



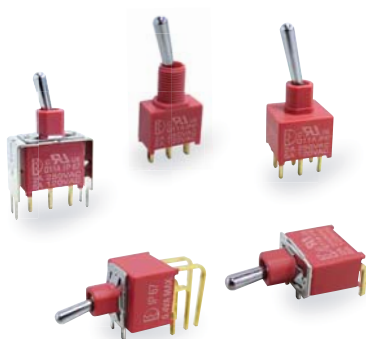
TGS02 Series

Sealed Miniature Toggle Switches

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

CAL US
E 187490

RoHS
compliant



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
<u>SP</u> TGS02-S1 ON-NONE-ON TGS02-S2 ON-NONE-(ON) TGS02-S3 ON-OFF-ON TGS02-S4 (ON)-OFF-(ON) TGS02-S5 ON-OFF-(ON)	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		B1 8.80 high B4 6.10 high	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 *	E EPOXY (std)	S RoHS & Lead Free
<u>DP</u> TGS02-D1 ON-NONE-ON TGS02-D2 ON-NONE-(ON) TGS02-D3 ON-OFF-ON TGS02-D4 (ON)-OFF-(ON) TGS02-D5 ON-OFF-(ON) TGS02-D6 ON-ON-ON TGS02-D7 (ON)-ON-(ON) ▲ TGS02-D8 ON-ON-(ON) ▲						
<u>3P</u> TGS02-31 ON-NONE-ON TGS02-32 ON-NONE-(ON) TGS02-33 ON-OFF-ON TGS02-34 (ON)-OFF-(ON) TGS02-35 ON-OFF-(ON) ▲						

V-bracket

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

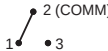
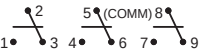
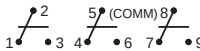
▲ Please confirm the availability before order.

* Only available for B4 bushing.

EXAMPLE: TGS02-S1T1B1M1QES



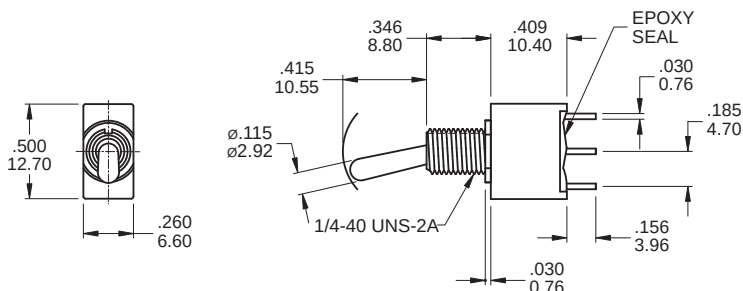
▼ SWITCH FUNCTION

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	TGS02-S1	ON	NONE	ON		N/A	
	Q11A12	TGS02-S2	ON	NONE	(ON)		OPEN	
	Q11A13	TGS02-S3	ON	OFF	ON			
	Q11A14	TGS02-S4	(ON)	OFF	(ON)			
	Q11A15	TGS02-S5	ON	OFF	(ON)			
DP	Q11A21	TGS02-D1	ON	NONE	ON		N/A	
	Q11A22	TGS02-D2	ON	NONE	(ON)		OPEN	
	Q11A23	TGS02-D3	ON	OFF	ON			
	Q11A24	TGS02-D4	(ON)	OFF	(ON)			
	Q11A25	TGS02-D5	ON	OFF	(ON)			
	Q11A26	TGS02-D6	ON	ON	ON	2-3,5-6	2-3,5-4	2-1,5-4
	 Q11A27	TGS02-D7	(ON)	ON	(ON)			
	 Q11A28	TGS02-D8	ON	ON	(ON)			
3P	Q11A31	TGS02-31	ON	NONE	ON		N/A	
	Q11A32	TGS02-32	ON	NONE	(ON)		OPEN	
	Q11A33	TGS02-33	ON	OFF	ON			
	Q11A34	TGS02-34	(ON)	OFF	(ON)			
	 Q11A35	TGS02-35	ON	OFF	(ON)			

() = MOMENTARY

▲ Please confirm the availability before order.

▼ POLE OPTIONS



SPDT

Model name. TGS02-S1T1B1M1QES



TGS02 Series

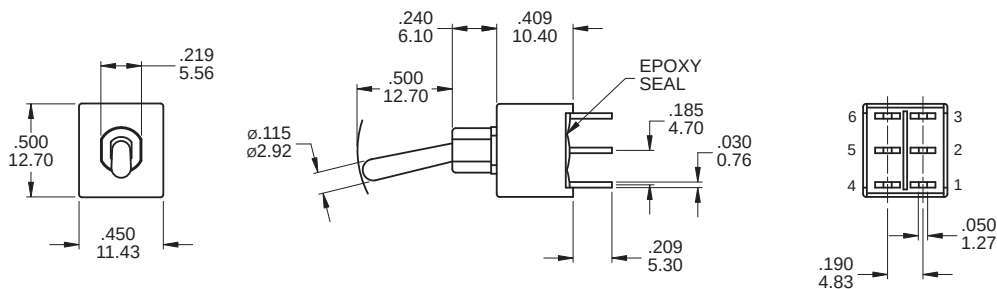
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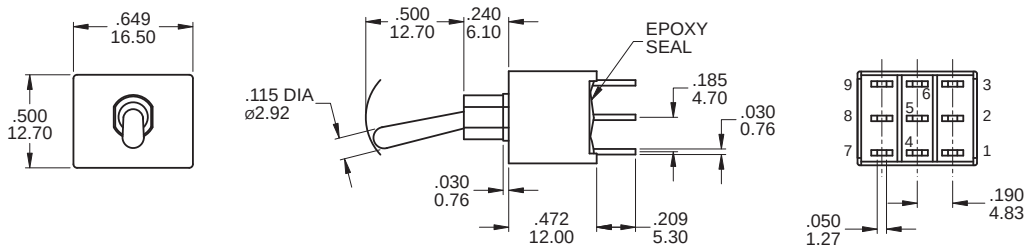
RoHS
compliant

Pb
lead-free



DPDT

Model name. TGS02-D1T1B4M2QES



3PDT

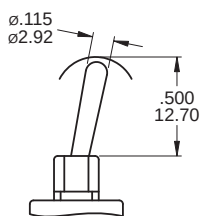
Model name. TGS02-31T1B4M2QES

▼ ACTUATOR OPTIONS

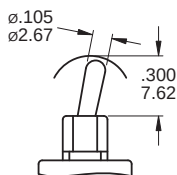
Actuator are shown with Bushing B4(standard)

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

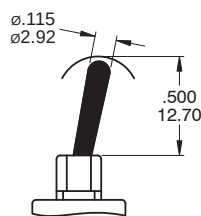
T1



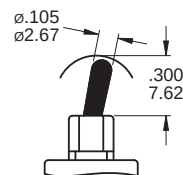
T2



TA



TB

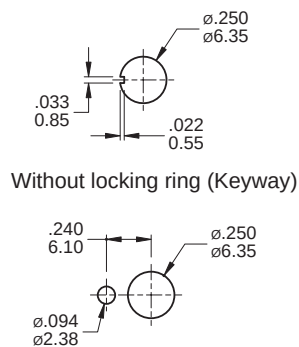
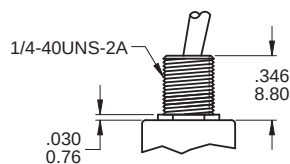


PLASTIC ACTUATOR
(TC,Silver)

▼ BUSHING OPTIONS

B1

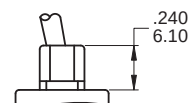
Note: Standard for terminal M1.



With standard locking ring.

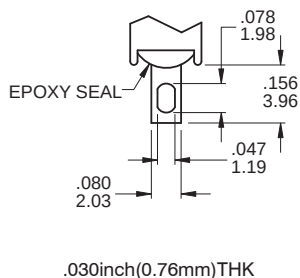
B4

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

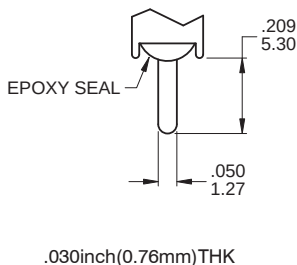


▼ TERMINAL OPTIONS

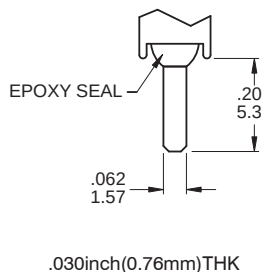
M1 Solder lug



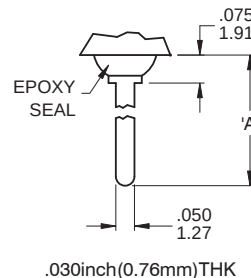
M2 PC Thru-hole



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

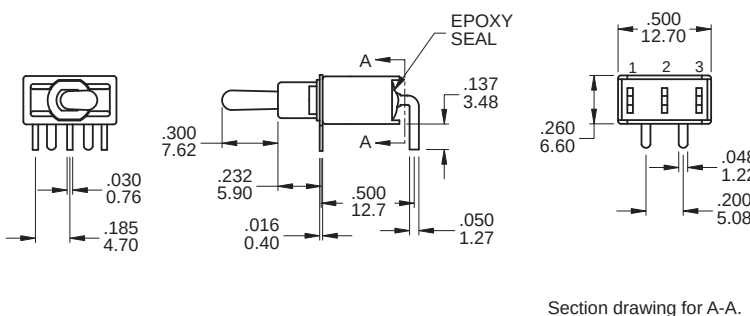
VS3 Vertical bracket P.C. Mount

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)

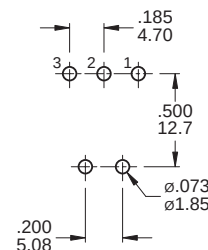
M6 (M6N - Snap-in)



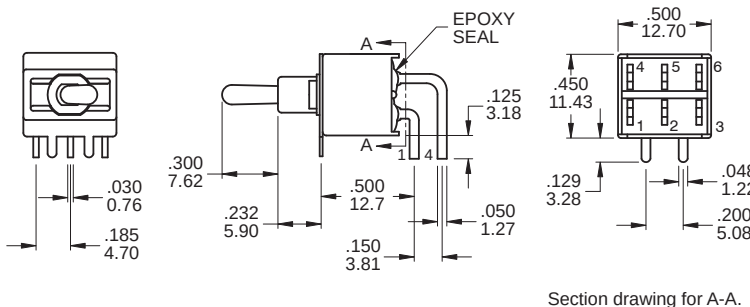
SPDT

Model name. TGS02-S1T2B4M6QES

PCB MOUNTING



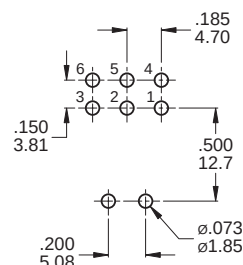
M6



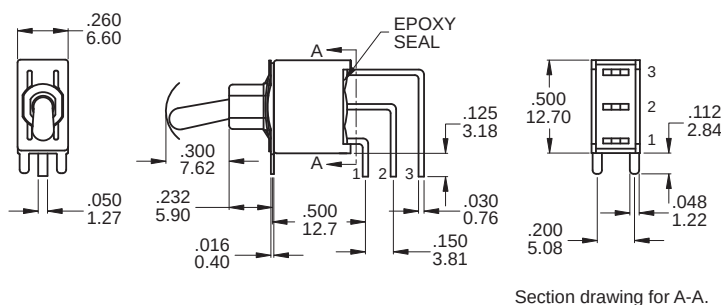
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PCB MOUNTING



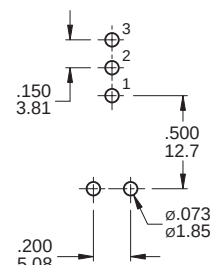
M7



SPDT

Model name. TGS02-S1T2B4M7RES

PCB MOUNTING





TGS02 Series

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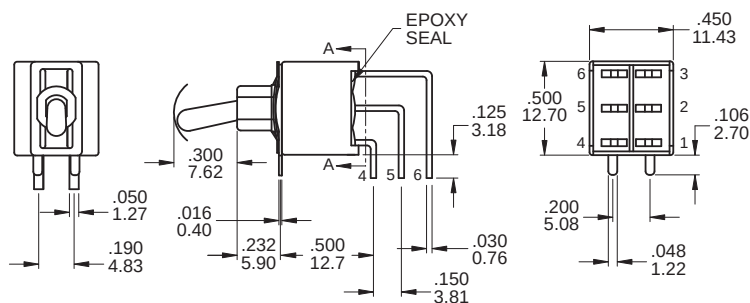
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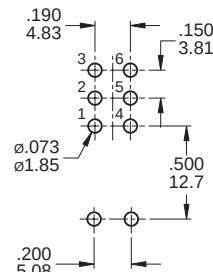
Pb
lead-free

M7



Section drawing for A-A.

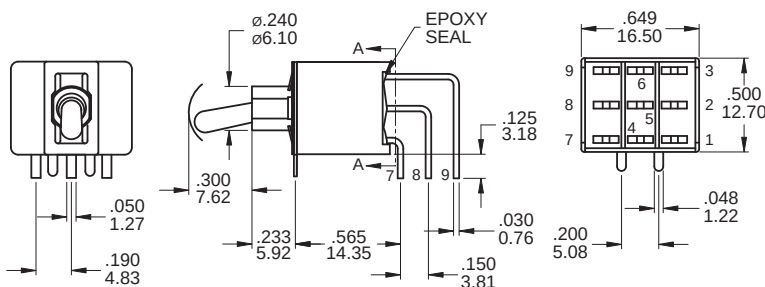
PCB MOUNTING



DPDT

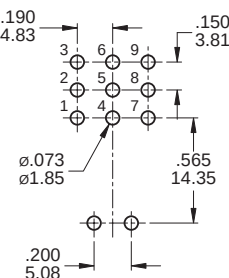
Model name. TGS02-D1T2B4M7RES

M7



Section drawing for A-A.

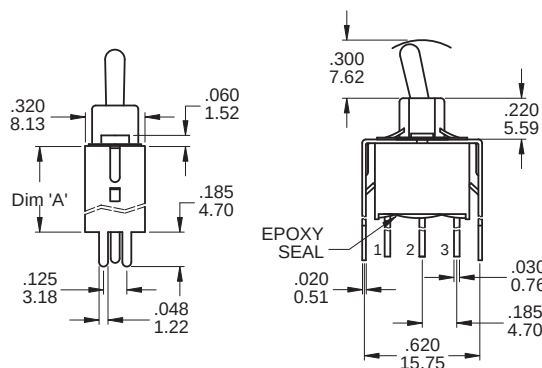
PCB MOUNTING



3PDT

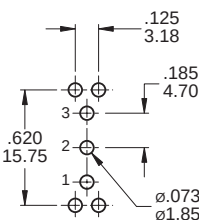
Model name. TGS02-31T2B4M7QES

VS2 / VS3
(V2N - Snap-in)



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

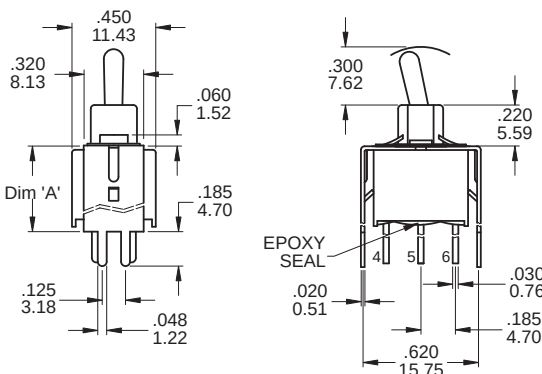
PCB MOUNTING



SPDT

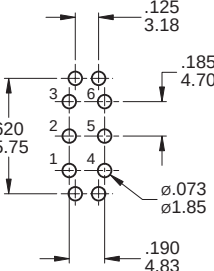
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VS2 / VS3
(V2N - Snap-in)



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

PCB MOUNTING

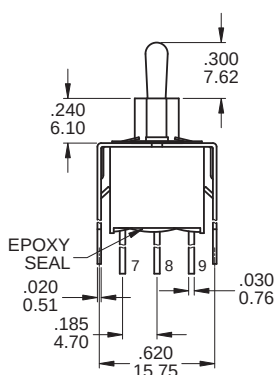
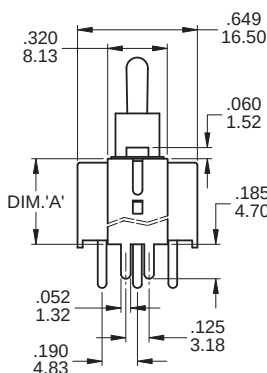


DPDT

Model name. TGS02-D1T2B4VS2QES

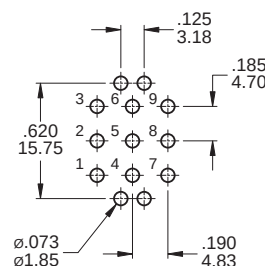


VS2 / VS3 (V2N - Snap-in)



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PCB MOUNTING

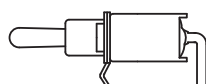


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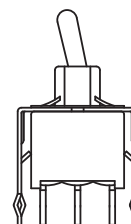
Model name. TGS02-31T2B4VS2QES

▼ SNAP-IN TERMINAL OPTIONS

M6N



V2N



▼ HARDWARE

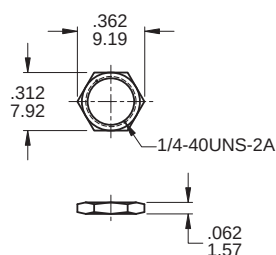
EXAMPLE: 

Model name.  5 Standard hardware

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

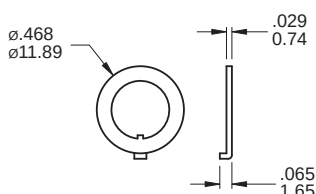
1/4 NUT (Std.)

Model name. MNU-1M01A



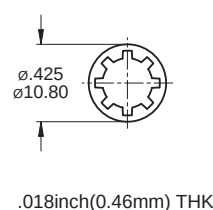
LOCKING RING (Std.)

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)