



SPECIFICATIONS

CONTACT RATING: Dependent upon contact material.
MECHANICAL LIFE: 30,000 make-and-break cycles.
CONTACT RESISTANCE: 20mΩ max. initial @ 2-4VDC
 100mA for both silver and gold plated contacts.
INSULATION RESISTANCE: 1,000MΩ min.
DIELECTRIC STRENGTH: 1,000 V RMS@sea level.
OPERATING TEMPERATURE: -30°C to 85°C.

MATERIALS

CASE - Diallyl phthalate(DAP)(UL-94V-0)
ACTUATOR - Brass,chrome plated
BUSHING - Brass,nickel plated
HOUSING - Stainless Steel
SWITCH SUPPORT - Brass,tin plated.
TERMINALS/CONTACT - Brass, with Silver or gold plated. (See Page 31)

HOW TO ORDER

MODEL NO.	ACTUATOR	BUSHING	TERMINATIONS	CONTACT MATERIAL	SEAL	ROHS SOLDERING																			
<table border="0"> <tr><td>□</td><td>□</td><td>□</td><td>□</td></tr> <tr><td>□</td><td>□</td><td>□</td><td>□</td></tr> </table> <p>MODEL NO.</p> <p>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</p>	□	□	□	□	□	□	□	□	<table border="0"> <tr><td>□</td><td>□</td></tr> </table> <p>ACTUATOR</p> <p>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</p>	□	□	<table border="0"> <tr><td>□</td><td>□</td></tr> </table> <p>BUSHING</p> <p>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)</p>	□	□	<table border="0"> <tr><td>□</td><td>□</td><td>□</td></tr> </table> <p>TERMINATIONS</p> <p>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</p>	□	□	□	<table border="0"> <tr><td>□</td></tr> </table> <p>CONTACT MATERIAL</p> <p>Q Silver R Gold G Gold, pure-tin S Silver, pure-tin C Gold over silver K Gold over silver, pure-tin</p>	□	<table border="0"> <tr><td>□</td><td>□</td></tr> </table> <p>SEAL</p> <p>E EPOXY (std) N NO EPOXY</p>	□	□	<table border="0"> <tr><td>□</td></tr> </table> <p>ROHS SOLDERING</p> <p>□ Rohs Compliant S Rohs & Lead Free</p>	□
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SWITCH FUNCTION

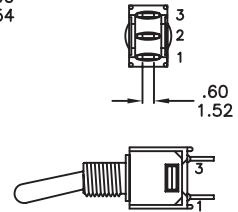
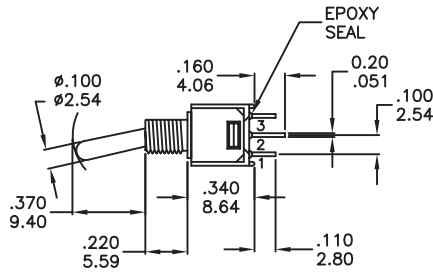
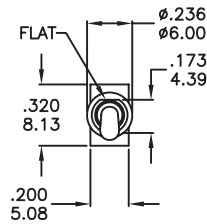
NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS / SCHEMATIC		
			POS.1	POS.2	POS.3	POS.1	POS.2	POS.3
SP	Q2211	2MS1	ON	NONE	ON	2-3	N/A	2-1
	Q2212	2MS2	ON	NONE	MOM			
	Q2213	2MS3	ON	OFF	ON		OPEN	
	Q2214	2MS4	MOM	OFF	MOM			
	Q2215	2MS5	ON	OFF	MOM			
	Q2216	2MS6	OFF	NONE	ON	OPEN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

MOM=MOMENTARY

POLE OPTIONS



SPDT

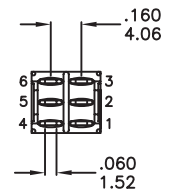
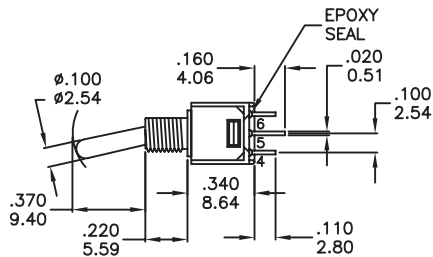
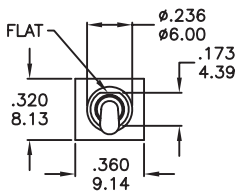


2MS6 Models : Omit 2nd terminal

Part No. Shown : 2MS1T1B1M1QE



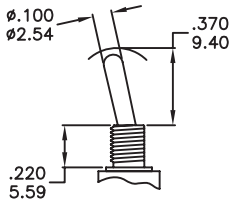
DPDT



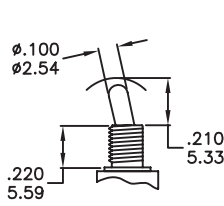
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ACTUATOR FUNCTIONS

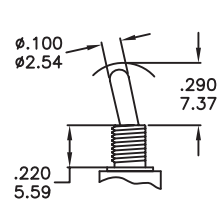
T1



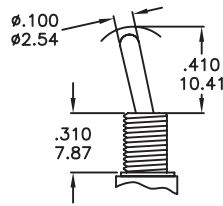
T2



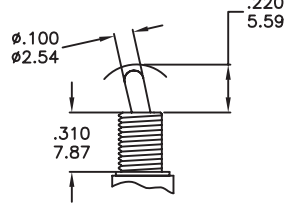
T3



T4



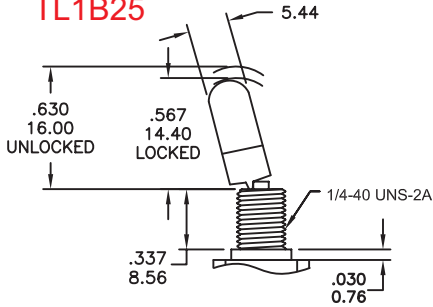
T5



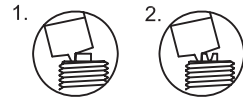
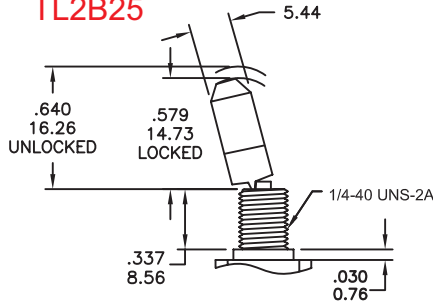
T1,T2,T3 Actuator shown with B1 to B4 bushing, subtract 0.09 (2.29) for B5 bushing, subtract 0.04(1.02) for B7 bushing.

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.

TL1B25



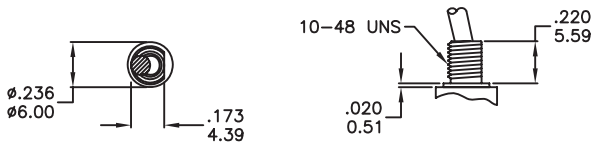
TL2B25



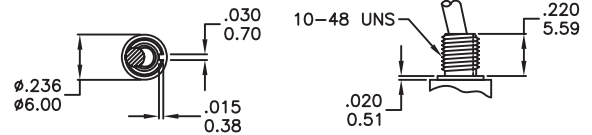
1. 2 positions lock
2. 3 positions lock

BUSHING OPTIONS

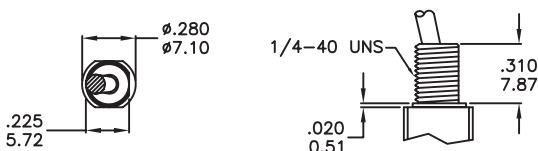
**B1 THD
B2 NON-THD**



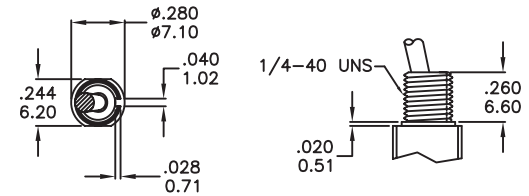
**B3 THD
B4 NON-THD**



**B5 THD
B6 NON-THD**

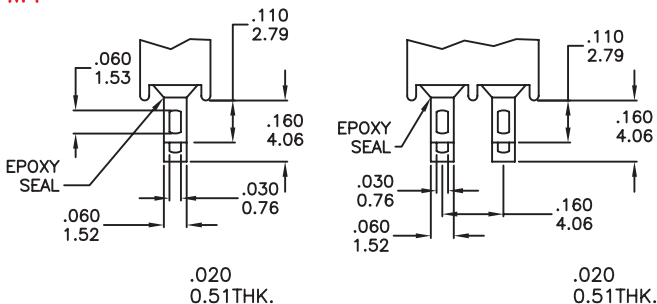


**B7 THD
B8 NON-THD**

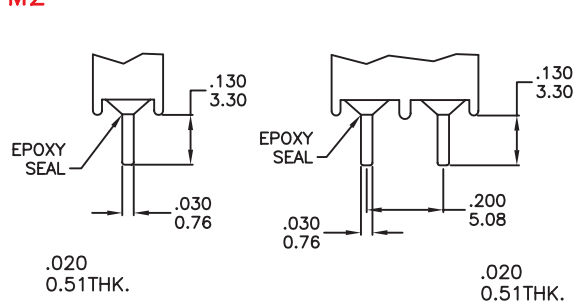


TERMINATION OPTIONS

M1

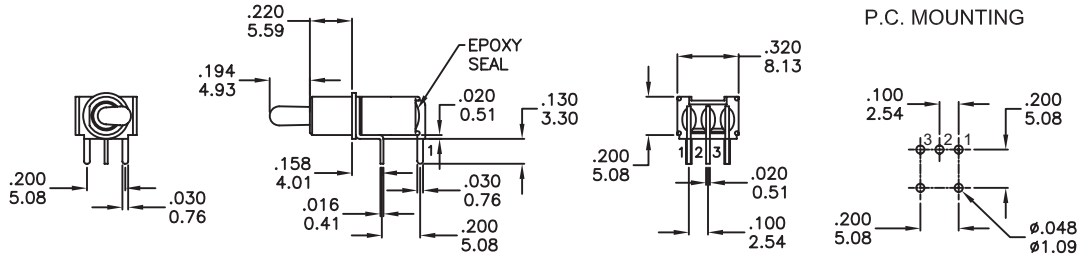


M2



Double Pole

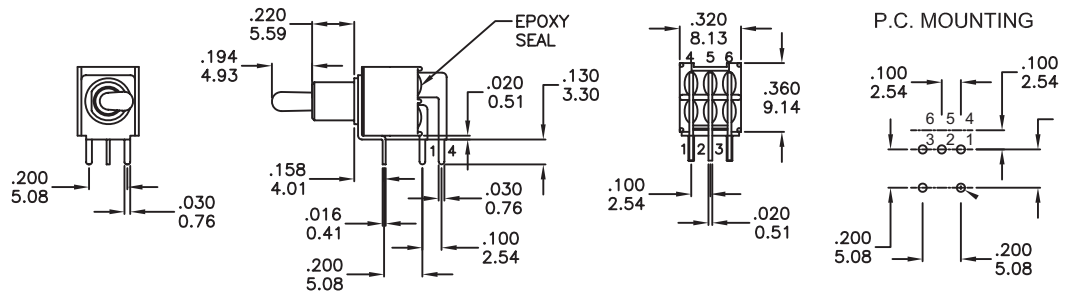
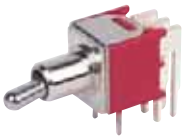
M6



SPDT

Part No. Shown : 2MS1T2B2M6RE

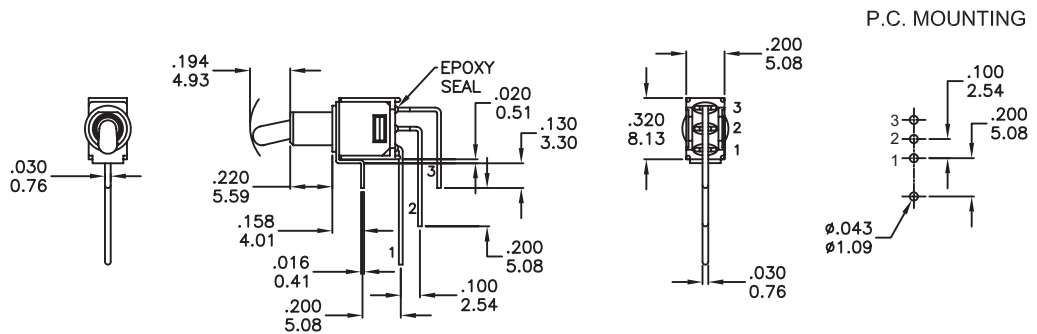
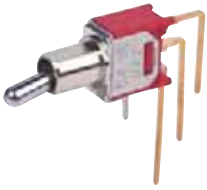
M6



DPDT

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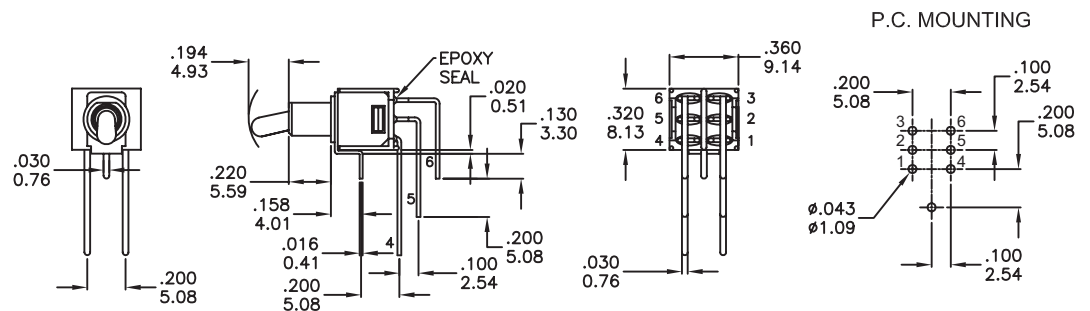
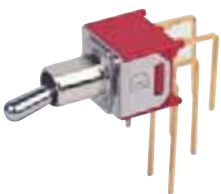
M7



SPDT

Part No. Shown : 2MS1T2B2M7RE

M7



DPDT

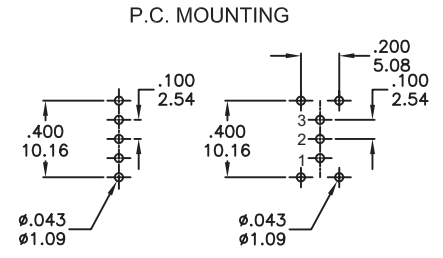
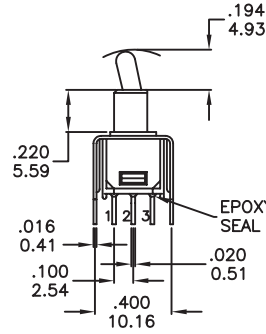
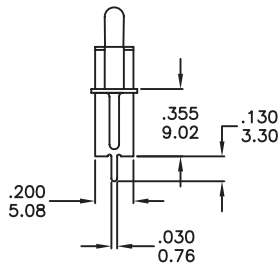
Part No. Shown : 2MD1T2B2M7RE

2M Series

Sub-Miniature Toggle Switches

2M Sub-Miniature Toggle Switches

VS2 - VS3



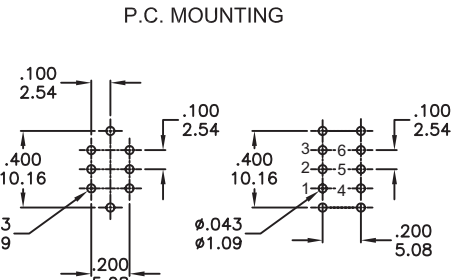
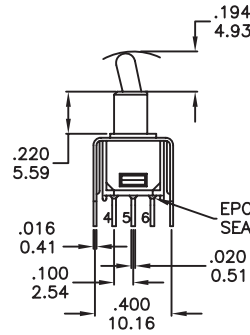
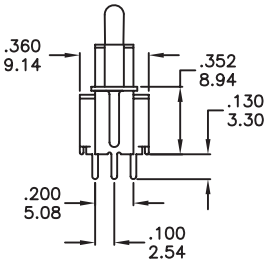
SPDT

Part No. Shown : 2MS1T2B2VS2QE

VS2

VS3

VS2 - VS3



DPDT

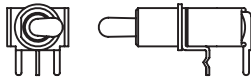
Part No. Shown : 2MD1T2B2VS2QE

VS2

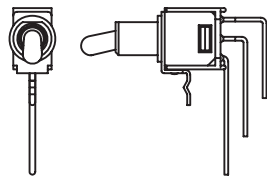
VS3

SNAP-IN TERMINATION OPTIONS

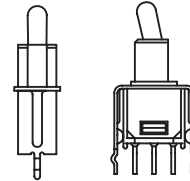
M6N



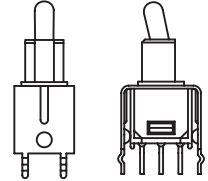
M7N



V2N

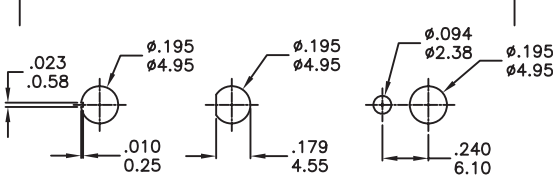


V3N



PANEL MOUNTING

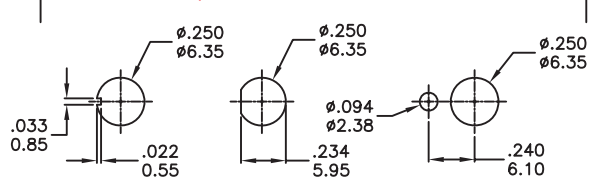
10-48 BUSHING



Without locking ring

With std. locking ring

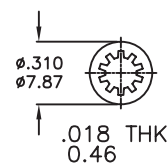
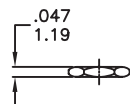
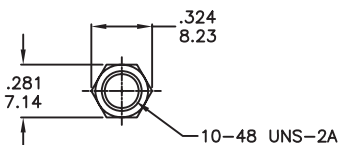
1/4 IN. BUSHING



Without locking ring

With std. locking ring

HARDWARE



Locking Ring

CONTACT MATERIAL OPTIONS

	CONTACT MATERIAL	TERMINAL PLATING	RATINGS
Q	Silver	Q = Silver	3 Amps with resistant load @ 120VAC or 28VDC 1 Amps with resistant load @ 250VAC
S		S = Silver,pure - tin	
C	Gold over Silver	C = Gold over silver	
K		K = Gold over silver,pure - tin	
R	Gold	R = Gold	0.4 Volt-Amps(VA)max. @ 20V max. (AC or DC)
G		G = Gold,pure - tin	



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:260±5°C
Duration of Solder Immersion: 5 ±1 seconds
(PCB is 1.6mm in thickness)

SOLDERING : Vapor phase

Temperature Profile

Zone	Room temperature	Time (Sec)
Pre-heat (A)	150°C	Min 120s
Soak (B)	180°C~200°C	Min 150s
Peak (C)	200°C~235°C	Min 30s
Peak (D)	235°C~260°C	Min 40s
Peak (E)	260°C	Max 10s

