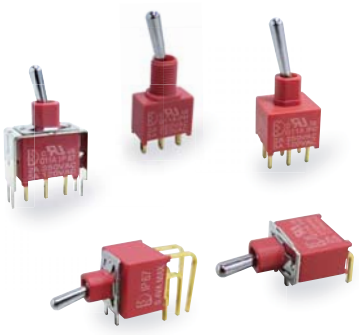
1A Series
Sealed Miniature Toggle Switches

IP 67 ACCORDING TO EN 60529:1991+A1:2001 IEC 60529:2001 | c UL us E 187490 | RoHS compliant | Pb lead-free



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 Tin-Cobalt alloy over Ni plated or Glass filled nylon 6/6, internal o-ring sealed.
SWITCH SUPPORT: Brass or steel, tin plated.
SWITCH SUPPORT RETAINER: Stainless steel.
CONTACT / TERMINALS: Copper or brass with silver or gold plated. (See page 17)

HOW TO ORDER

MODEL NO. --- ACTUATOR --- BUSHING --- TERMINAL TYPE --- TERMINAL PLATING --- SEAL --- RoHS SOLDERING

SP
- 1AS1 ON-NONE-ON
- 1AS2 ON-NONE-(ON)
- 1AS3 ON-OFF-ON
- 1AS4 (ON)-OFF-(ON)
- 1AS5 ON-OFF-(ON)

DP
- 1AD1 ON-NONE-ON
- 1AD2 ON-NONE-(ON)
- 1AD3 ON-OFF-ON
- 1AD4 (ON)-OFF-(ON)
- 1AD5 ON-OFF-(ON)
- 1AD6 ON-ON-ON
- 1AD7 (ON)-ON-(ON) ▲
- 1AD8 ON-ON-(ON) ▲

3P
- 1A31 ON-NONE-ON
- 1A32 ON-NONE-(ON)
- 1A33 ON-OFF-ON
- 1A34 (ON)-OFF-(ON)
- 1A35 ON-OFF-(ON) ▲

ACTUATOR
- T1 12.70 high
- T2 7.62 high
- TA Plastic,black 12.70 high
- TB Plastic,black 7.62 high
- TC Plastic,silver 12.70 high

BUSHING
- B1 8.80 high
- B4 6.10 high

TERMINAL TYPE
- M1 Solder Lug
- M2 PC thru-hole
- M51 18.70 high, wire wrap
- M52 24.20 high, wire wrap
- M53 10.55 high, wire wrap
- M54 26.97 high, wire wrap
- M6 Right angle, PC thru-hole *
- M6N Right angle, snap-in, PC thru-hole *
- M7 Vertical right angle, PC thru-hole *

V-bracket
- VS2 11.68 high *
- V2N 11.68 high, snap-in. *
- VS3 16.00 high *

TERMINAL PLATING
- Q Gold flash over silver
- R Gold
- C Gold over silver

SEAL
- E EPOXY (std)

RoHS SOLDERING
- S RoHS & Lead Free

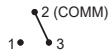
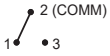
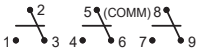
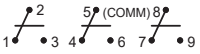
▲ Please confirm the availability before order.

* Only available for B4 bushing.

EXAMPLE: 1AS1T1B1M1QES

Dimensions shown in inch(mm). Specifications and availability subject to change without notice.

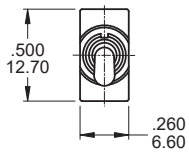
▼ SWITCH FUNCTION

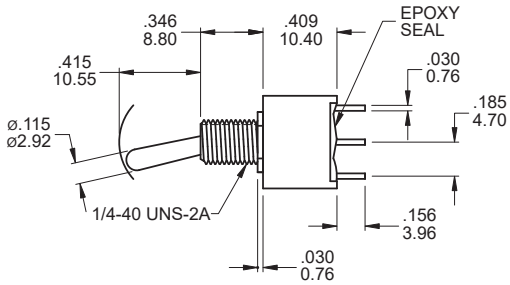
NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS / SCHEMATIC		
			POS.1	POS.2	POS.3	POS.1	POS.2	POS.3
SP	Q11A11	1AS1	ON	NONE	ON	2-3 	N/A	2-1 
	Q11A12	1AS2	ON	NONE	(ON)			
	Q11A13	1AS3	ON	OFF	ON		OPEN	
	Q11A14	1AS4	(ON)	OFF	(ON)			
	Q11A15	1AS5	ON	OFF	(ON)			
DP	Q11A21	1AD1	ON	NONE	ON	2-3,5-6	N/A	2-1,5-4
	Q11A22	1AD2	ON	NONE	(ON)			
	Q11A23	1AD3	ON	OFF	ON		OPEN	
	Q11A24	1AD4	(ON)	OFF	(ON)			
	Q11A25	1AD5	ON	OFF	(ON)			
	Q11A26	1AD6	ON	ON	ON	2-3,5-6	2-3,5-4	2-1,5-4
▲	Q11A27	1AD7	(ON)	ON	(ON)			
▲	Q11A28	1AD8	ON	ON	(ON)			
3P	Q11A31	1A31	ON	NONE	ON	2-3,5-6,8-9 	N/A	2-1,5-4,8-7 
	Q11A32	1A32	ON	NONE	(ON)			
	Q11A33	1A33	ON	OFF	ON		OPEN	
	Q11A34	1A34	(ON)	OFF	(ON)			
▲	Q11A35	1A35	ON	OFF	(ON)			

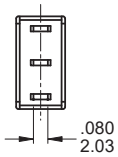
( )= MOMENTARY

▲ Please confirm the availability before order.

▼ POLE OPTIONS





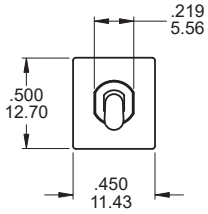


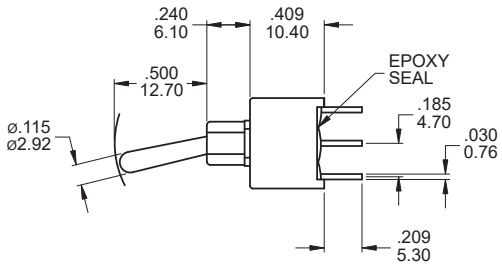
SPDT

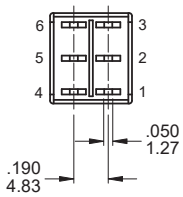
Model name. 1AS1T1B1M1QES

1A Series
Sealed Miniature Toggle Switches

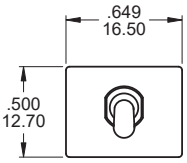
IP 67 ACCORDING TO EN 60529:1991+A1:2001 IEC 60529:2001 | c UL us E 187490 | RoHS compliant | Pb lead-free

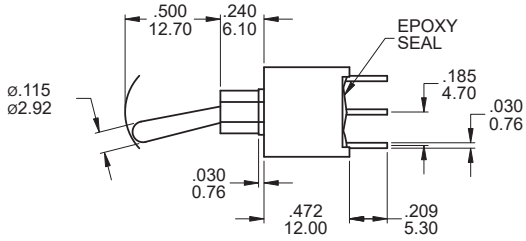


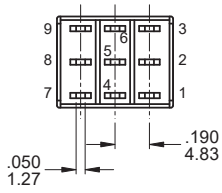




DPDT Model name. 1AD1T1B4M2QES







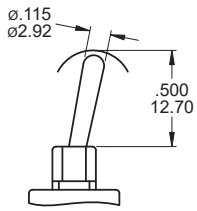
3PDT Model name. 1A31T1B4M2QES

▼ ACTUATOR OPTIONS

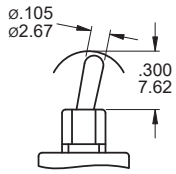
Actuator are shown with Bushing B4(standard)

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

T1



T2



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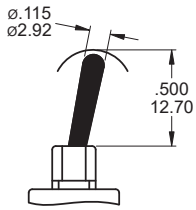
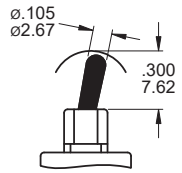


TB

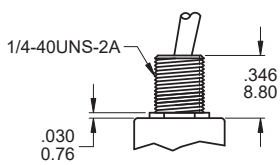


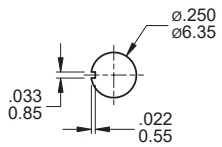
PLASTIC ACTUATOR
(TC,Silver)

▼ BUSHING OPTIONS

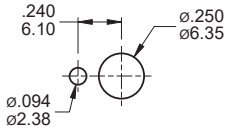
B1

Note: Standard for terminal M1.





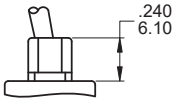
Without locking ring (Keyway)



With standard locking ring.

B4

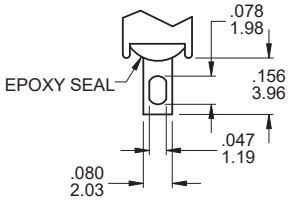
Note: Standard for terminal M2, M6, M7, VS.



Dimensions shown in inch(mm). Specifications and availability subject to change without notice.

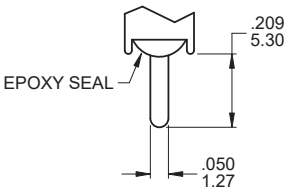
▼ TERMINAL OPTIONS

M1 Solder lug



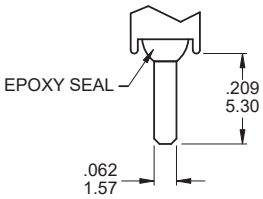
.030inch(0.76mm)THK

M2 PC Thru-hole



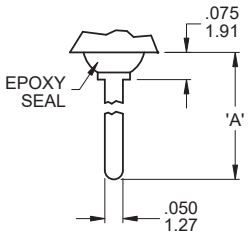
.030inch(0.76mm)THK

M3 Quick connect



.030inch(0.76mm)THK

M5☐ Wire Wrap



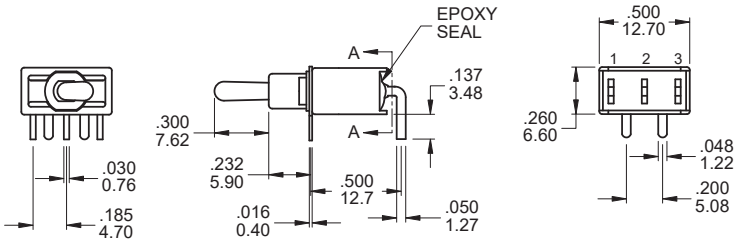
.030inch(0.76mm)THK

▼ OTHER TERMINAL OPTIONS

M6	Right angle P.C. Mount	**M6N**	Right angle P.C. Mount with snap-in bracket
M7	Vertical right angle P.C. Mount	**V2N**	Vertical bracket P.C. Mount with snap-in bracket
VS2	Vertical bracket P.C. Mount		
VS3	Vertical bracket P.C. Mount		

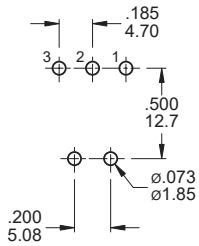
OPTION CODE	DIM. 'A'
M51	.736 (18.70)
M52	.953 (24.20)
M53	.415 (10.55)
M54	1.062 (26.97)

M6
(M6N - Snap-in)



Section drawing for A-A.

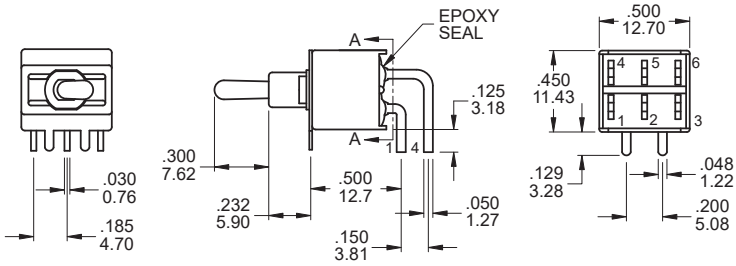
PCB MOUNTING



SPDT

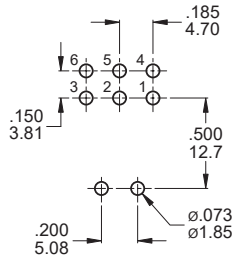
Model name. 1AS1T2B4M6QES

M6



Section drawing for A-A.

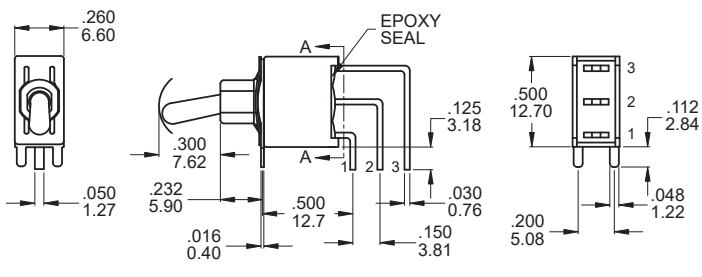
PCB MOUNTING



DPDT

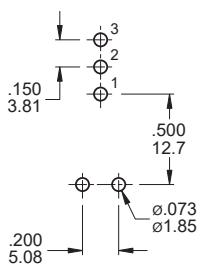
Model name. 1AD1T2B4M6QES

M7



Section drawing for A-A.

PCB MOUNTING



SPDT

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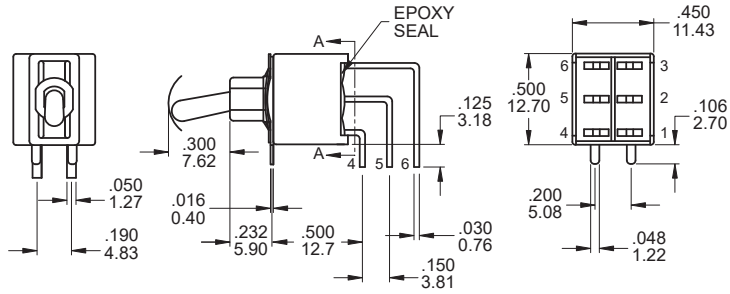
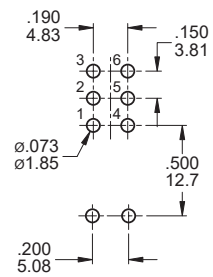
M7



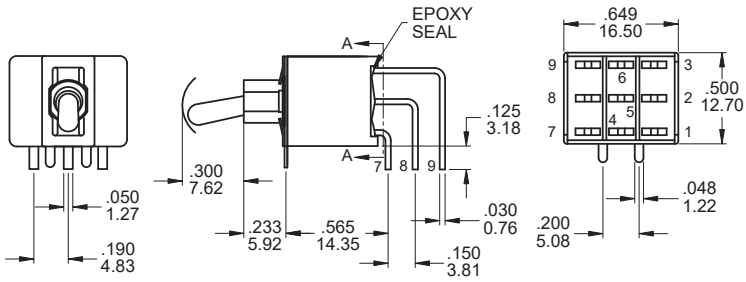
PCB MOUNTING



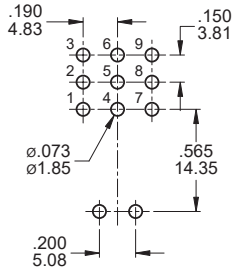
DPDT

Model name. 1AD1T2B4M7RES

M7



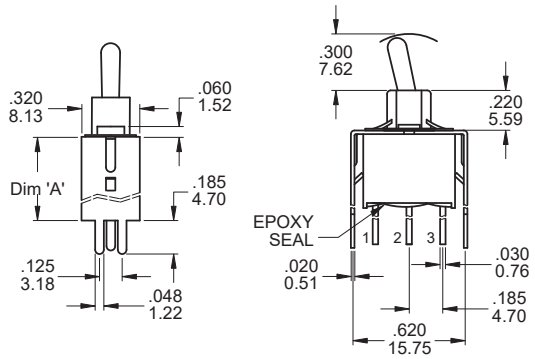
PCB MOUNTING



3PDT

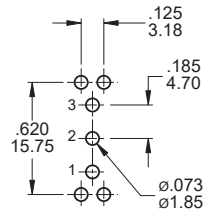
Model name. 1A31T2B4M7QES

VS2 / VS3
(V2N - Snap-in)



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

PCB MOUNTING



SPDT

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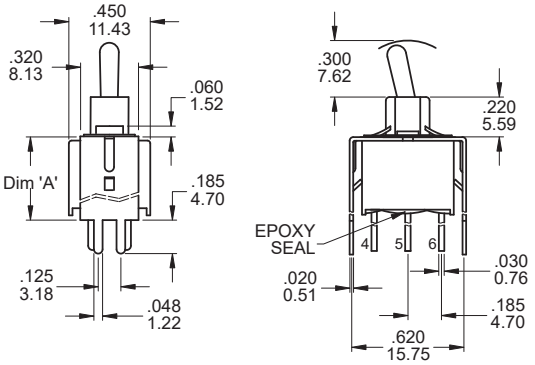
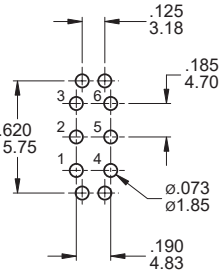
VS2 / VS3
(V2N - Snap-in)



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

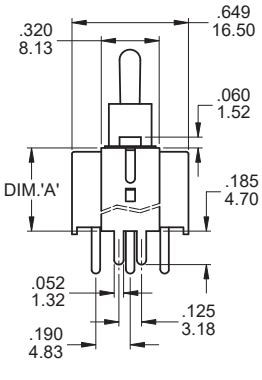
PCB MOUNTING

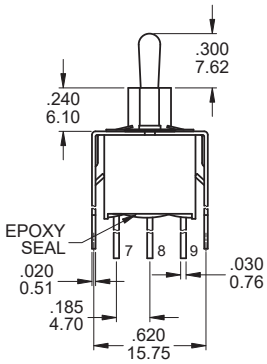


DPDT

Model name. 1AD1T2B4VS2QES

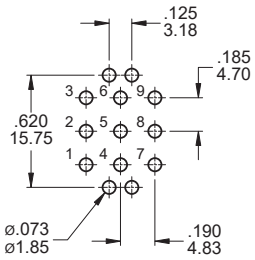
VS2 / VS3
(V2N - Snap-in)





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

PCB MOUNTING

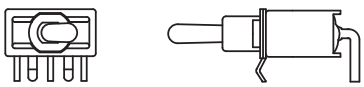


3PDT

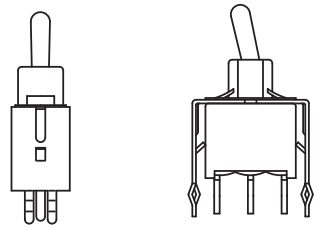
Model name. 1A31T2B4VS2QES

▼ SNAP-IN TERMINAL OPTIONS

M6N



V2N

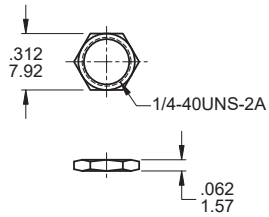


▼ HARDWARE

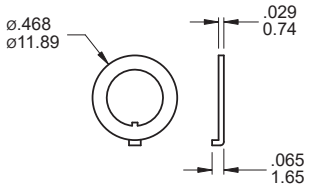
EXAMPLE: Model name. — □ 5 Standard hardware

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

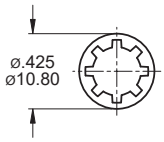
1/4 NUT (Std.)
Model name. MNU-1M01A



LOCKING RING (Std.)
Model name. MNU-1M02



LOCKWASHER (Std.)
Model name. MNU-1M03



.018inch(0.46mm) THK

▼ CONTACT & TERMINAL PLATING OPTIONS

	CONTACT PLATING	TERMINAL PLATING	RATINGS
Q	Silver	Gold flash over silver	5 Amps with resistant load @ 120VAC or 28VDC
C	Gold over Silver	Gold over silver	2 Amps with resistant load @ 250VAC
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)