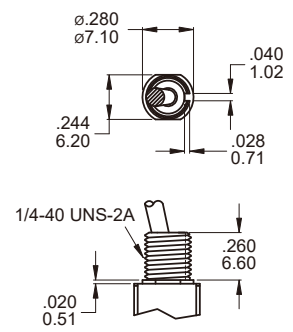
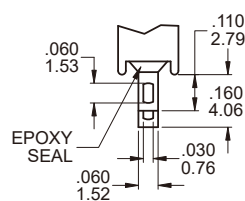
Part No. Shown : 2MS1T1B1M1QES


**DPDT**

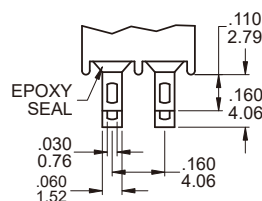
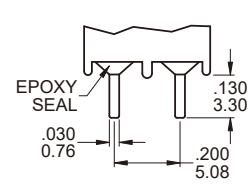
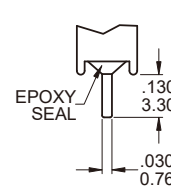
Part No. Shown : 2MD1T1B1M1RES

**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

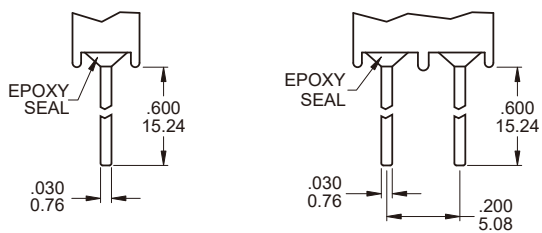
**TL1B25**

**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**


.020(0.51) THK.

**M2 PC Thru-hole**

**Double Pole**

**Double Pole**

.020(0.51) THK.

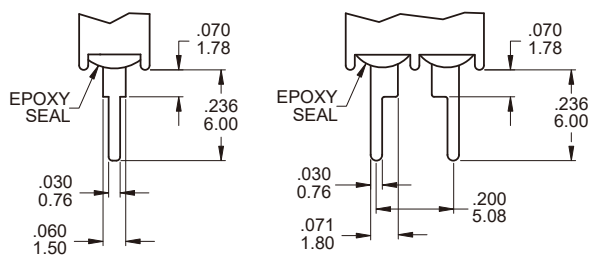
**M51 Wire Wrap**



**Double Pole**

.020(0.51) THK.

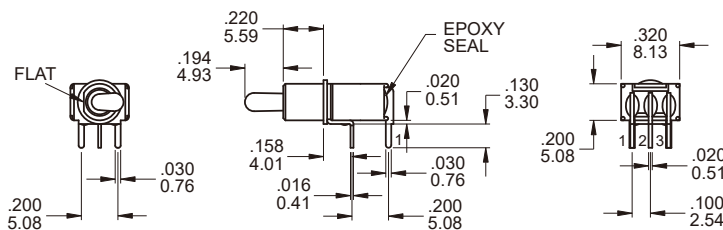
**M52 Wire Wrap**



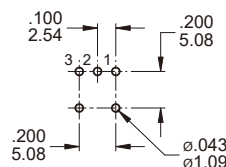
**Double Pole**

.020(0.51) THK.

**M6**



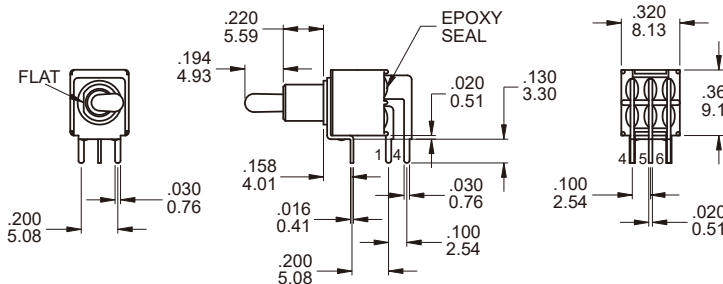
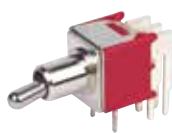
P.C. MOUNTING



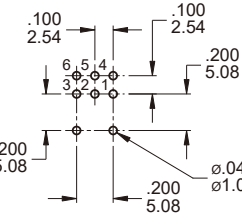
**SPDT**

Part No. Shown : 2MS1T2B2M6RES

**M6**



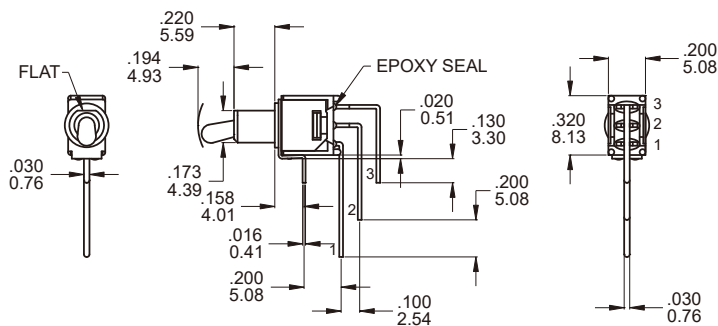
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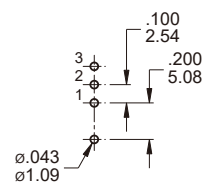
**DPDT**

Part No. Shown : 2MD1T2B2M6QES

**M7**



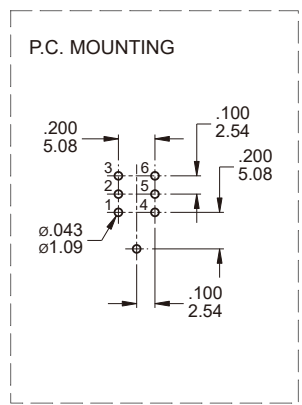
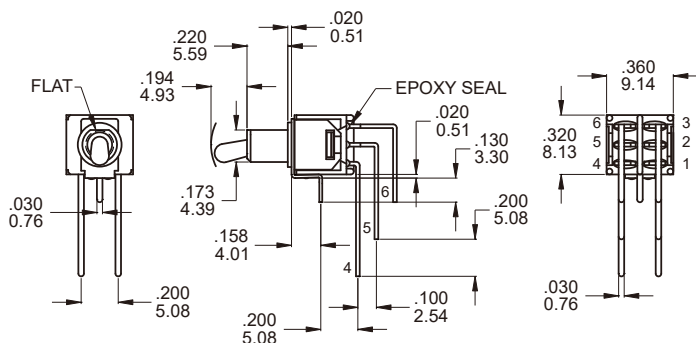
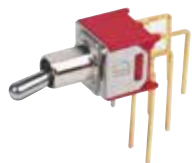
P.C. MOUNTING



**SPDT**

Part No. Shown : 2MS1T2B2M7RES

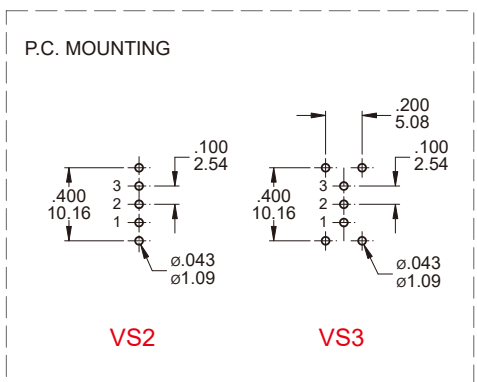
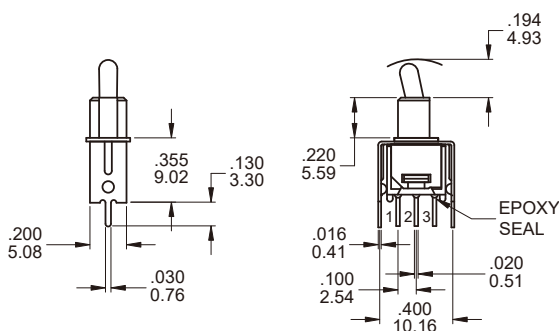
**M7**



**DPDT**

Part No. Shown : 2MD1T2B2M7RES

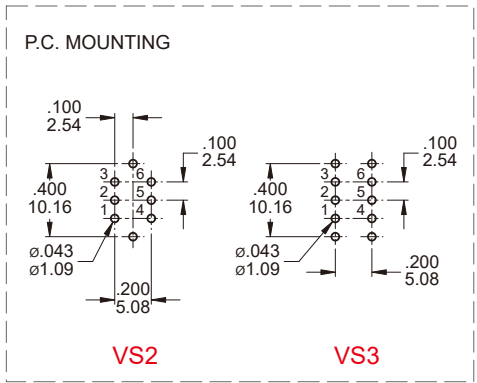
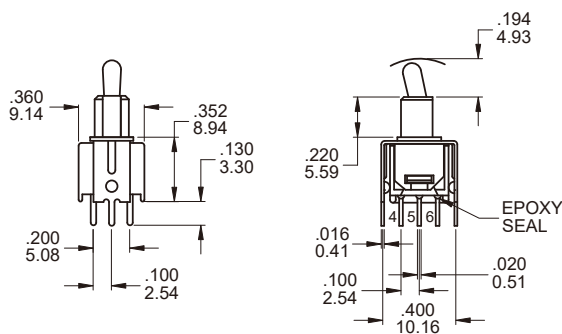
**VS2 - VS3**



**SPDT**

Part No. Shown : 2MS1T2B2VS2QES

**VS2 - VS3**

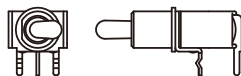


**DPDT**

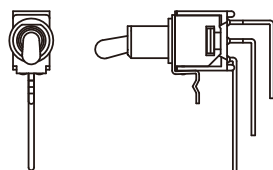
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**SNAP-IN TERMINATION OPTIONS**

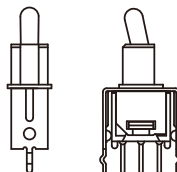
**M6N**



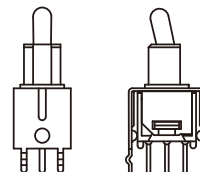
**M7N**

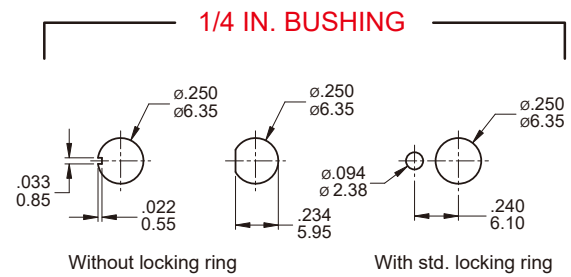
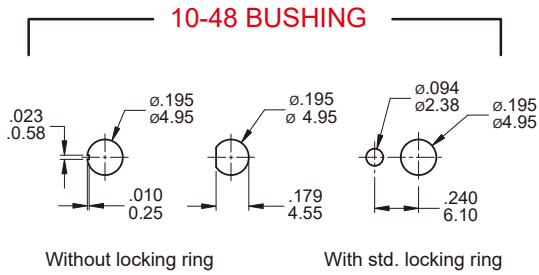
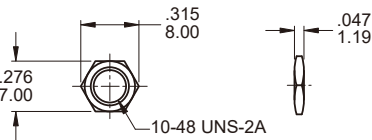


**V2N**

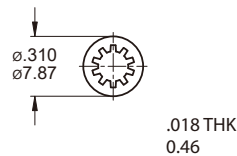


**V3N**

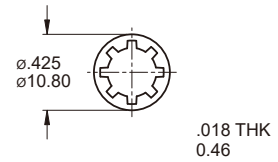


**PANEL MOUNTING**

**HARDWARE**
**10-48 NUT**

**MNU-2M01**

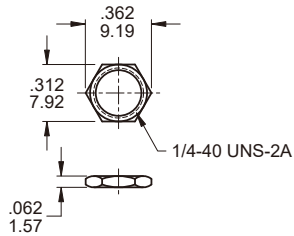
 Supplied standard with  
B1 / B3 bushing

**LOCKWASHER**

**MNU-2M03**

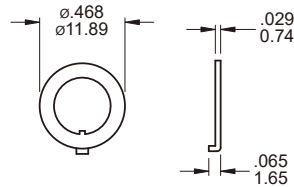
 Supplied standard with  
B1 / B3 bushing

**LOCKWASHER**

**MNU-1M03**

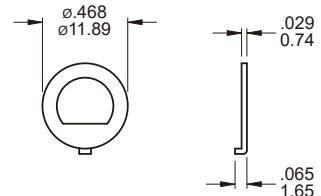
 Supplied standard with  
B5 / B7 bushing

**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
<b>Q</b>	Silver	Silver	3 Amps with resistant load @ 120VAC or 28VDC 1 Amps with resistant load @ 250VAC
<b>C</b>	Gold over Silver	Gold over silver	
<b>R</b>	Gold	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)