



1A Series

Sealed Miniature Toggle Switches

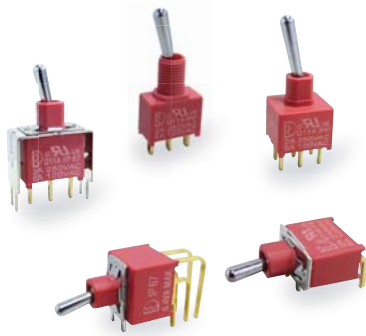
IP 67
ACCORDING TO
EN 60529:1991+A1:2001
IEC 60529:2001

UL US
E 187490

RoHS
compliant

Pb
lead-free

1A
Toggle Switches



SPECIFICATIONS

CONTACT RATING: Dependent upon contact material, see page 17.

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

CONTACT RESISTANCE: 10 mΩ max. (initial value) @ 2-4VDC
100mA for both silver and gold plated contacts.

INSULATION RESISTANCE: 1,000 MΩ min./1000VDC

DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level. (initial value)

OPERATING TEMPERATURE: -40°C to 85°C.

MATERIALS

CASE & BUSHING: Glass filled nylon 6/6, flame retardant, heat stabilized (UL94v-0).

ACTUATOR: Brass with chrome plated, internal o-ring sealed.

SWITCH SUPPORT: Brass or steel, tin plated.

SWITCH SUPPORT RETAINER: Stainless steel.

CONTACT / TERMINALS: Copper with silver or gold plated.

(See page 17)

HOW TO ORDER

MODEL NO.	ACTUATOR	BUSHING	TERMINAL TYPE	TERMINAL PLATING	SEAL	RoHS SOLDERING
SP					E EPOXY (std)	S RoHS & Lead Free
1AS1 ON-NONE-ON	T1 12.70 high					
1AS2 ON-NONE-(ON)	T2 7.62 high					
1AS3 ON-OFF-ON	TA Plastic,black 12.70 high					
1AS4 (ON)-OFF-(ON)	TB Plastic,black 7.62 high					
1AS5 ON-OFF-(ON)	TC Plastic,silver 12.70 high					
DP						
1AD1 ON-NONE-ON			B1 8.80 high	M1 Solder Lug		
1AD2 ON-NONE-(ON)			B4 6.10 high	M2 PC thru-hole		
1AD3 ON-OFF-ON				M51 18.70 high, wire wrap		
1AD4 (ON)-OFF-(ON)				M52 24.20 high, wire wrap		
1AD5 ON-OFF-(ON)				M53 10.55 high, wire wrap		
1AD6 ON-ON-ON				M54 26.97 high, wire wrap		
1AD7 (ON)-ON-(ON) ▲				M6 Right angle, PC thru-hole *		
1AD8 ON-ON-(ON) ▲				M6N Right angle, snap-in, PC thru-hole *		
				M7 Vertical right angle, PC thru-hole *		
3P				<u>V-bracket</u>		
1A31 ON-NONE-ON				VS2 11.68 high *		
1A32 ON-NONE-(ON)				V2N 11.68 high, snap-in. *		
1A33 ON-OFF-ON				VS3 16.00 high *		
1A34 (ON)-OFF-(ON)						
1A35 ON-OFF-(ON) ▲						

▲ Please confirm the availability before order.

* Only available for B4 bushing.

EXAMPLE: 1AS1T1B1M1QES



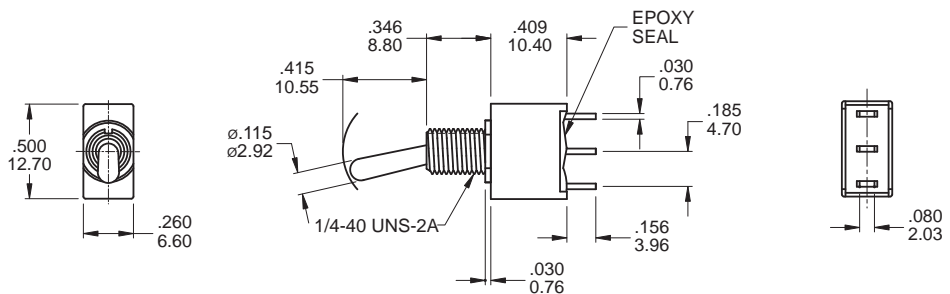
▼ SWITCH FUNCTION

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	Q11A11	1AS1	ON	NONE	ON		N/A	
	Q11A12	1AS2	ON	NONE	(ON)			
	Q11A13	1AS3	ON	OFF	ON			
	Q11A14	1AS4	(ON)	OFF	(ON)			
	Q11A15	1AS5	ON	OFF	(ON)			
DP	Q11A21	1AD1	ON	NONE	ON		N/A	
	Q11A22	1AD2	ON	NONE	(ON)			
	Q11A23	1AD3	ON	OFF	ON			
	Q11A24	1AD4	(ON)	OFF	(ON)			
	Q11A25	1AD5	ON	OFF	(ON)			
	▲ Q11A27	1AD7	(ON)	ON	(ON)			
	▲ Q11A28	1AD8	ON	ON	(ON)			
	3P	Q11A31	1A31	ON	NONE			
Q11A32		1A32	ON	NONE	(ON)			
Q11A33		1A33	ON	OFF	ON			
Q11A34		1A34	(ON)	OFF	(ON)			
▲ Q11A35		1A35	ON	OFF	(ON)			

() = MOMENTARY

▲ Please confirm the availability before order.

▼ POLE OPTIONS



SPDT

Model name. 1AS1T1B1M1QES



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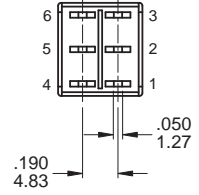
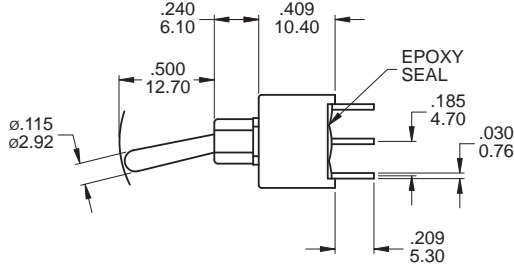
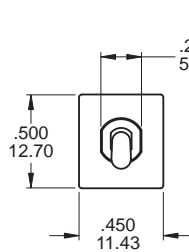
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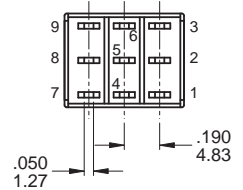
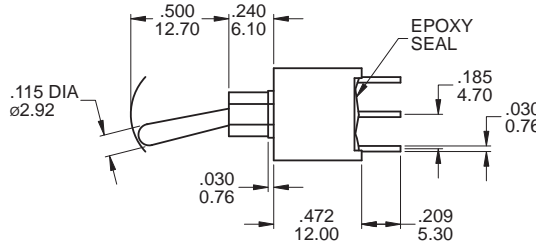
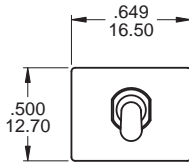
Pb
lead-free

1A
Toggle Switches



DPDT

Model name. 1AD1T1B4M2QES



3PDT

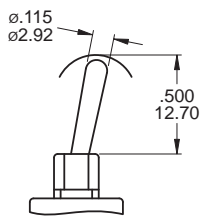
Model name. 1A31T1B4M2QES

ACTUATOR OPTIONS

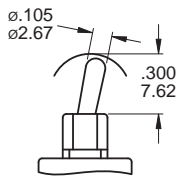
Actuator are shown with Bushing B4(standard)

Note: For B1 Bushing: - .085inch(2.15mm)

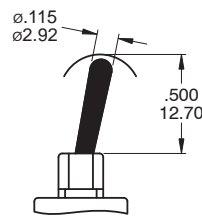
T1



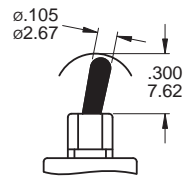
T2



TA



TB

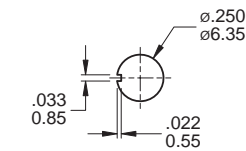
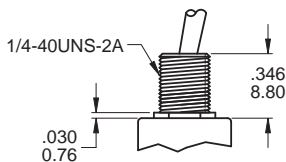


PLASTIC ACTUATOR
(TC,Silver)

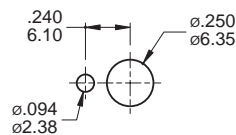
BUSHING OPTIONS

B1

Note: Standard for terminal M1.



Without locking ring (Keyway)



With standard locking ring.

B4

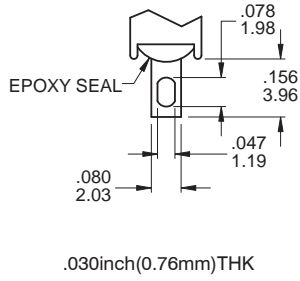
Note: Standard for terminal M2, M6, M7, VS.



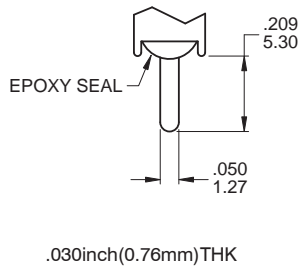


▼ **TERMINAL OPTIONS**

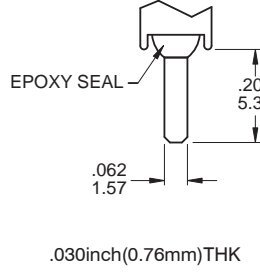
M1 Solder lug



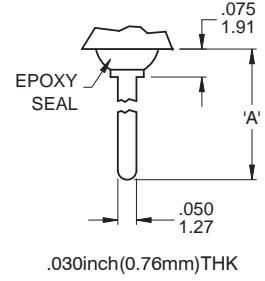
M2 PC Thru-hole



M3 Quick connect



M5 Wire Wrap



▼ **OTHER TERMINAL OPTIONS**

M6 Right angle P.C. Mount

M7 Vertical right angle P.C. Mount

VS2 Vertical bracket P.C. Mount

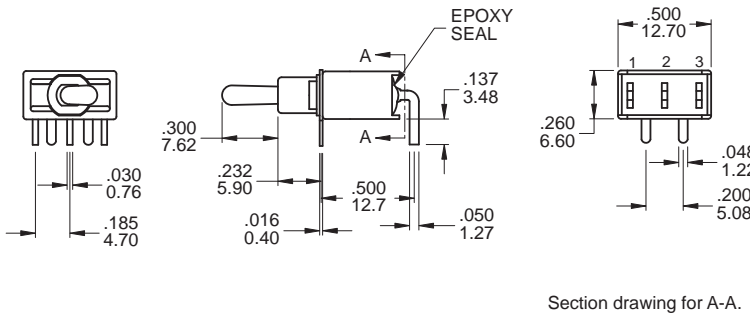
VS3 Vertical bracket P.C. Mount

M6N Right angle P.C. Mount with snap-in bracket

V2N Vertical bracket P.C. Mount with snap-in bracket

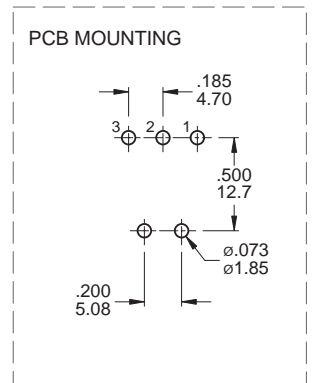
OPTION CODE	DIM. 'A'
M51	.736 (18.70)
M52	.953 (24.20)
M53	.415 (10.55)
M54	1.062 (26.97)

M6
(M6N - Snap-in)

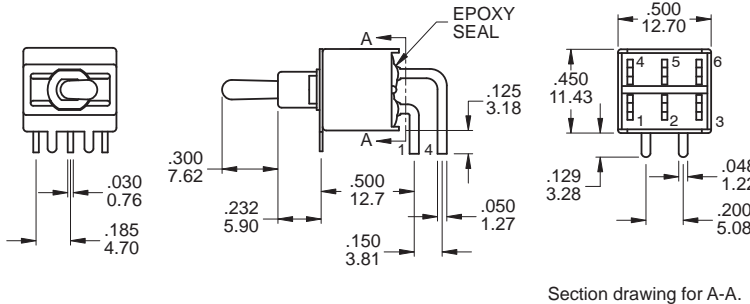


SPDT

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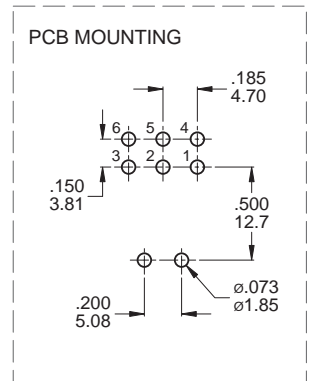


M6

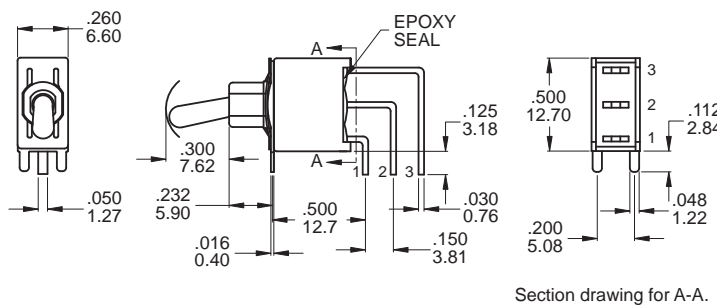


DPDT

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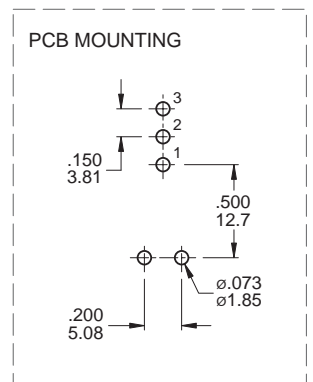


M7



SPDT

Model name. 1AS1T2B4M7RES





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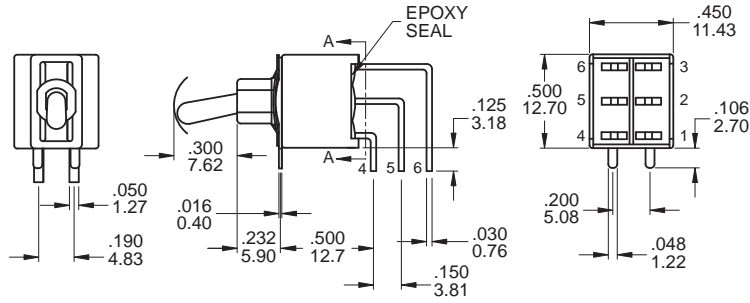
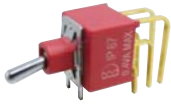
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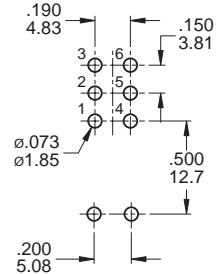
1A
Toggle Switches

M7



Section drawing for A-A.

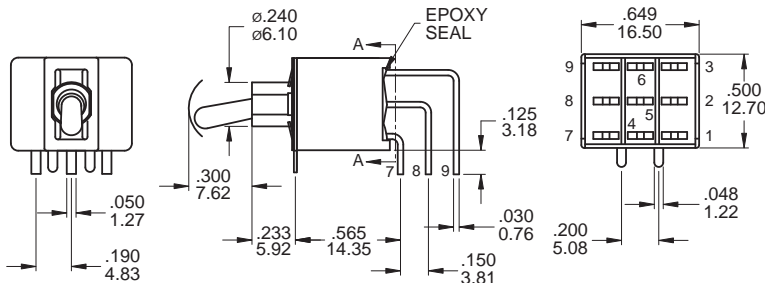
PCB MOUNTING



DPDT

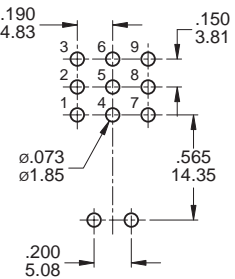
Model name. 1AD1T2B4M7RES

M7



Section drawing for A-A.

PCB MOUNTING

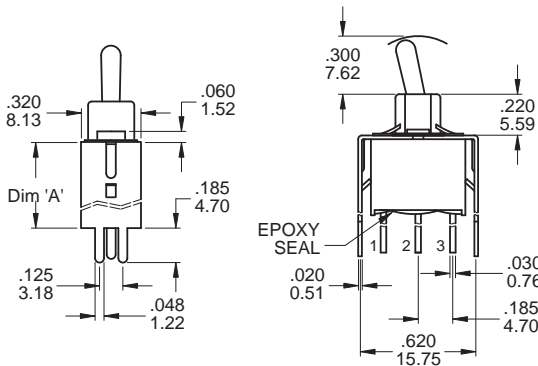


3PDT

Model name. 1A31T2B4M7QES

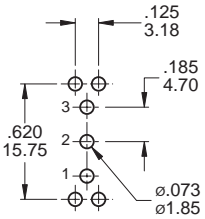
VS2 / VS3

(V2N - Snap-in)



OPTION CODE	DIM. 'A'
VS2 (V2N)	.460 11.68
VS3	.630 16.00

PCB MOUNTING

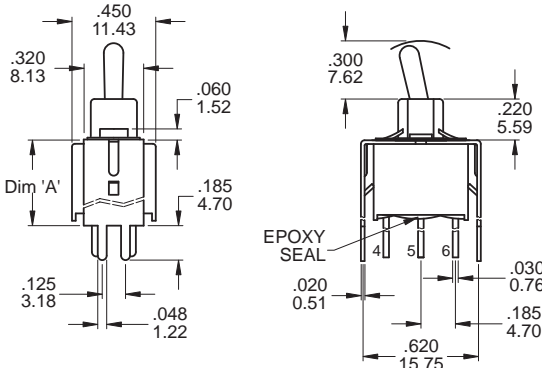


SPDT

Model name. 1AS1T2B4VS2QES

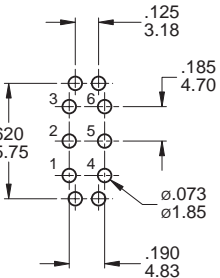
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(V2N - Snap-in)



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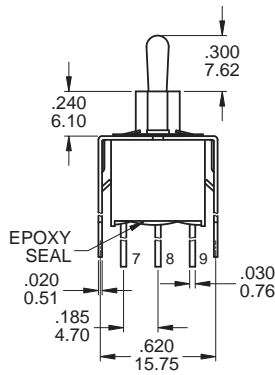
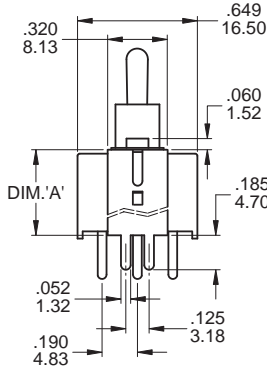


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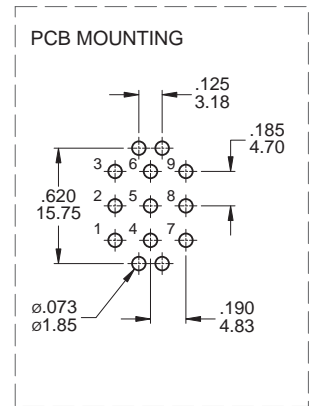
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(V2N - Snap-in)



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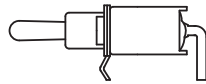
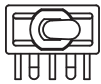


3PDT

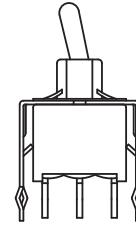
Model name. 1A31T2B4VS2QES

▼ **SNAP-IN TERMINAL OPTIONS**

M6N



V2N



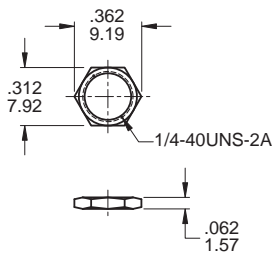
▼ **HARDWARE**

EXAMPLE: -
Model name. 5 Standard hardware

* Standard Hardware: 2 nut, 1 locking ring, 1 lockwasher

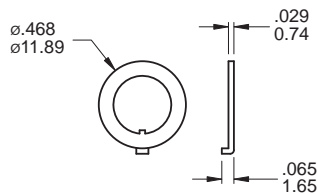
1/4 NUT (Std.)

Model name. MNU-1M01A



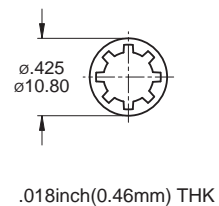
LOCKING RING (Std.)

Model name. MNU-1M02



LOCKWASHER (Std.)

Model name. MNU-1M03



▼ **CONTACT & TERMINAL PLATING OPTIONS**

	CONTACT PLATING	TERMINAL PLATING	RATINGS
Q	Silver	Gold flash over silver	5 Amps with resistant load @ 120VAC or 28VDC 2 Amps with resistant load @ 250VAC
C	Gold over Silver	Gold over silver	
R	Gold	Gold	0.4 Volt - Amps (VA) max. @ 20V max. (AC or DC)

▼ **SOLDERING PROCESS**

MANUAL SOLDERING: Use 30 watts soldering iron and controlled the temperature at 350°.

Duration of solder immersion: Max. 5 sec.

WAVE SOLDERING: Recommend soldering temperature: 260 ± 5°C

Duration of solder immersion: Max. 5 sec. (PCB thickness is 1.6mm)