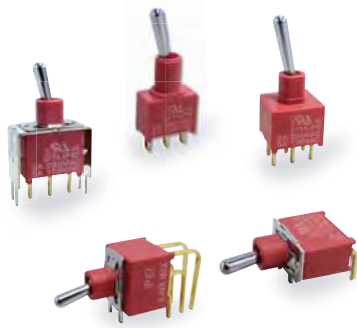


1A Series

Sealed Miniature Toggle Switches

1A
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 @ 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 & BUSHING: Glass filled nylon 6/6, flame retardant, heat stabilized (UL94v-0).

ACTUATOR: Brass, chrome plated with internal, O-ring seal standard.

SWITCH SUPPORT: Brass or steel, tin plated.

SWITCH SUPPORT RETAINER: Stainless steel.

CONTACT / TERMINALS: Copper alloy, with Silver or gold plated.
(See Page 17)

HOW TO ORDER

MODEL NO.	ACTUATOR	BUSHING	TERMINATIONS	TERMINAL PLATING	SEAL	RoHS SOLDERING
<p>Model NO.</p> <p>1AS1 SP ON-NONE-ON</p> <p>1AS2 SP ON-NONE-(ON)</p> <p>1AS3 SP ON-OFF-ON</p> <p>1AS4 SP (ON)-OFF-(ON)</p> <p>1AS5 SP ON-OFF-(ON)</p> <p>1AD1 DP ON-NONE-ON</p> <p>1AD2 DP ON-NONE-(ON)</p> <p>1AD3 DP ON-OFF-ON</p> <p>1AD4 DP (ON)-OFF-(ON)</p> <p>1AD5 DP ON-OFF-(ON)</p> <p>1AD6 DP ON-ON-ON</p> <p>1AD7 DP (ON)-ON-(ON)</p> <p>1AD8 DP ON-ON-(ON)</p> <p>1A31 3P ON-NONE-ON</p> <p>1A32 3P ON-NONE-(ON)</p> <p>1A33 3P ON-OFF-ON</p> <p>1A34 3P (ON)-OFF-(ON)</p> <p>1A35 3P ON-OFF-(ON)</p>	<p>Actuator</p> <p>T1 12.70 high</p> <p>T2 7.62 high</p> <p>TA Plastic, black 12.70 high</p> <p>TB Plastic, black 7.62 high</p> <p>TC Plastic, silver 12.70 high</p>	<p>Bushing</p> <p>B1 8.89 high</p> <p>B4 6.10 high</p>	<p>Terminations</p> <p>M1 Solder Lug</p> <p>M2 PC thru-hole</p> <p>M51 18.70 high, wire wrap</p> <p>M52 24.20 high, wire wrap</p> <p>M53 10.55 high, wire wrap</p> <p>M54 26.97 high, wire wrap</p> <p>M6 Right angle, PC thru-hole</p> <p>M6N Right angle, snap-in, PC thru-hole</p> <p>M7 Vertical right angle, PC thru-hole</p> <p>VS2 11.68 high, V-bracket</p> <p>V2N 11.68 high, snap-in V-bracket</p> <p>VS3 16.00 high, V-bracket</p>	<p>Terminal plating</p> <p>Q Gold flash over silver</p> <p>R Gold</p> <p>C Gold over silver</p>	<p>Seal</p> <p>E EPOXY (std)</p>	<p>RoHS soldering</p> <p>S RoHS & Lead Free</p>

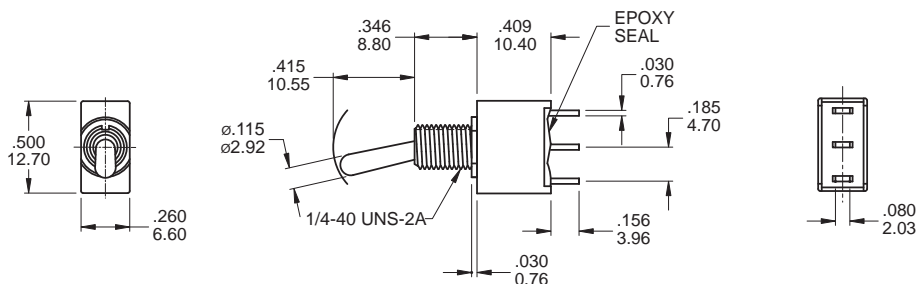
SWITCH FUNCTION

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)	2-3		2-1	
	Q11A13	1AS3	ON	OFF	ON		OPEN		
	Q11A14	1AS4	(ON)	OFF	(ON)				
	Q11A15	1AS5	ON	OFF	(ON)				
DP	Q11A21	1AD1	ON	NONE	ON		N/A		
	Q11A22	1AD2	ON	NONE	(ON)	2-3,5-6		2-1,5-4	
	Q11A23	1AD3	ON	OFF	ON		OPEN		
	Q11A24	1AD4	(ON)	OFF	(ON)				
	Q11A25	1AD5	ON	OFF	(ON)				
	▲	Q11A27	1AD7	(ON)	ON	(ON)	2-3,5-6	2-3,5-4	2-1,5-4
	▲	Q11A28	1AD8	ON	ON	(ON)			
	3P	Q11A31	1A31	ON	NONE	ON		N/A	
Q11A32		1A32	ON	NONE	(ON)	2-3,5-6,8-9		2-1,5-4,8-7	
Q11A33		1A33	ON	OFF	ON		OPEN		
Q11A34		1A34	(ON)	OFF	(ON)				
Q11A35		1A35	ON	OFF	(ON)				

() = MOMENTARY

▲ Please check the availability in advance before order

POLE OPTIONS



SPDT

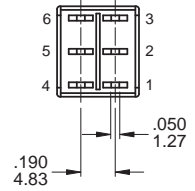
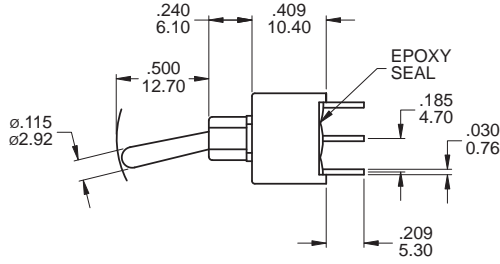
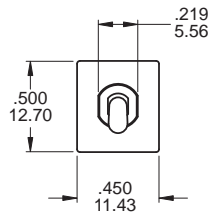
Part No. Shown : 1AS1T1B1M1QES



1A Series

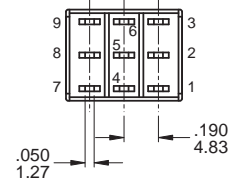
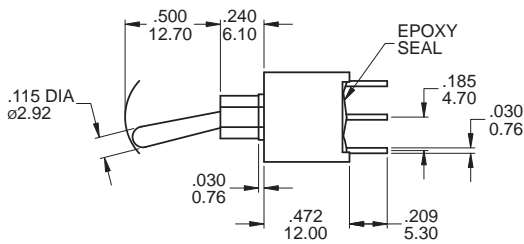
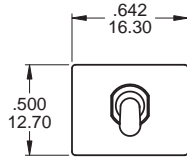
Sealed Miniature Toggle Switches

1A
Toggle Switches



DPDT

Part No. Shown : 1AD1T1B4M2QES



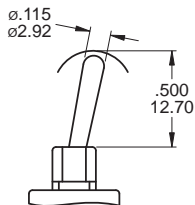
3PDT

Part No. Shown : 1A31T1B4M2QES

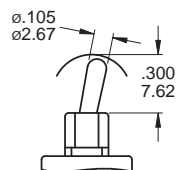
ACTUATOR OPTIONS

Actuator shown with standard B4 Bushing,
Subtract .085 (2.15) for B1 bushing.

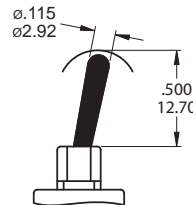
T1



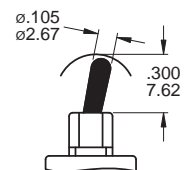
T2



TA



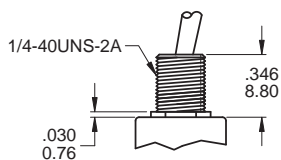
TB



PLASTIC ACTUATOR
(TC, Silver)

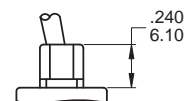
BUSHING OPTIONS

B1



Std for M1

B4

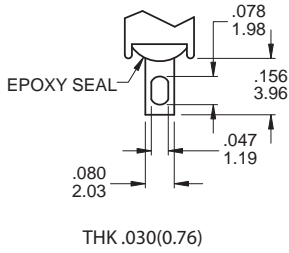


Std for M2, M6, M7, VS termination

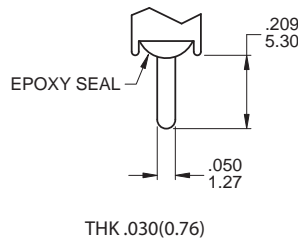


TERMINATION OPTIONS

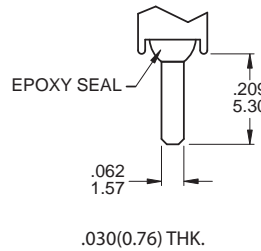
M1 Solder lug



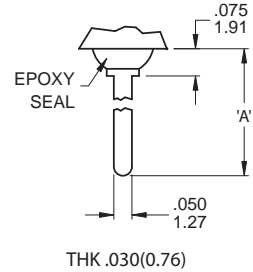
M2 PC Thru-hole



M3 Quick connect



M5 Wire Wrap



OTHER TERMINATION OPTIONS

M6 Right angle P.C. Mount

M7 Vertical right angle P.C. Mount

VS2 Vertical bracket P.C. Mount

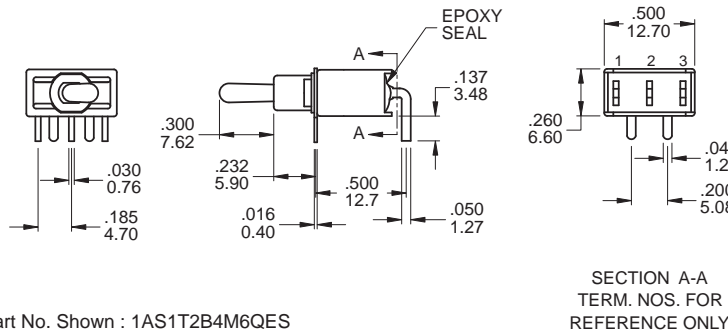
VS3 Vertical bracket P.C. Mount

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

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

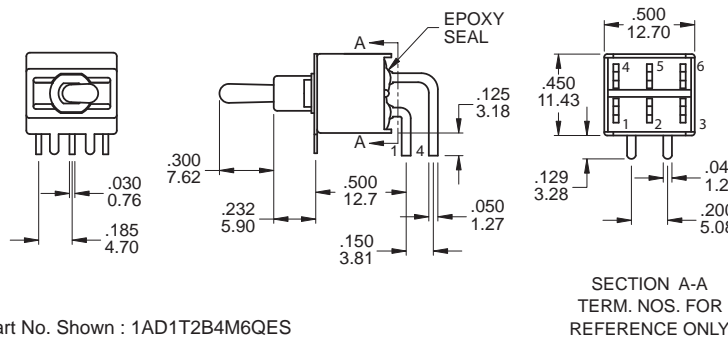
OPTION CODE	DIM. 'A'
M51	.736 (18.70)
M52	.953 (24.20)
M53	.415 (10.55)
M54	1.062 (26.97)

M6



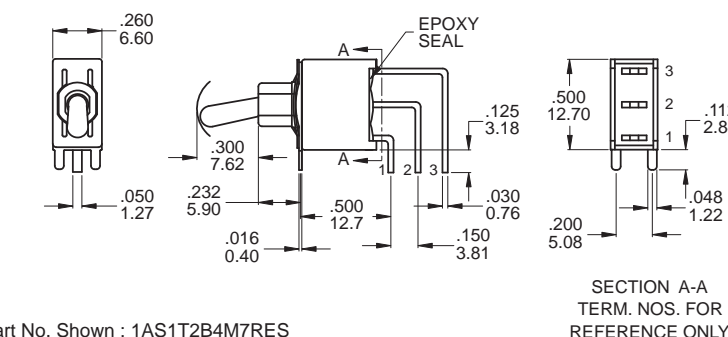
SPDT

M6



DPDT

M7



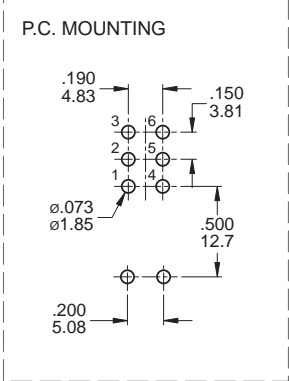
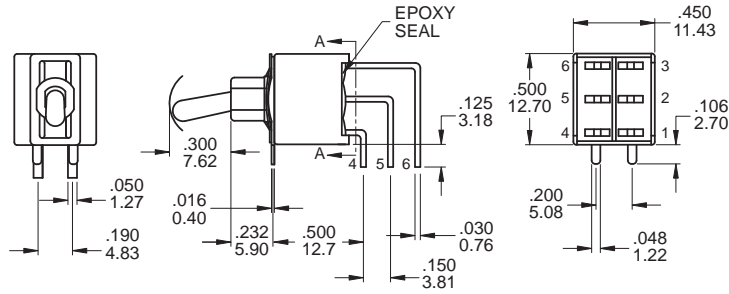
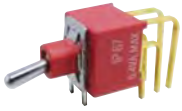
SPDT

1A Series

Sealed Miniature Toggle Switches

1A
Toggle Switches

M7

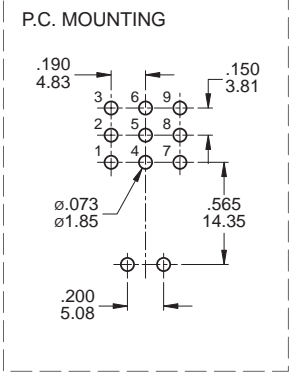
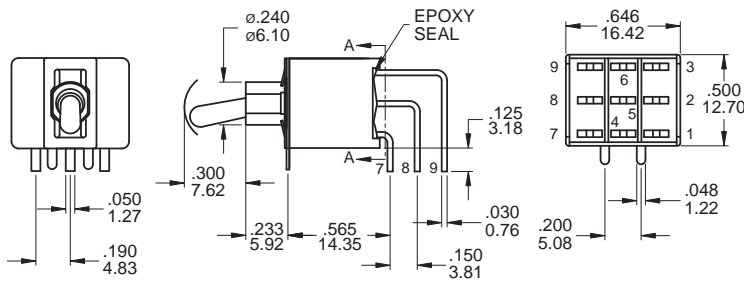
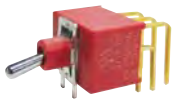


DPDT

Part No. Shown : 1AD1T2B4M7RES

SECTION A-A
TERM. NOS. FOR
REFERENCE ONLY

M7

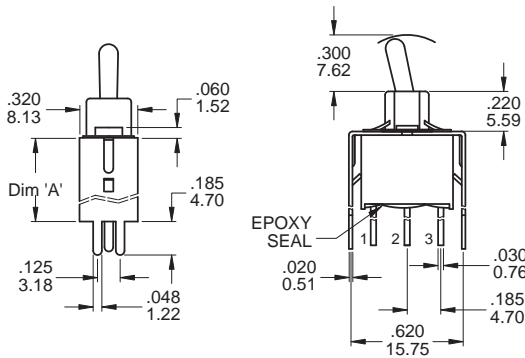


3PDT

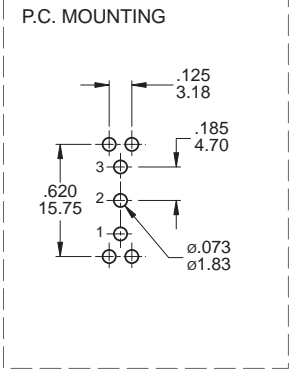
Part No. Shown : 1A31T2B4M7QES

SECTION A-A
TERM. NOS. FOR
REFERENCE ONLY

VS2 - VS3



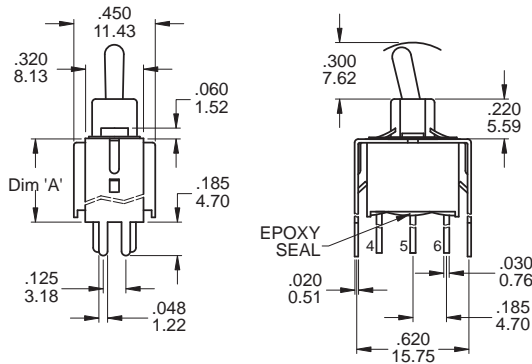
OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00



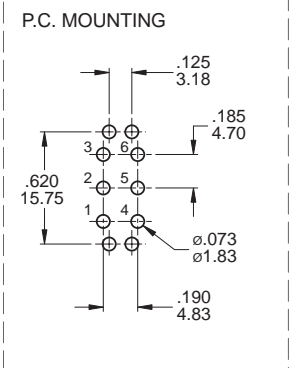
SPDT

Part No. Shown : 1AS1T2B4VS2QES

VS2 - VS3



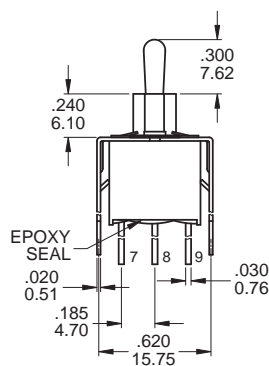
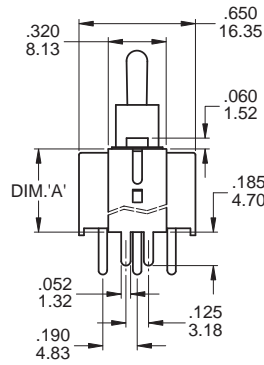
OPTION CODE	DIM. 'A'
VS2	.460 11.68
VS3	.630 16.00



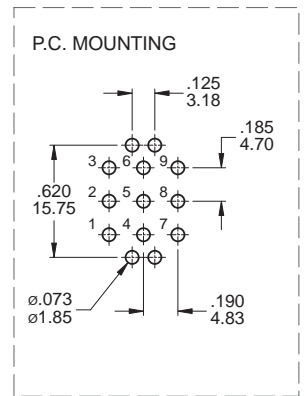
DPDT

Part No. Shown : 1AD1T2B4VS2QES

VS2 - VS3



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

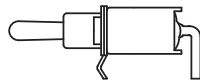


3PDT

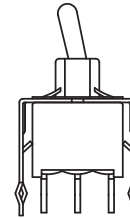
Part No. Shown : 1A31T2B4VS2QES

SNAP-IN TERMINATION OPTIONS

M6N

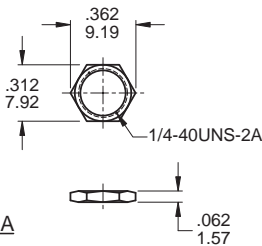


V2N



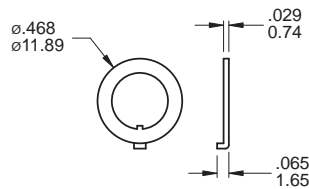
HARDWARE

1/4 NUT



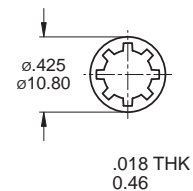
MNU-1M01A

LOCKING RING



MNU-1M02

LOCKWASHER



MNU-1M03

CONTACT MATERIAL 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 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)