



1A Series

Sealed Miniature Toggle Switches

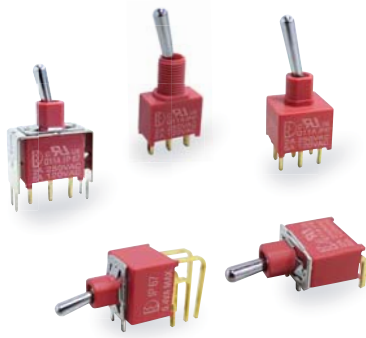
IP 67
ACCORDING TO
EN 60529:1991+A1:2001
IEC 60529:2001

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			Q Gold flash over silver		
1AS3 ON-OFF-ON	TA Plastic,black 12.70 high			R Gold		
1AS4 (ON)-OFF-(ON)	TB Plastic,black 7.62 high			C Gold over silver		
1AS5 ON-OFF-(ON)	TC Plastic,silver 12.70 high					
DP			B1 8.80 high	M1 Solder Lug		
1AD1 ON-NONE-ON			B4 6.10 high	M2 PC thru-hole		
1AD2 ON-NONE-(ON)				M51 18.70 high, wire wrap		
1AD3 ON-OFF-ON				M52 24.20 high, wire wrap		
1AD4 (ON)-OFF-(ON)				M53 10.55 high, wire wrap		
1AD5 ON-OFF-(ON)				M54 26.97 high, wire wrap		
1AD6 ON-ON-ON				M6 Right angle, PC thru-hole *		
1AD7 (ON)-ON-(ON) ▲				M6N Right angle, snap-in, PC thru-hole *		
1AD8 ON-ON-(ON) ▲				M7 Vertical right angle, PC thru-hole *		
3P				V-bracket		
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



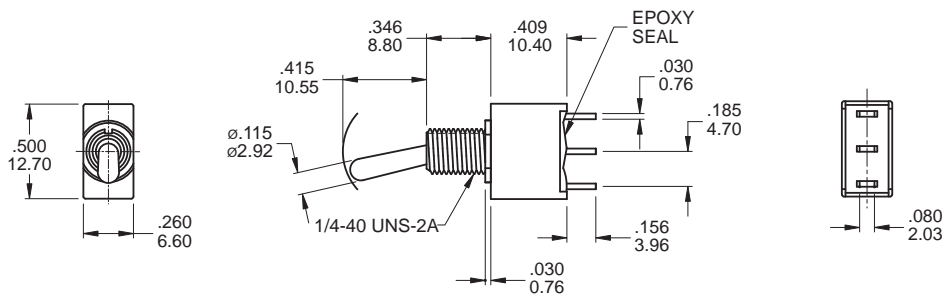
▼ SWITCH FUNCTION

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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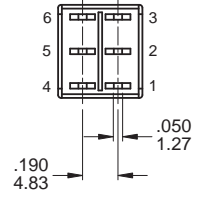
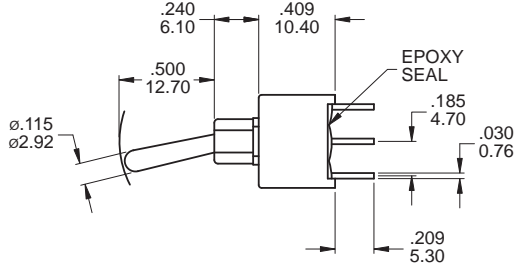
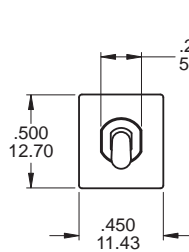
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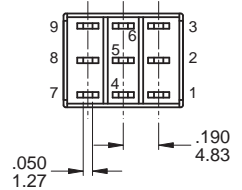
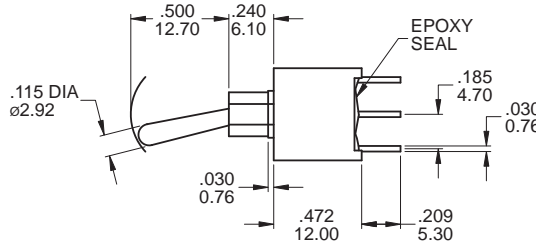
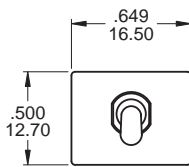
Pb
lead-free

1A
Toggle Switches



DPDT

Model name. 1AD1T1B4M2QES



3PDT

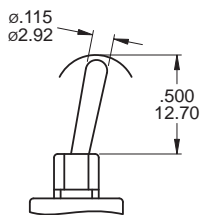
Model name. 1A31T1B4M2QES

▼ ACTUATOR OPTIONS

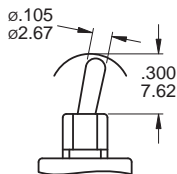
Actuator are shown with Bushing B4(standard)

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

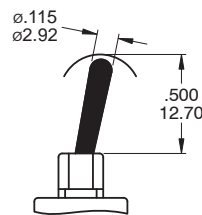
T1



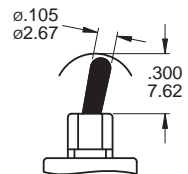
T2



TA



TB

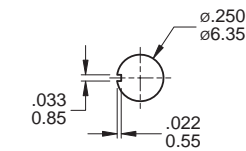
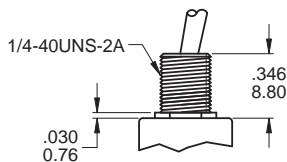


PLASTIC ACTUATOR
(TC,Silver)

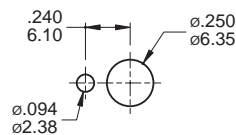
▼ BUSHING OPTIONS

B1

Note: Standard for terminal M1.



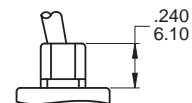
Without locking ring (Keyway)



With standard locking ring.

B4

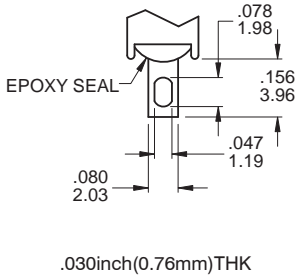
Note: Standard for terminal M2, M6, M7, VS.



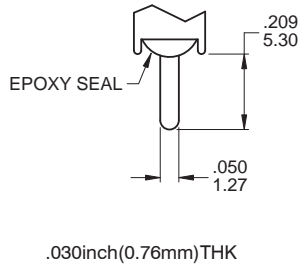


▼ TERMINAL OPTIONS

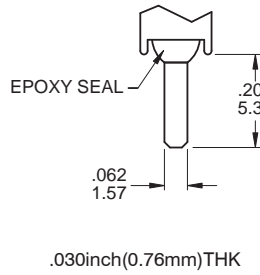
M1 Solder lug



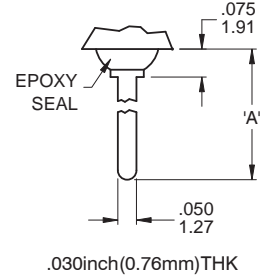
M2 PC Thru-hole



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

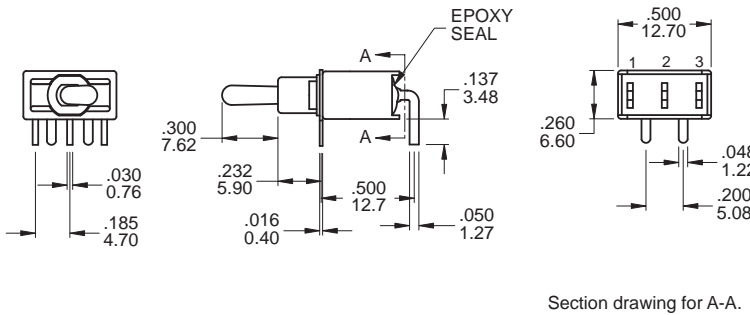
M6N Right angle P.C. Mount with snap-in bracket

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

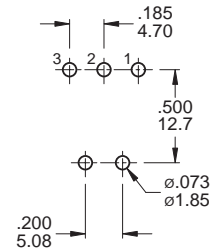
V2N Vertical bracket P.C. Mount with snap-in bracket

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)



PCB MOUNTING

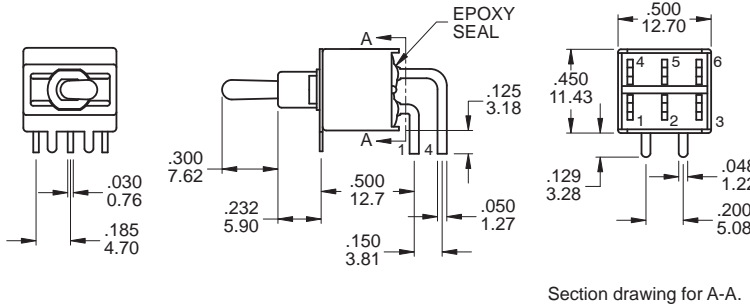


Section drawing for A-A.

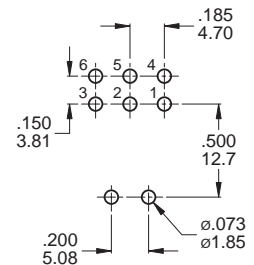
SPDT

Model name. 1AS1T2B4M6QES

M6



PCB MOUNTING

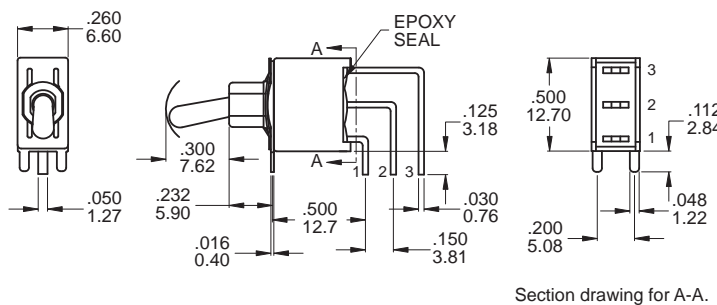


Section drawing for A-A.

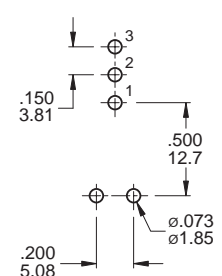
DPDT

Model name. 1AD1T2B4M6QES

M7



PCB MOUNTING



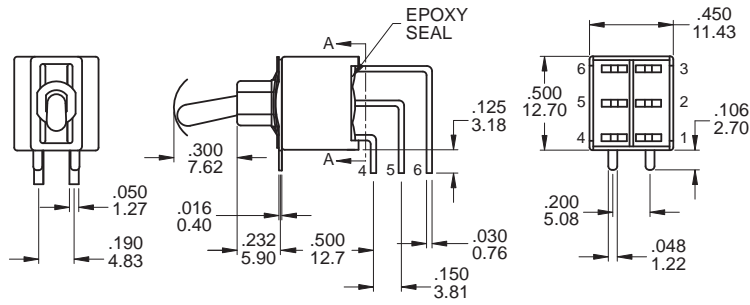
Section drawing for A-A.

SPDT

Model name. 1AS1T2B4M7RES

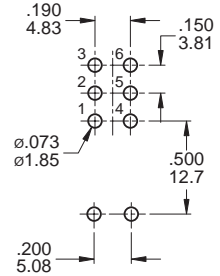


M7



Section drawing for A-A.

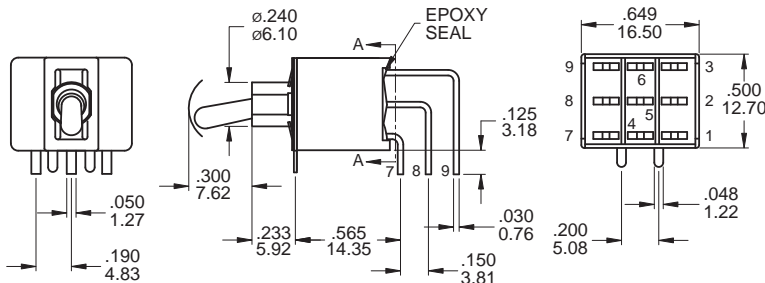
PCB MOUNTING



DPDT

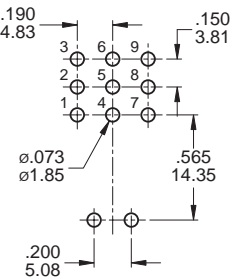
Model name. 1AD1T2B4M7RES

M7



Section drawing for A-A.

PCB MOUNTING

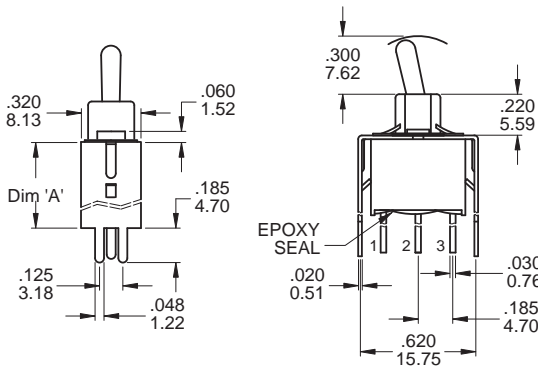


3PDT

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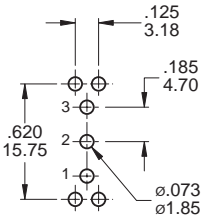
VS2 / VS3

(V2N - Snap-in)



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

PCB MOUNTING

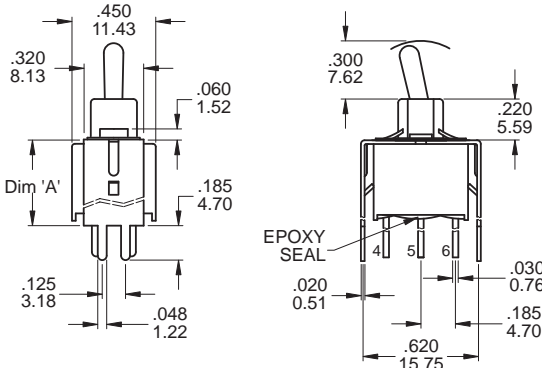


SPDT

Model name. 1AS1T2B4VS2QES

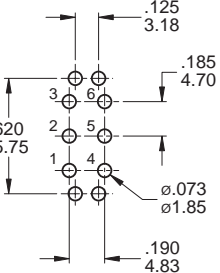
VS2 / VS3

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PCB MOUNTING

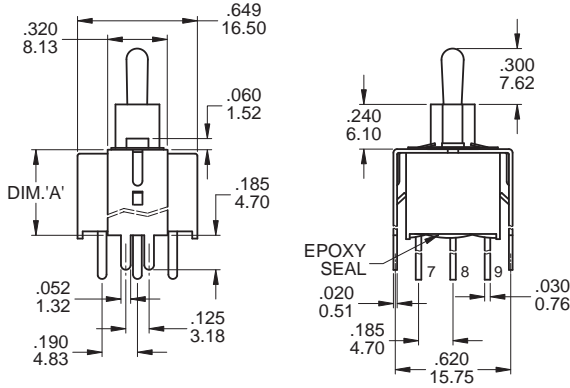


DPDT

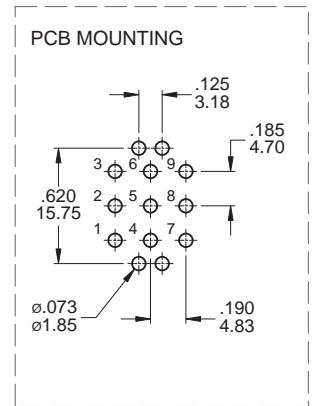
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VS2 / VS3
(V2N - Snap-in)



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VS2 (V2N)	.460 11.68
VS3	.630 16.00

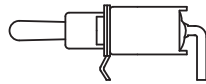
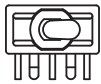


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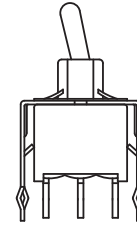
Model name. 1A31T2B4VS2QES

▼ SNAP-IN TERMINAL OPTIONS

M6N



V2N



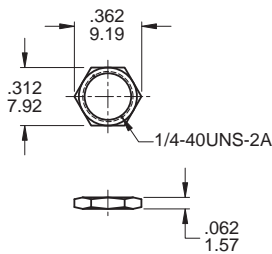
▼ HARDWARE

EXAMPLE: -
Model name. 5 Standard hardware

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

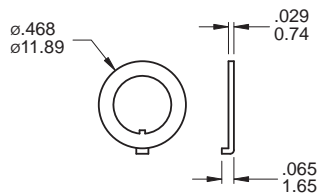
1/4 NUT (Std.)

Model name. MNU-1M01A



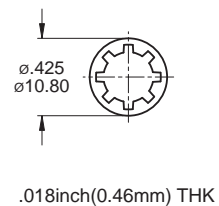
LOCKING RING (Std.)

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)