

## SPECIFICATIONS

**CONTACT RATING:** Dependent upon contact material, see page 11.

**MECHANICAL LIFE:** 40,000 make-and-break cycles.

**CONTACT RESISTANCE:** 10mΩ 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:** Diallyl phthalate (DAP) (UL94v-0).

**ACTUATOR:** Brass, chrome plated.

**BUSHING:** Brass, nickel plated.

**HOUSING:** Stainless steel.

**SWITCH SUPPORT:** Brass, tin plated.

**CONTACT / TERMINALS:** Copper with silver or gold plated.

(See page 11)

## HOW TO ORDER

MODEL NO.	ACTUATOR	BUSHING	TERMINAL TYPE	TERMINAL PLATING	SEAL	RoHS SOLDERING
SP				Q Silver R Gold C Gold over silver	E EPOXY (std) N NO EPOXY	S RoHS & Lead Free
TGS01-S1 ON-NONE-ON	T1 10.41 high					
TGS01-S2 ON-NONE-(ON)	T2 5.08 high					
TGS01-S3 ON-OFF-ON	T3 13.97 high					
TGS01-S4 (ON)-OFF-(ON)	T4 16.26 high					
TGS01-S5 ON-OFF-(ON)	T5 21.34 high					
	T9□ 21.3 high, Plastic		B1 8.89 high, keyway (thd std)		M1 Solder lug	
	T7 12.37 high **		B2 8.89 high, keyway (non-thd)		M2 PC thru-hole	
DP	T8 17.56 high **		B3 7.10 high, keyway (thd)		M3 Quick connect	
TGS01-D1 ON-NONE-ON	T88 17.5 high ***		B4 7.10 high, keyway (non-thd)		M51 18.70 high, wire wrap	
TGS01-D2 ON-NONE-(ON)			B7 8.89 high, flat (thd std)		M52 24.20 high, wire wrap	
TGS01-D3 ON-OFF-ON	<u>Anti-rotation</u>		B8 8.89 high, keyway (metric thd)		M53 10.55 high, wire wrap	
TGS01-D4 (ON)-OFF-(ON)	T6 12.30 high		B11 7.55 high, keyway (thd std) ****		M54 26.97 high, wire wrap	
TGS01-D5 ON-OFF-(ON)	T61 21.0 high		B12 7.55 high, keyway (non-thd) ****		M6 Right angle, PC thru-hole	
TGS01-D6 ON-ON-ON	T62 13.49 high, With cap		B13 11.38 high, keyway (15/32 bushing)		M6N Right angle, Snap-in, PC thru-hole	
TGS01-D7 (ON)-ON-(ON) ▲	T63 6.35 high		B15 7.55 high, flat (thd std) ****		M7 Vertical right angle, PC thru-hole	
TGS01-D8 ON-ON-(ON) ▲	<u>Locking lever</u>		B16 7.55 high, flat (non-thd) ****		<u>V-bracket</u>	
	TL1 16.00 high		B17 3.50 high, keyway, (thd)		VS2 11.68 high	
3P	TL2 16.26 high		B18 11.38 high, keyway (15/32 bushing)		V2N 11.68 high, Snap-in.	
TGS01-31 ON-NONE-ON	TL3 17.28 high		B20 11.38 high, keyway (15/32 bushing)		VS3 16.00 high	
TGS01-32 ON-NONE-(ON)			<u>High torque</u>		VS4 11.68 high	
TGS01-33 ON-OFF-ON			B5 7.52 high, flat		VS5 16.00 high	
TGS01-34 (ON)-OFF-(ON)			B6 8.00 high, keyway			
TGS01-35 ON-OFF-(ON)			<u>Locking</u>			
			B25 8.00 high, keyway, (thd) *			
			B26 8.00 high, keyway, (non-thd) *			
			<u>Splash proof</u>			
			B9 7.52 high, flat, (thd)			
			B14 11.90 high, flat, (15/32 bushing)			
			B52 11.70 high, flat, (15/32 bushing) ***			







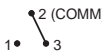
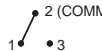




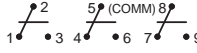

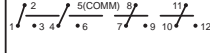
\* Only available for Locking lever.  
\*\* Only available for 15/32 bushing.  
\*\*\* T88 actuators are only available with B52 bushing  
\*\*\*\* Only available for Anti-rotation lever.

EXAMPLE: TGS01-S1T1B1M1QES

▲ Please confirm the availability before order.



▼ SWITCH FUNCTION

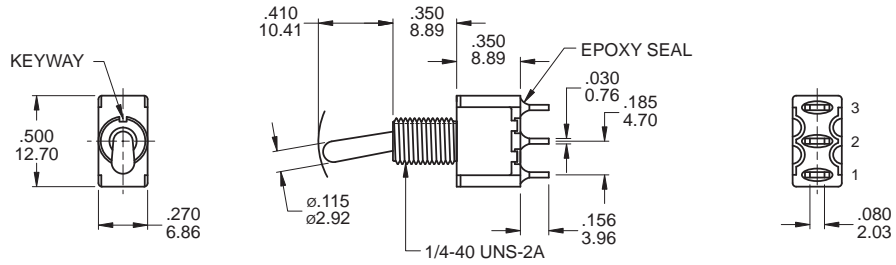
NO. POLES	UL/CSA MODEL NO.	MODEL NO.	SWITCH FUNCTION			CONNECTED TERMINALS / SCHEMATIC		
			POS.1	POS.2	POS.3	POS.1	POS.2	POS.3
								
SP	Q1111	TGS01-S1	ON	NONE	ON		N/A	
	Q1112	TGS01-S2	ON	NONE	(ON)		OPEN	
	Q1113	TGS01-S3	ON	OFF	ON			
	Q1114	TGS01-S4	(ON)	OFF	(ON)			
	Q1115	TGS01-S5	ON	OFF	(ON)			
DP	Q1121	TGS01-D1	ON	NONE	ON		N/A	
	Q1122	TGS01-D2	ON	NONE	(ON)		OPEN	
	Q1123	TGS01-D3	ON	OFF	ON			
	Q1124	TGS01-D4	(ON)	OFF	(ON)			
	Q1125	TGS01-D5	ON	OFF	(ON)			2-3,5-4
	Q1126	TGS01-D6	ON	ON	ON			
	▲ Q1127	TGS01-D7	(ON)	ON	(ON)			
	▲ Q1128	TGS01-D8	ON	ON	(ON)			
3P	Q1131	TGS01-31	ON	NONE	ON		N/A	
	Q1132	TGS01-32	ON	NONE	(ON)		OPEN	
	Q1133	TGS01-33	ON	OFF	ON			
	Q1134	TGS01-34	(ON)	OFF	(ON)			
	Q1135	TGS01-35	ON	OFF	(ON)			
4P	Q1141	TGS01-41	ON	NONE	ON		N/A	
	Q1142	TGS01-42	ON	NONE	(ON)		OPEN	
	Q1143	TGS01-43	ON	OFF	ON			
	Q1144	TGS01-44	(ON)	OFF	(ON)			
	Q1145	TGS01-45	ON	OFF	(ON)			
	Q1146	TGS01-46	ON	ON	ON			
	▲ Q1147	TGS01-47	(ON)	ON	(ON)			
	▲ Q1148	TGS01-48	ON	ON	(ON)			

( )= MOMENTARY

▲ Please confirm the availability before order.

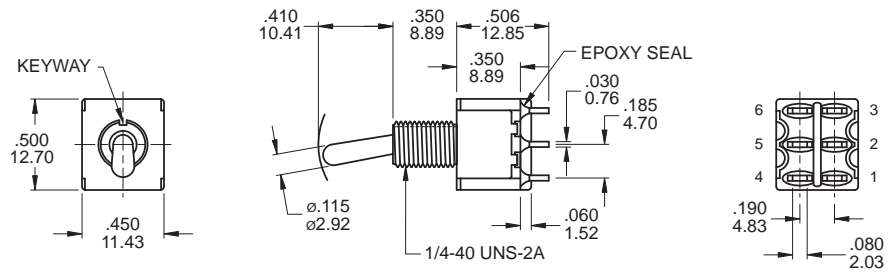


## ▼ POLE OPTIONS



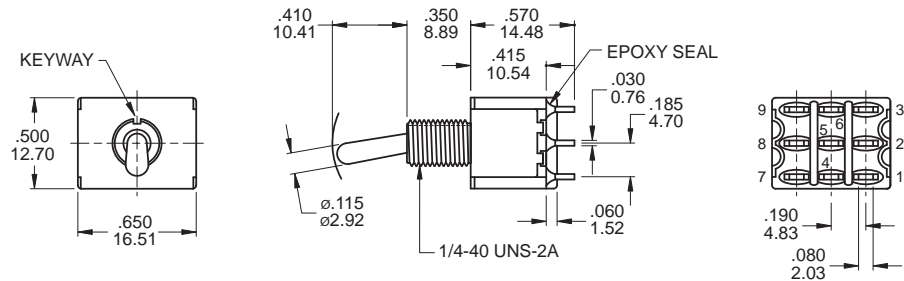
### SPDT

Model name. TGS01-S1T1B1M1QES



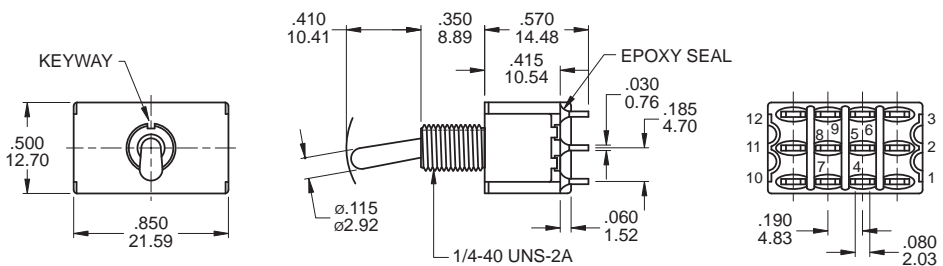
### DPDT

Model name. TGS01-D1T1B1M1QES



### 3PDT

Model name. TGS01-31T1B1M1QES



### 4PDT

Model name. TGS01-41T1B1M1QES



# TGS01 Series

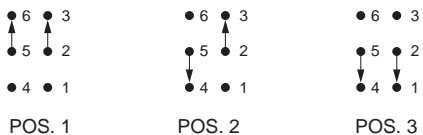
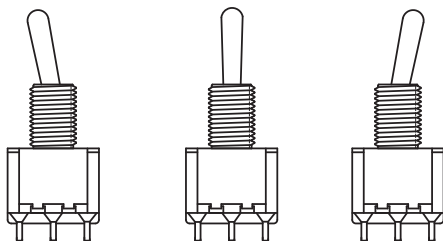
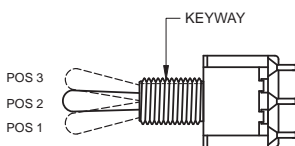
Miniature Toggle Switches



## ▼ 3-WAY SWITCH

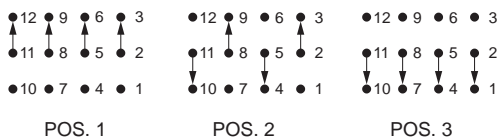
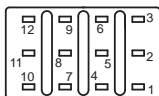
### SINGLE POLE, 3 POSITION

Model No.	POS 1	POS 2	POS 3
TGS01-D6	ON	ON	ON
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4



### DOUBLE POLE, 3 POSITION

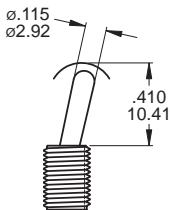
Model No.	POS 1	POS 2	POS 3
TGS01-46	ON	ON	ON
Term. Comm.	2-3,5-6 8-9,11-12	2-3,5-4 8-9,11-10	2-1,5-4 8-7,11-10



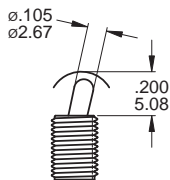
\* Diagram of the 3-way switch wiring

## ▼ ACTUATOR OPTIONS

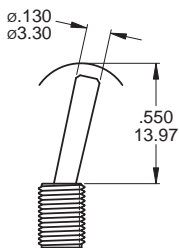
### T1 STD



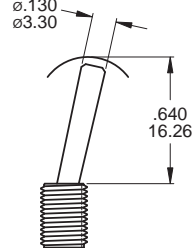
### T2



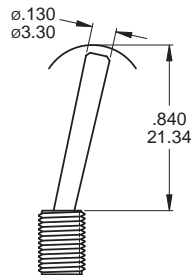
### T3



### T4



### T5



T1~T5 Actuator are shown with Bushing B1(standard) and available with Terminal M1,M2.

Note: For B3 Bushing: +.070inch(1.78mm)

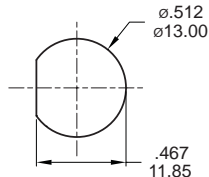
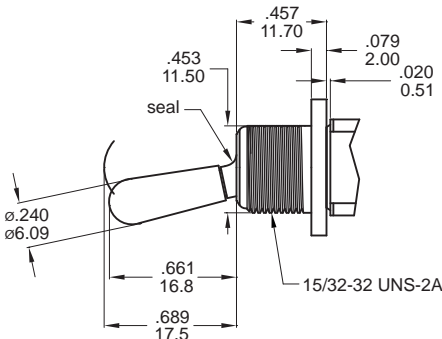
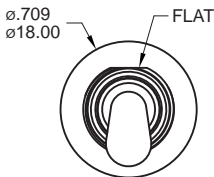
For B6 Bushing: -.020inch(0.51mm)

For B1/B2 Bushing with Terminal M6, M7, VSX: -.016inch(0.40mm)

### T88B52

#### SPLASH PROOF

\* Standard function is SPDT, can only applicable with terminal M1 and M2.

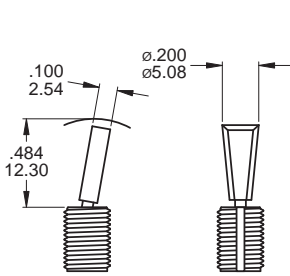


PANEL MOUNTING  
Without locking ring (Flat)

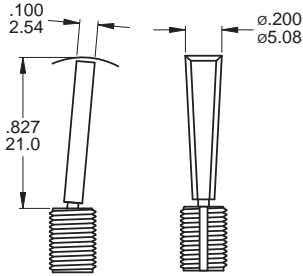


Note: T6, T61, T62, T63 can only be use with B11, B12, B15, B16 bushing.

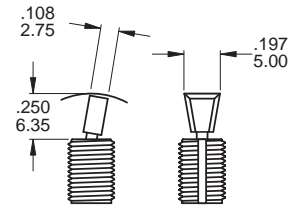
## T6 FLATTED WITH ANTI-ROTATION



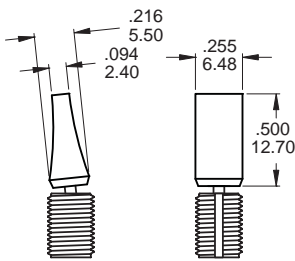
## T61



## T63



## T62 WITH BLACK CAP(STD)



### Plastic Color :

ITEM NO	COLOR
1	White
3	Red
4	Orange
5	Yellow
6	Green
7	Blue
9	Gray

\* Except standard color, for other colors information please consult sales representativity.

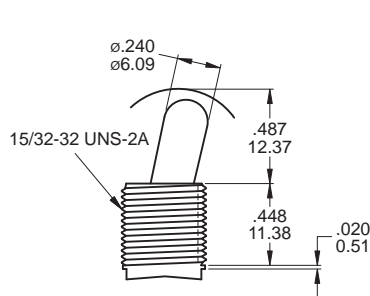
### EXAMPLE:

TGS01-S1T62M1QES (BLACK STD)

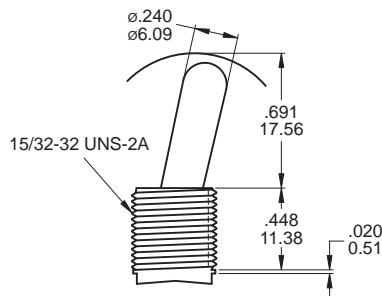
TGS01-S1T62 ☐ M1QES

Cap Color

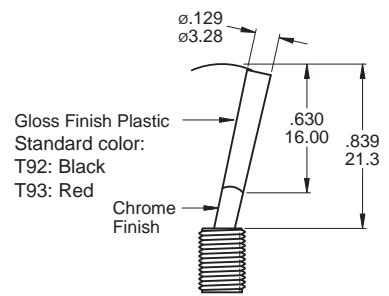
## T7



## T8



## T9 ☐

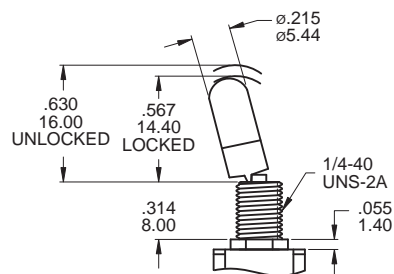


Shown with B13 bushing.  
Use with Bushing B18 and B20, the lever is antirotation and the length of lever is 13.00mm.

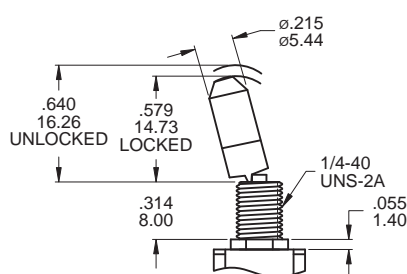
Shown with B13 bushing.  
Use with Bushing B18 and B20, the lever is antirotation and the length of lever is 18.00mm.

Standard for B1 and B2 bushing.

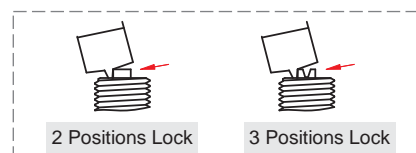
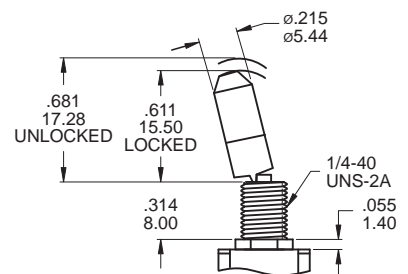
## TL1B25 THD STD B26 NON-THD



## TL2B25 THD STD B26 NON-THD



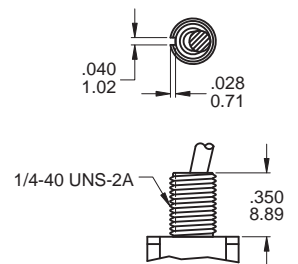
## TL3B25 THD STD B26 NON-THD





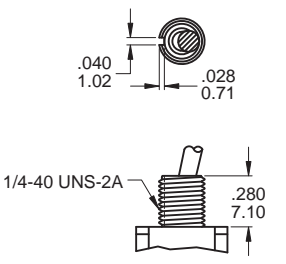
## ▼ BUSHING OPTIONS

**B1 THD STD**  
**B2 NON-THD**



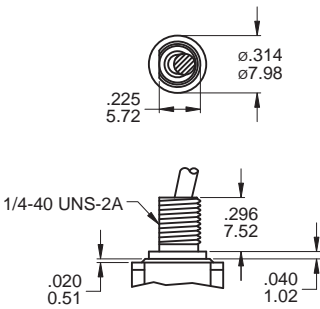
For terminal M6, M7 and VS2-5:  
-.015inch(0.39mm)

**B3 THD**  
**B4 NON-THD**

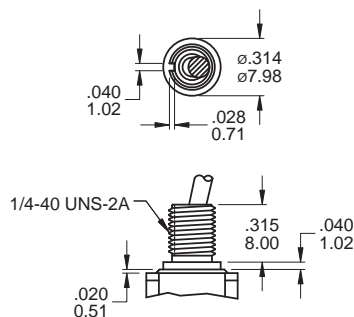


B4 is standard for terminal M6, M7  
and VS2-5.

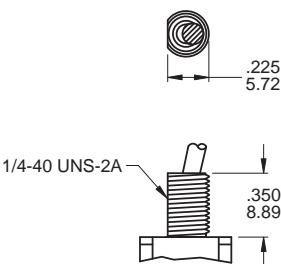
**B5 HIGH TORQUE**



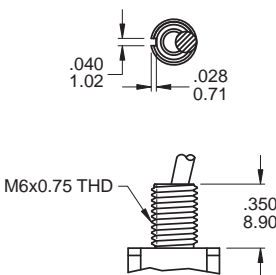
**B6 HIGH TORQUE**



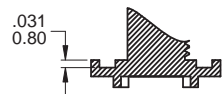
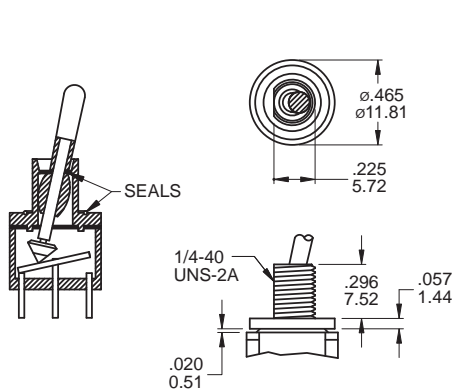
**B7 THD STD**



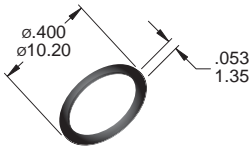
**B8 METRIC THD**



**B9 SPLASH PROOF**

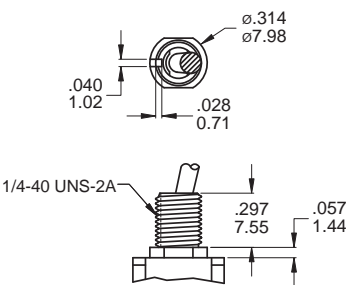


**O-RING**  
Model name. CP-1TEB



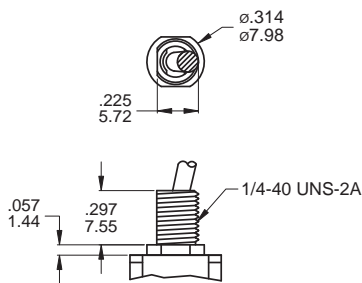
B9 bushing with O-Ring

**B11 THD STD**  
**B12 NON-THD**



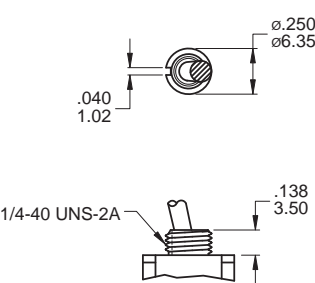
Only available for actuator T6~T63.

**B15 THD STD**  
**B16 NON-THD**



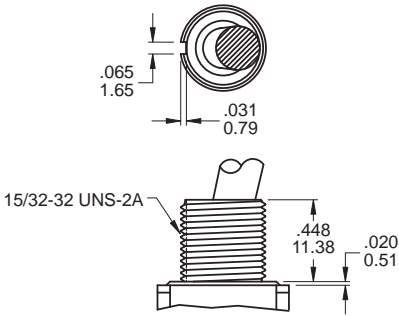
Only available for actuator T6~T63.

**B17**



Only available for actuator T2 and the  
length of lever is .311inch(7.90mm).  
Standard for terminal M1, M2

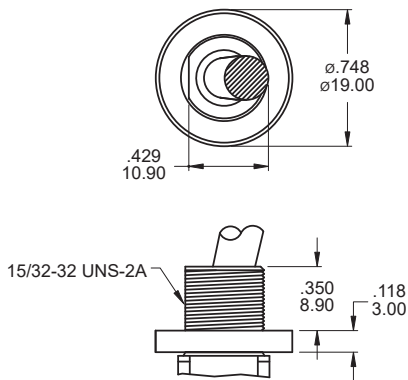
**B13**



Available with actuator T7 and T8 only.  
Bear strength from top of actuator is up  
to 10 kg, and 15kg from aside.

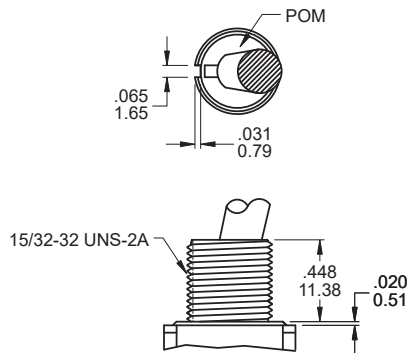


## B14 SPLASH PROOF



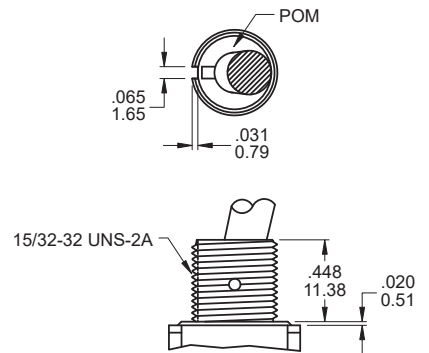
Available with actuator T7 and T8 only.

## B18 \*



Available with actuator T7 and T8 only.  
(with Plastic (POM) Insert)

## B20 \*



Available with actuator T7 and T8 only.  
(with Plastic (POM) Insert)

\* Bear strength from top of actuator is up to 20 kg, and 15kg from aside.

## ▼ TOGGLE CAP



Model name. MCP-1T12 (std.)  
Note: Only available for actuator T1

### CAP Color :

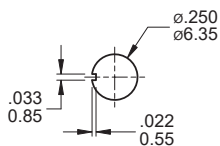
ITEM NO	COLOR
1	White
2	Black (Std)
3	Red
5	Yellow
6	Green
7	Blue
9	Gray

\* Except standard color, for other colors information please consult sales representativity.

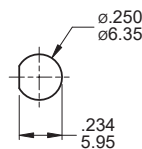
EXAMPLE: T1  
Model name. Cap color  
0 No hardware  
5 Standard hardware

## ▼ PANEL MOUNTING

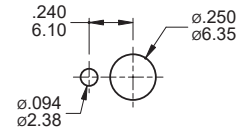
### 1/4 IN BUSHING



Without locking ring (Keyway)



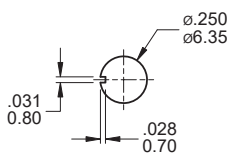
Without locking ring (Flat)



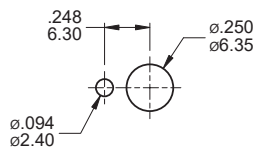
With standard locking ring.

### METRIC BUSHING

Note: For B8 bushing.

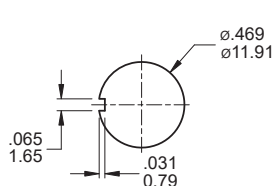


Without locking ring (Keyway)

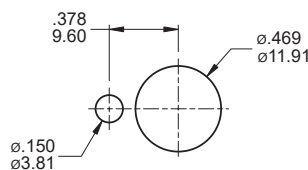


With standard locking ring.

### 15/32 IN BUSHING



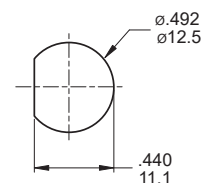
Without locking ring (Keyway)



With standard locking ring.

### SPLASH PROOF BUSHING

Note: For B14 bushing.



Without locking ring (Flat)



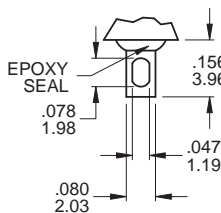
# TGS01 Series

Miniature Toggle Switches



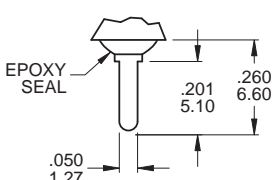
## ▼ TERMINAL OPTIONS

### M1 Solder lug



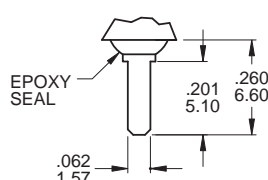
.030inch(0.76mm) THK.

### M2 PC Thru-hole



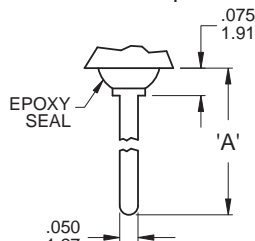
.030inch(0.76mm) THK.

### M3 Quick connect



.030inch(0.76mm) THK.

### M5 Wire Wrap



.030inch(0.76mm) THK.

## ▼ OTHER TERMINAL OPTIONS

### M6 Right angle P.C. Mount

### M7 Vertical right angle P.C. Mount

### VS2 Vertical bracket P.C. Mount

### VS3 Vertical bracket P.C. Mount

### VS5 Vertical bracket P.C. Mount

### M6N Right angle P.C. Mount

### with snap-in bracket

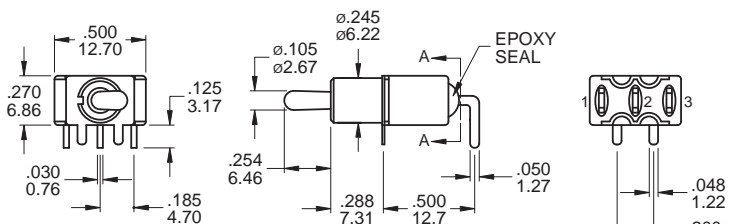
### V2N Vertical bracket P.C. Mount

### 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)

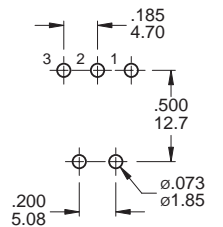
### M6

(M6N - Snap-in)



Section drawing for A-A.

### PCB MOUNTING

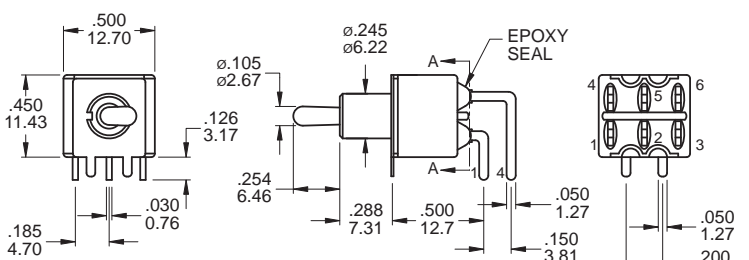


### SPDT

Model name. TGS01-S1T2B4M6QES

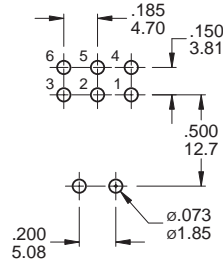
### M6

(M6N - Snap-in)



Section drawing for A-A.

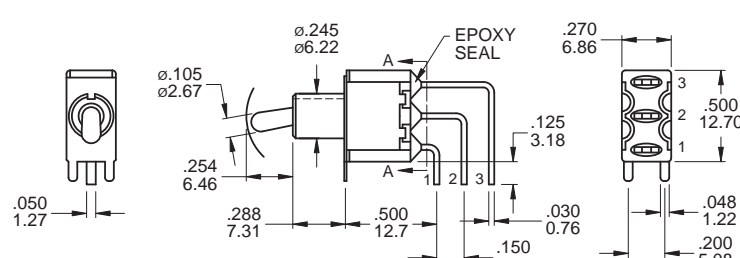
### PCB MOUNTING



### DPDT

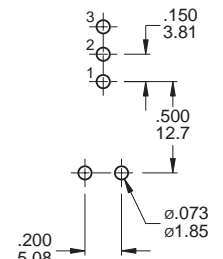
Model name. TGS01-D1T2B4M6RES

### M7



Section drawing for A-A.

### PCB MOUNTING



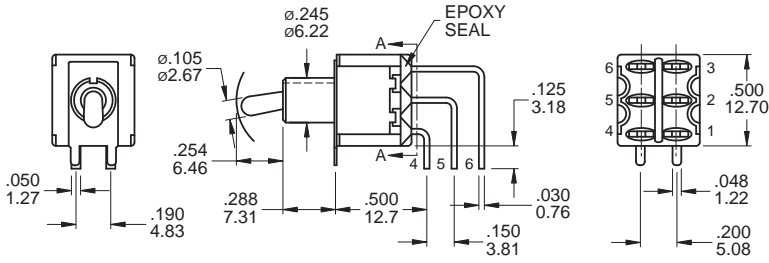
### SPDT

Model name. TGS01-S1T2B4M7QES

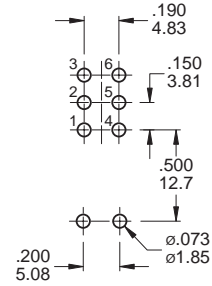




## M7



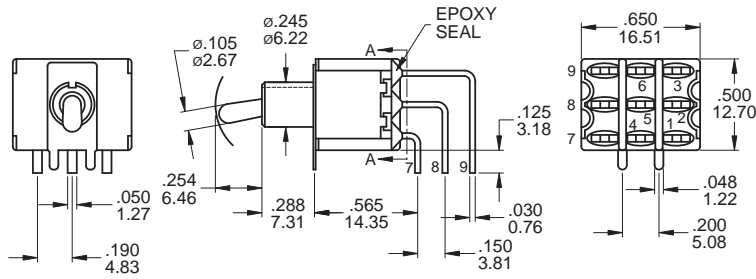
### PCB MOUNTING



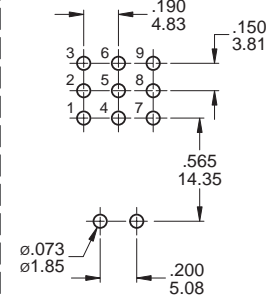
### DPDT

Model name. TGS01-D1T2B4M7QES

## M7



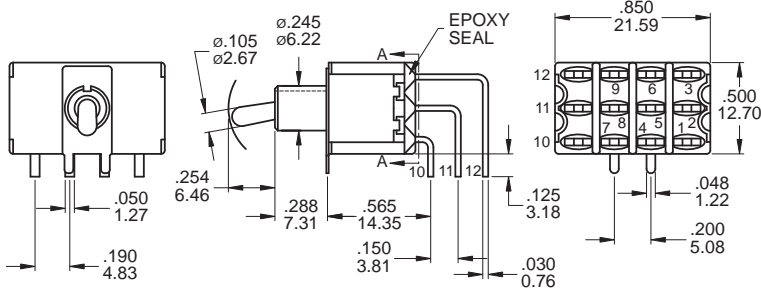
### PCB MOUNTING



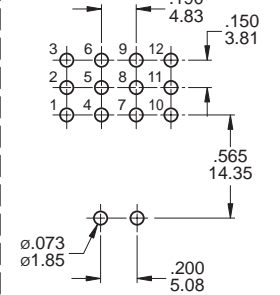
### 3PDT

Model name. TGS01-31T2B4M7QES

## M7



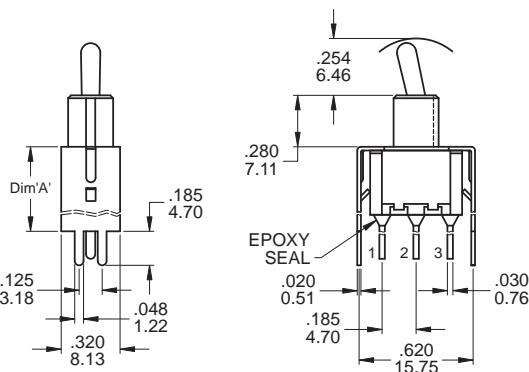
### PCB MOUNTING



### 4PDT

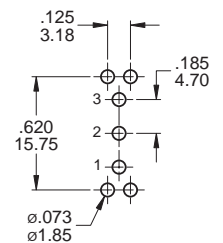
Model name. TGS01-41T2B4M7QES

## VS2 / VS3 (V2N - Snap-in)



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

### PCB MOUNTING



### SPDT

Model name. TGS01-S1T2B4VS2QES

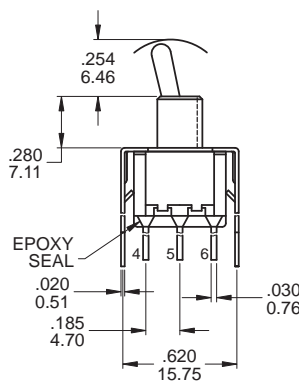
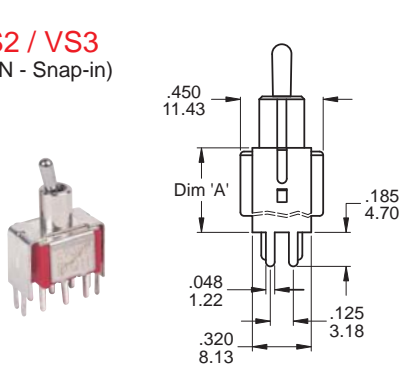


# TGS01 Series

Miniature Toggle Switches

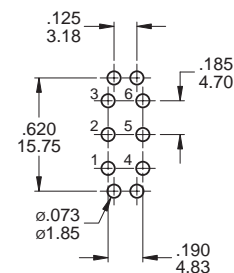


## VS2 / VS3 (V2N - Snap-in)



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

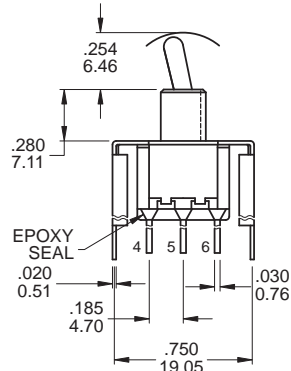
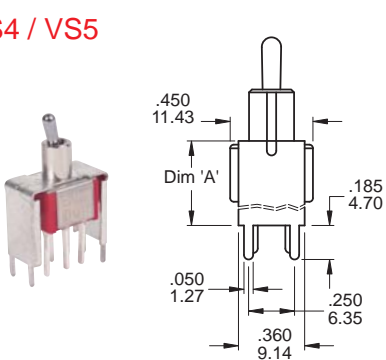
### PCB MOUNTING



### DPDT

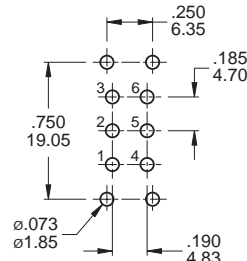
Model name. TGS01-D1T2B4VS2QES

## VS4 / VS5



OPTION CODE	DIM. 'A'
VS4	.460 11.68
VS5	.630 16.00

### PCB MOUNTING

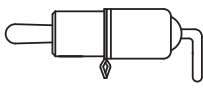
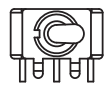


### DPDT

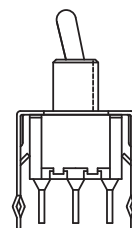
Model name. TGS01-D1T2B4VS5QES

## ▼ SNAP-IN TERMINAL OPTIONS

### M6N



### V2N



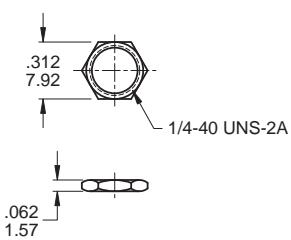
## ▼ HARDWARE

EXAMPLE: Model name. 5 Standard hardware

\* Standard for B1 bushing : 2 nut, 1 locking ring, 1 lockwasher  
\* For further information please consult sales representativity.

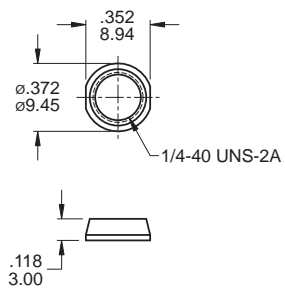
### 1/4 NUT (Std.)

Model name. MNU-1M01A



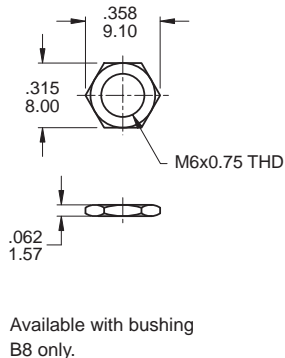
### DRESS NUT

Model name. MNU-1M29  
MOQ: 10K



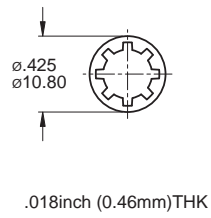
### METRIC NUT (Std.)

Model name. MNU-1M04



### LOCKWASHER (Std.)

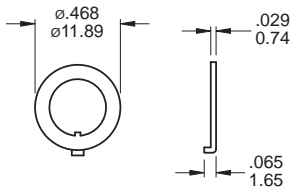
Model name. MNU-1M03





### LOCKING RING (Std.)

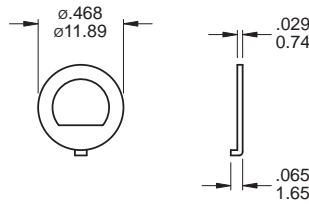
Model name. MNU-1M02



For 1/4-40 UNS-2A bushing

### LOCKING RING (Std.)

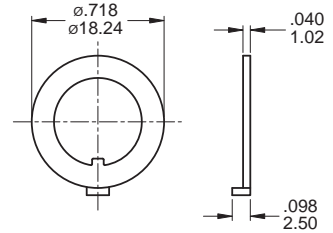
Model name. MNU-1M11



Available with bushing B5 only.

### LOCKING RING (Std.)

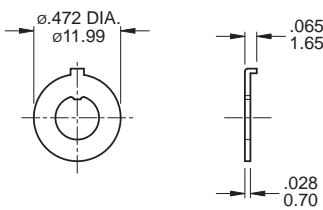
Model name. MNU-1M08



For 15/32-32 UNS-2A bushing

### LOCKING RING (Std.)

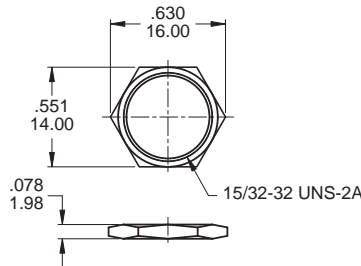
Model name. MNU-1M05



Available with bushing B8 only.

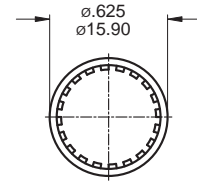
### 15/32 NUT (Std.)

Model name. MNU1M07



### LOCKWASHER (Std.)

Model name. MNU-1M09



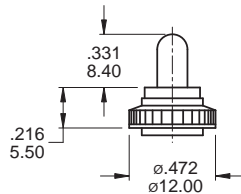
For 15/32-32 UNS-2A bushing

### RUBBER HOOD SEALING

Model name.

E1-RUBBER HOOD(Inch) (Std.)

K1-RUBBER HOOD-K1(Metric) MOQ: 2K

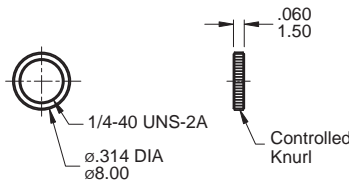


Note: For actuator T1, T2 and  
B1, B3, B5, B6 Bushing only

### DRESS NUT

Model name. MNU-1M18

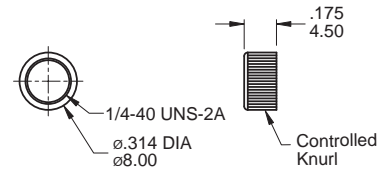
MOQ: 10K



### DRESS NUT

Model name. MNU-1M24

MOQ: 10K



## ▼ CONTACT & TERMINAL PLATING OPTIONS

	CONTACT PLATING	TERMINAL PLATING	RATINGS
Q	Silver	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)