
SPECIFICATIONS

CONTACT RATING: 5A @120 VAC or 28 VDC (Q contact)
 ELECTRICAL LIFE:50,000 make-and-break cycles at full load
 CONTACT RESISTANCE: 10 m Ω max. initial @2-4 VDC,100 mA
 INSULATION RESISTANCE: 1,000 M Ω min.
 DIELECTRIC STRENGTH: 1,500 V RMS @ sea level.
 OPERATING TEMPERATURE: -30 $^{\circ}$ C to 85 $^{\circ}$ C

MATERIALS

CASE - diallyl phthalate (DAP)
 TOGGLE HANDLE - Brass , chrome plated
 BUSHING - Brass , nickel plated
 HOUSING - Stainless Steel
 CONTACT AND TERMINAL - copper alloy, silver plated

How do you build the switches you need!!

The straight type , please see the (A) ;

The right angle P.C terminals, please see the (B)

(A) **T 8 0 1 3** - **S** **E** **C** **Q** - **E** - **S 2 0** - **T 1** - **2**

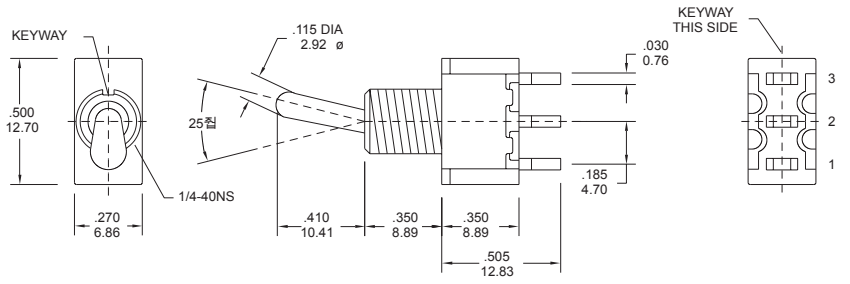
Switch Function		Actuator		Bushing		Termination		Vertical support Bracket		Actuator Cap/ Rubber hood Sealing	
T8013	SP on-none-on	S	10.41	E	(STD) 8.89	B	solder lug	(none)		(none)	
T8013A	SP on-none-(on)	T	5.08	M	(non-thd) 8.89	C	P.C 1.27width	S20	11.68	Rubber hood	
T8014	SP on-off-on	X	13.97	K	(metric) 8.89	D	Quick connect	S25	16.00	E1	for inch thd (E bushing)
T8014A	SP (on)-off-(on)	W	21.34	F	<input type="checkbox"/> 7.10	D1	wire wrap(19.05)	S35	11.68	E2	for 15/32thd (Z/Z1)
T8014B	SP on-off-(on)	V	16.26	N	(non-thd) 7.10	D3	wire wrap(10.8)	S40	16.00	K1	for K bushing
T8011	DP on-none-on	Flatted toggle		G	<input type="checkbox"/> 7.52	Contact Material		V20	snap-in 11.68	Actuator Cap	
T8011A	DP on-none-(on)	U	11.43	G1	(non-thd) 7.52	Q	silver plated	V25	snap-in 16.00	T1	-10.29 (for actuator S)
T8012	DP on-off-on	U1	7.20	H	<input type="checkbox"/> 8.00	R	gold plated	V35	snap-in 11.68	T2	- 7.29 (for actuator T)
T8012A	DP (on)-off-(on)	Large15/32 bushing		H1	(non-thd) 8.00	G	gold over silver	V40	snap-in 16.00	Cap color	
T8012B	DP on-off-(on)	Z	11.68	J	(long) 9.60	K	tin-lead			1	white
T8301	3P on-none-on	Z1	17.45	J1	(non-thd) 9.60	Epoxy seal				2	black
T8303	3P on-none-(on)	Locking Lever		L	(splash-proof) 7.47	(none)	none seal			3	red
T8305	3P on-off-on	LK	Round top	none		E	epoxy seal			4	yellow
T8307	3P (on)-off-(on)	LK1	Flat top	the actuator: Z/Z1/LK/LK1No requirement to choose the bushing unless the splash proof (L) ZL/Z1L/LKL/LK1L and the non-thd (N)LKN/LK1N						5	blue
T8309	3P on-off-(on)										
T8401	4P on-none-on										
T8403	4P on-none-(on)										
T8405	4P on-off-on										
T8407	4P (on)-off-(on)										
T8409	4P on-off-(on)										
3 way position switches											
T812	SP3T on-on-on										
T845	DP3T on-on-on										

(B) **T 8 0 1 9 L** - **T** **N** **Q** - **E** - **T 2** - **2**

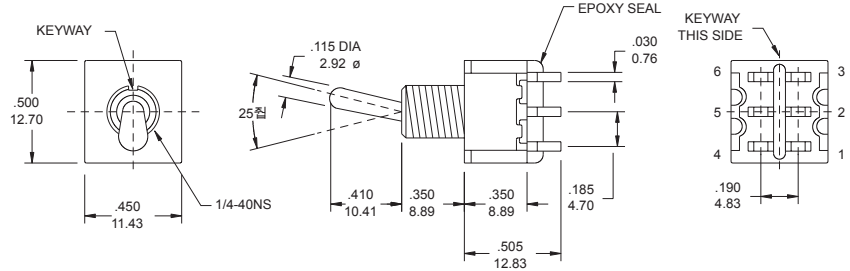
Horizon Right Angle	Vertical Right Angle	Switches Function	Actuator		Bushing		Contact Material		Actuator Cap		
T8019	T8019L	SP on-none-on	S	10.41	E	(STD) 8.89	Q	silver plated	(none)	-10.29 (actuator S)	
T8019A	T8019LA	SP on-none-(on)	T	5.08	M	(non-thd) 8.89	R	gold plated	T1	- 7.29 (actuator T)	
T8020	T8020L	SP on-off-on	X	13.97	K	(metric) 8.89	G	gold over silver	T2		
T8020A	T8020LA	SP (on)-off-(on)	W	21.34	F	<input type="checkbox"/> 7.10	K	tin-lead	Epoxy seal		
T8020B	T8020LB	SP on-off-(on)	V	16.26	N	(non-thd) 7.10	Epoxy seal		Cap color		
T8021	T8021L	DP on-none-on	Flatted toggle		G	<input type="checkbox"/> 7.52	(none)	none seal	1	white	
T8021A	T8021LA	DP on-none-(on)	U	11.43	G1	(non-thd) 7.52	E	epoxy seal	2	black	
T8022	T8022L	DP on-off-on	U1	7.2	H	<input type="checkbox"/> 8.00			3	red	
T8022A	T8022LA	DP (on)-off-(on)	Locking Lever		H1	(non-thd) 8.00			4	yellow	
T8022B	T8022LB	DP on-off-(on)	LK	Round top(thd)	J	(long) 9.60			5	blue	
T8301P(A)	T8301P	3P on-none-on	LK1	Flat top(thd)	J1	(non-thd) 9.60					
T8303P(A)	T8303P	3P on-none-(on)	none		L	(splash-proof) 7.47					
T8305P(A)	T8305P	3P on-off-on	the actuator: LK/LK1No requirement to choose the bushing unless the splash proof (L) LKL/LK1L and the non-thd (N)LKN/LK1N								
T8307P(A)	T8307P	3P (on)-off-(on)									
T8309P(A)	T8309P	3P on-off-(on)									
	T8401P	4P on-none-on									
	T8403P	4P on-none-(on)									
	T8405P	4P on-off-on									
	T8407P	4P (on)-off-(on)									
	T8409P	4P on-off-(on)									
3 way position switches											
T822	T822L	SP3T on-on-on									
	T845P	DP3T on-on-on									

SPDT


Model No.	Switching position		
T8013	ON	none	ON
T8013A	ON	none	(ON)
T8014	ON	OFF	ON
T8014A	(ON)	OFF	(ON)
T8014B	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1


T8013 - SEBQ
DPDT

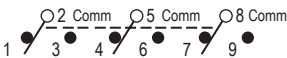
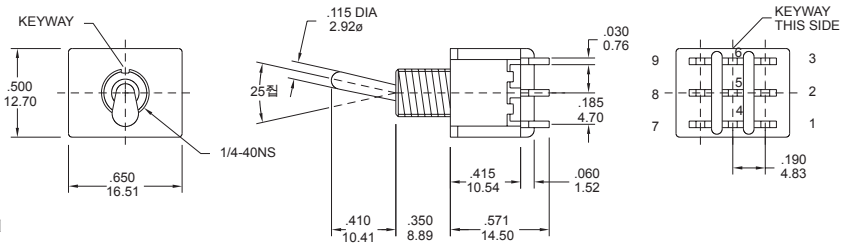

Model No.	Switching position		
T8011	ON	none	ON
T8011A	ON	none	(ON)
T8012	ON	OFF	ON
T8012A	(ON)	OFF	(ON)
T8012B	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4
3 way switches (SP3T)			
T812	ON	ON	ON
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4


T8011 - SEBQ

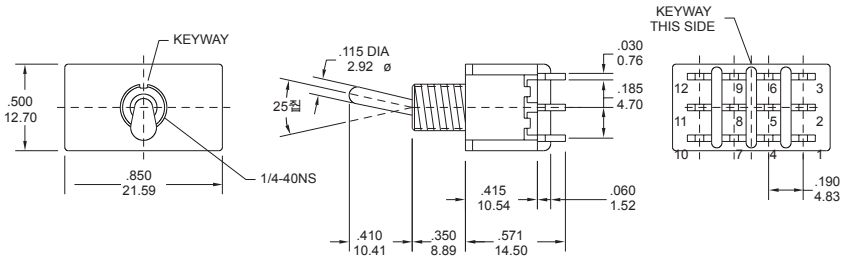
 Please see page A8 to know more about T812
 (3-way Switches)

3PDT


Model No.	Switching position		
T8301	ON	none	ON
T8303	ON	none	(ON)
T8305	ON	OFF	ON
T8307	(ON)	OFF	(ON)
T8309	ON	OFF	(ON)
Term. Comm.	2-3,5-6 8-9	open	2-1,5-4 8-7


T8301- SEBQ
4PDT


Model No.	Switching position		
T8401	ON	none	ON
T8403	ON	none	(ON)
T8405	ON	OFF	ON
T8407	(ON)	OFF	(ON)
T8409	ON	OFF	(ON)
Term. Comm.	2-3,5-6 8-9,11-12	open	2-1,5-4 8-7,11-10
3 way switches (DP3T)			
T845	ON	ON	ON
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4
Comm.	8-9,11-12	8-9,11-10	8-7,11-10


T8401 - SEBQ

 Please see page A8 to know more about T845
 (3-way Switches)

**T80-T**

Miniature Toggle Switches (Right Angle Type)

FEATURE

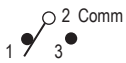
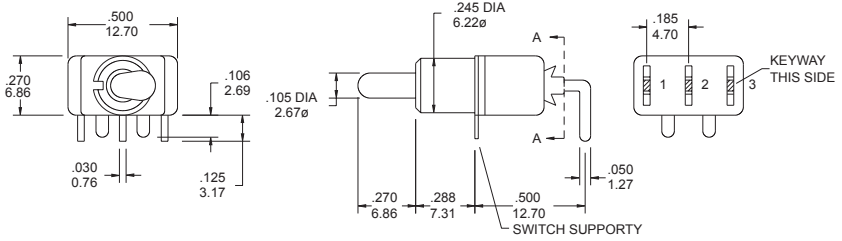
The T80-T series P.C.B Mounted Toggle Switches - Right Angle Type - are specially designed for P.C. Boards . Easy to mount and install securely with a vertical support rack . The toggle operates in the same direction as the print connectors . Customers' specifications of pitch are acceptable.

HORISON RIGHT ANGLE

SPDT



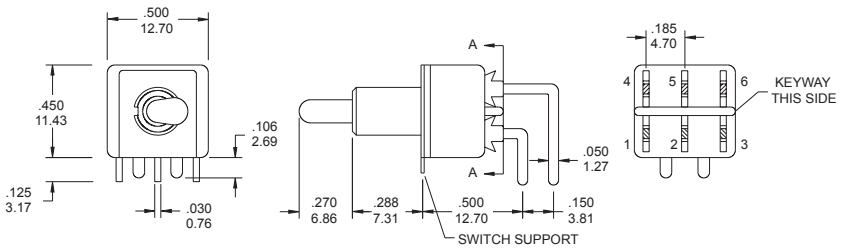
Model No.	Switching position		
T8019	ON	none	ON
T8019A	ON	none	(ON)
T8020	ON	OFF	ON
T8020A	(ON)	OFF	(ON)
T8020B	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1

**T8019 - TNQ**

DPDT



Model No.	Switching position		
T8021	ON	none	ON
T8021A	ON	none	(ON)
T8022	ON	OFF	ON
T8022A	(ON)	OFF	(ON)
T8022B	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4
3 way switches (SP3T)			
T822	ON	ON	ON
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4

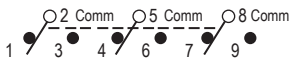
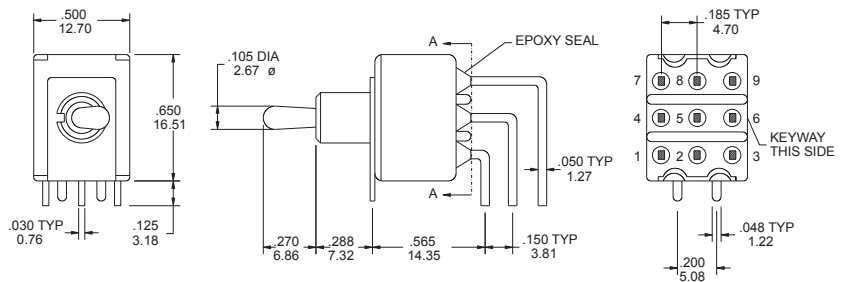
**T8021 - TNQ**

Please see page A8 to know more about T822
(3-way Switches)

3PDT

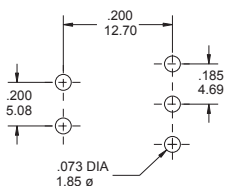


Model No.	Switching position		
T8301P(A)	ON	none	ON
T8303P(A)	ON	none	(ON)
T8305P(A)	ON	OFF	ON
T8307P(A)	(ON)	OFF	(ON)
T8309P(A)	ON	OFF	(ON)
Term. Comm.	2-3,5-6 8-9	open	2-1,5-4 8-7

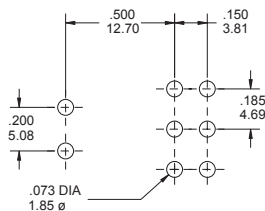
**T8301P(A)- TNQ**

P.C.B MOUNTING DIMENSIONS

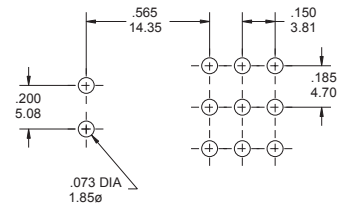
FOR T8019-T8020B



FOR T8021-T8022B



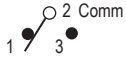
FOR T8301P(A)-T8309P(A)



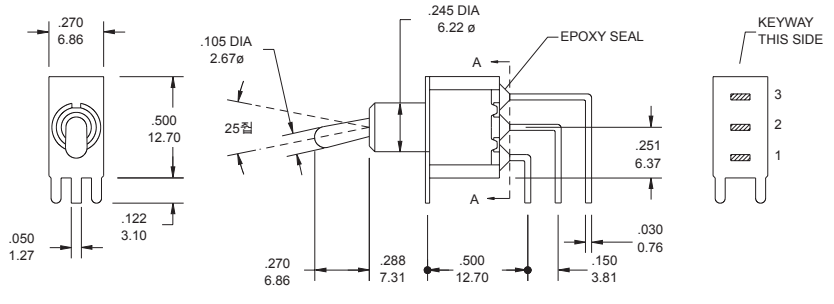


VERTICAL RIGHT ANGLE

SPDT



Model No.	Switching position		
T8019L	ON	none	ON
T8019LA	ON	none	(ON)
T8020L	ON	OFF	ON
T8020LA	(ON)	OFF	(ON)
T8020LB	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1

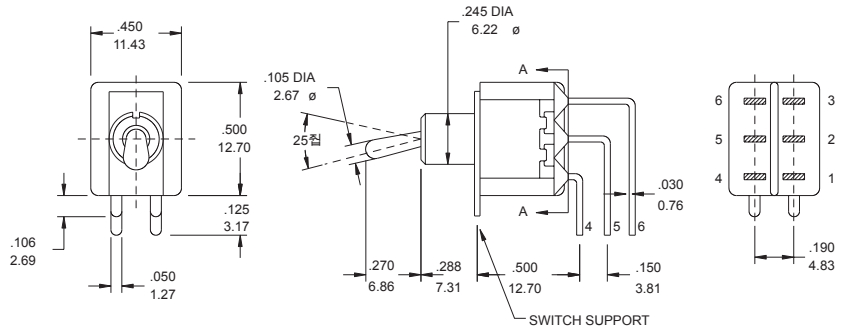


T8019L - TNQ

DPDT



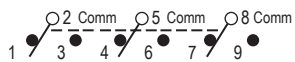
Model No.	Switching position		
T8021L	ON	none	ON
T8021LA	ON	none	(ON)
T8022L	ON	OFF	ON
T8022LA	(ON)	OFF	(ON)
T8022LB	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4
3 way switches (SP3T)			
T822L	ON	ON	ON
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4



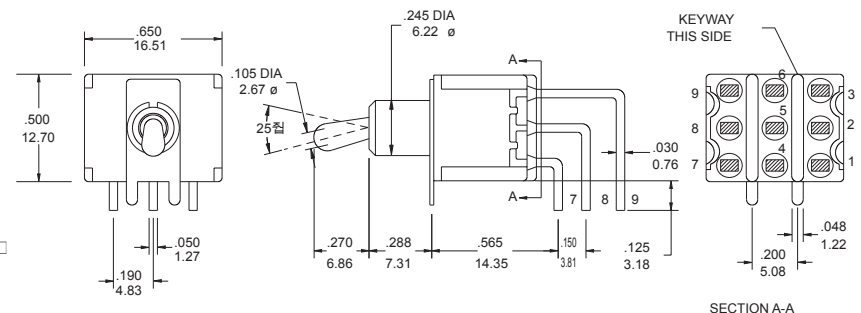
T8021L - TNQ

Please see page A8 to know more about T822L (3-way Switches)

3PDT



Model No.	Switching position		
T8301P	ON	none	ON
T8303P	ON	none	(ON)
T8305P	ON	OFF	ON
T8307P	(ON)	OFF	(ON)
T8309P	ON	OFF	(ON)
Term. Comm.	2-3,5-6 8-9	open	2-1,5-4 8-7

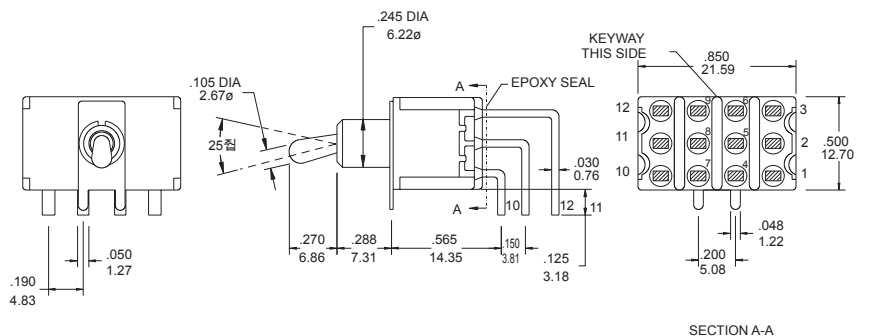


T8301P- TNQ

4PDT



Model No.	Switching position		
T8401P	ON	none	ON
T8403P	ON	none	(ON)
T8405P	ON	OFF	ON
T8407P	(ON)	OFF	(ON)
T8409P	ON	OFF	(ON)
Term. Comm.	2-3,5-6 8-9,11-12	open	2-1,5-4 8-7,11-10
3 way switches (DP3T)			
T845P	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

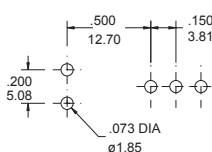


T8401P- TNQ

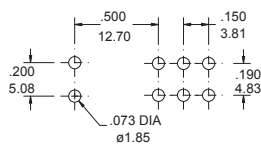
Please see page A8 to know more about T845P (3-way Switches)

P.C.B MOUNTING DIMENSIONS

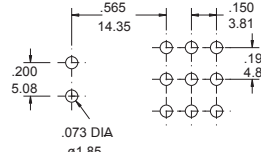
FOR T8019L-T8020LB



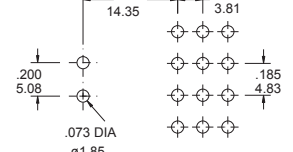
FOR T8021L-T8022LB

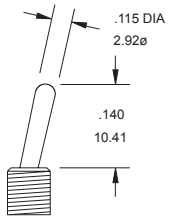
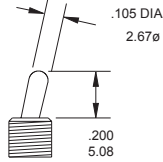
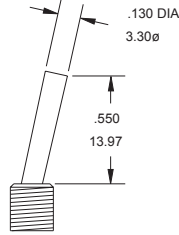
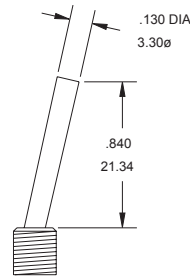
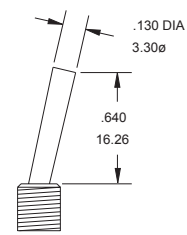


FOR T8301P-T8309P

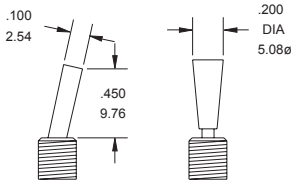
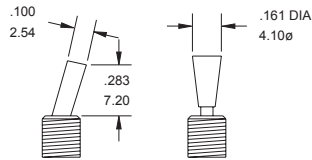
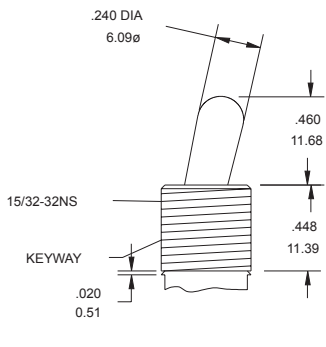
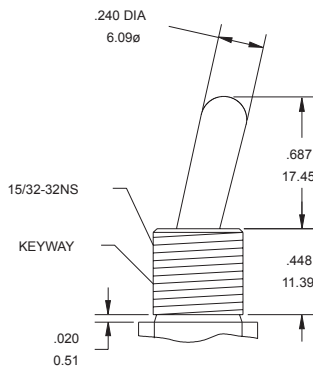


FOR T8401P-T8409P

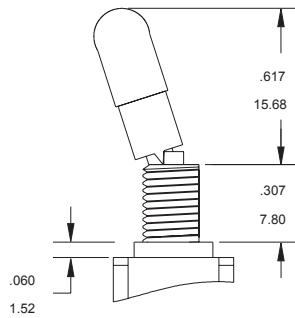
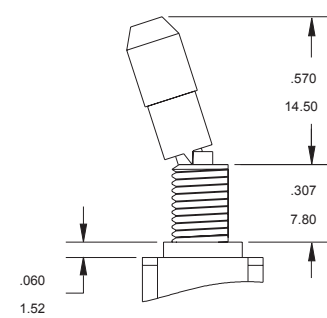


Actuator Option
A
5
S (STD)

T (STD)

X LONG

W LONG

V LONG


the height of actuator is with bushing "E". It will be difference with other bushing option

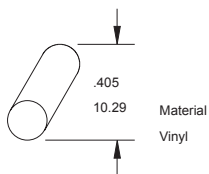
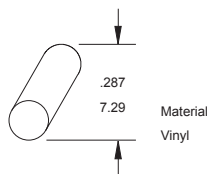
Flatted Actuator (ONLY APPLY "H""H1""H2" BUSHING)
U (standard)

U1 (short)

Z LARGE TOGGLE

Z1 LARGE TOGGLE


Bushing Option Code not required unless " L " splashproof bushing ordered.

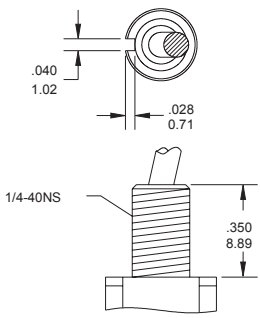
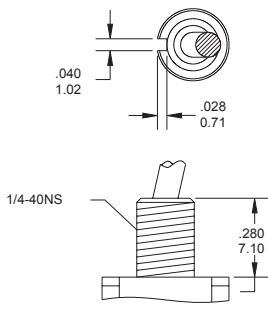
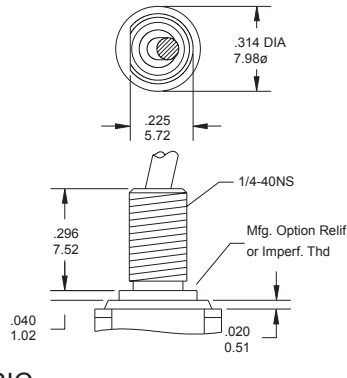
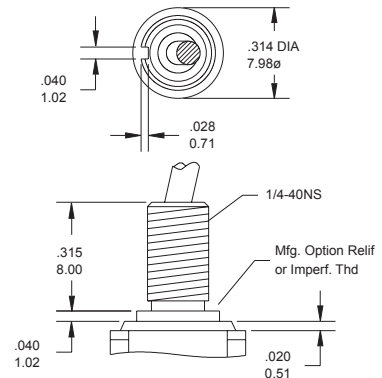
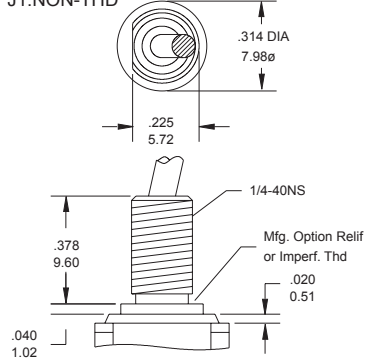
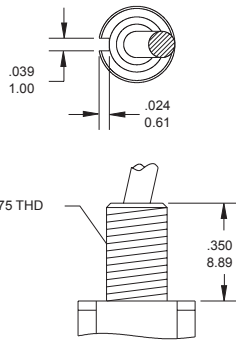
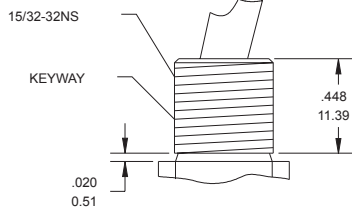
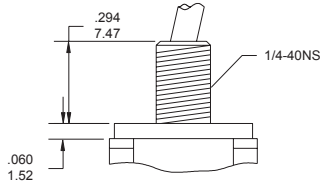
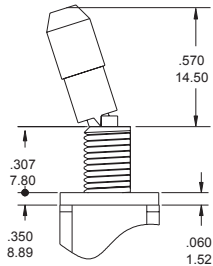
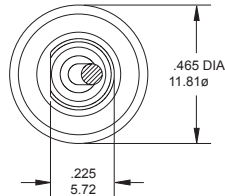
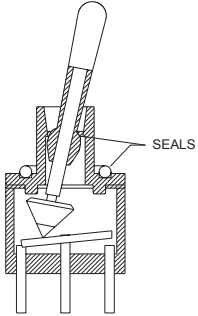
Locking Lever
LK (round top)

LK1 (flat top)


Bushing Option Code not required unless
(1) " L " splashproof bushing ordered --LKL / LK1L
(2) non-thread ordered,choose the bushing code "N" -- LKN / LK1N

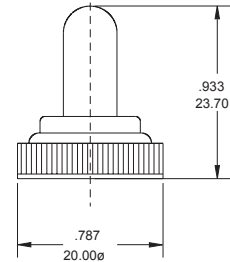
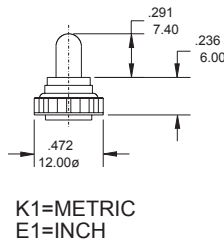
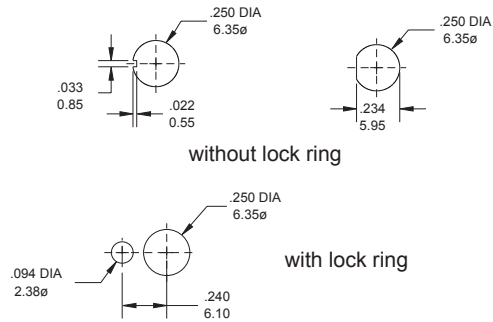
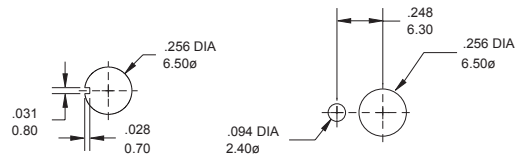
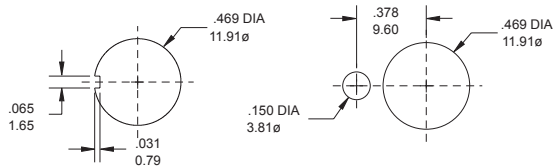
only on-on and on-off-on are available
other function are developing ,please inquiry our office first.

Toggle Cap Option

T1 for actuator "S"only

T2 for actuator "T"
Toggle Cap Color Option

code	color
1	white
2	black
3	red
4	yellow
5	blue

Bushing Option
**E THD STD. TYPE
M NON-THD**

**F THD.
N NON-THD**

**HIGH TORQUE
G:THD STD. TYPE
G1:NON-THD**

**HIGH TORQUE
H:THD STD. TYPE
H1:NON-THD**

**LONG
J:THD STD. TYPE
J1:NON-THD**

K METRIC

Splash water proof Solution
L SPLASH-PROOF -- only for the function ON-ON /ON-OFF-ON


For the Large toggle (Z / Z1 option), the internal actuator seal standard. External bushing seal washer available from :Multi-Flex Seals Inc.,Hackensack,NJ. Part no:MFS-60064


RUBBER HOOD SEALING
**K1=METRIC
E1=INCH**
E2 for the large toggle(15/32-32NS)
Panel Mounting
1/4 IN. BUSHING

METRIC BUSHING

15/32 IN. BUSHING




T80-T

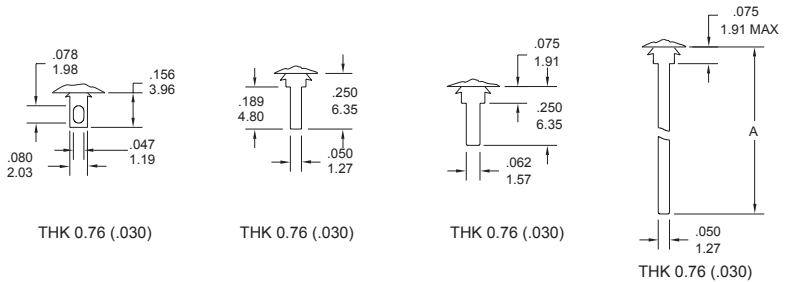
Miniature Toggle Switches

A
7

TERMINAL OPTION (ONLY FOR THE STRAIGHT TYPE T8013~T8401)

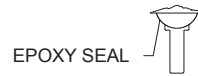
TERMINAL SEAL OPTION

B SOLDER LUG C PRINTED CIRCUIT D QUICK CONNECT WIREWRAP



CODE	"A" dimension
D1	.750 (19.05)
D3	.425 (10.8)

E TERMINAL SEAL



CONTACT MATERIAL OPTIONS

CODE	CONTACT MATERIAL	TERMINAL MATERIAL	RATING
Q	Silver plated	Silver plated	5 A @ 120V AC or 28 V DC; 2 A @ 250 VAC
R	Gold plated over nickel plated	Gold plated over nickel plated	0.4VA MAX @ 20 V AC or DC MAX
G	Gold plated over silver plated	Gold plated over silver plated	0.4 VA MAX @ 20 V AC or DC MAX or 5 A @ 120V AC or 28 V DC; 2 A @ 250 VAC
K	Gold plated over nickel plated	Tin-lead over nickel plated	0.4VA MAX @ 20 V AC or DC MAX

* The K option is only for some special item. Please inquiry first when you need the "K" option

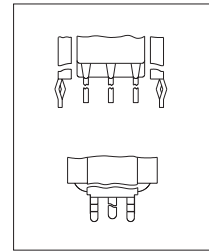
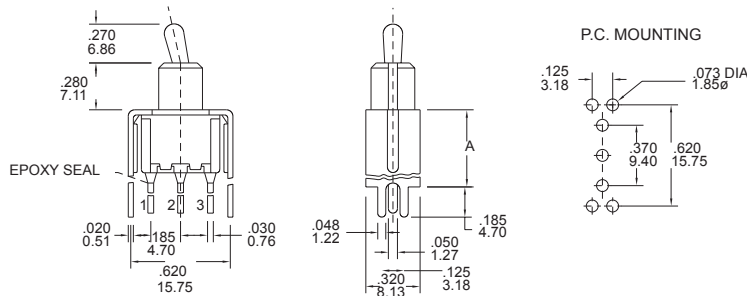
VERTICAL SUPPORT BRACKET OPTION

(only apply the straight type terminal -page A 2. Please build the terminal option "c" code)

S20 / S25/ V20/V25



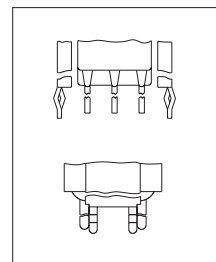
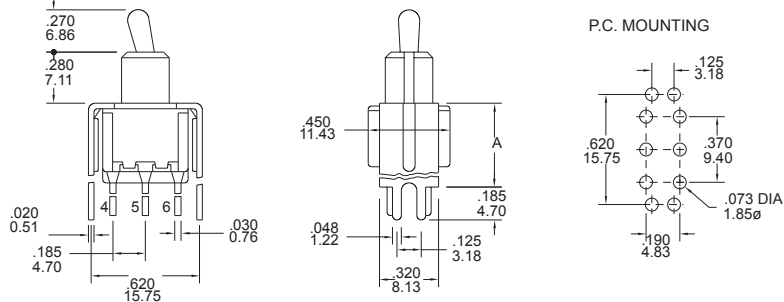
SPDT



SNAP-IN
V20/ V25

T8013 - TNCQ-S20(S25)

DPDT



SNAP-IN
V20/ V25

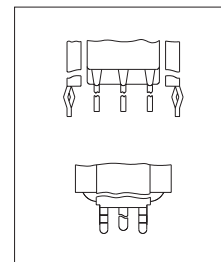
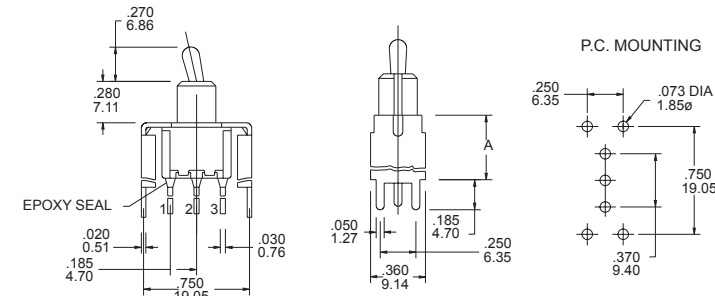
T8011 - TNCQ-S20(S25)

option Code	A dimension
S20/V20	.460 11.68
S25/V25	.630 16.00
V20/V25 : the snap-in type	

S35/S40 /V35/V40



SPDT

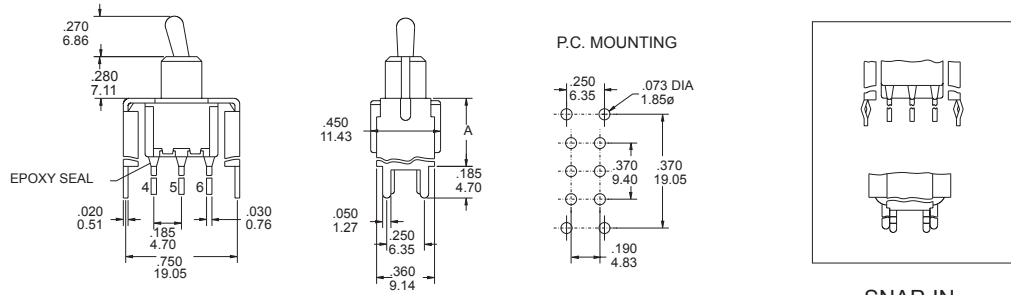


SNAP-IN
V35/ V40

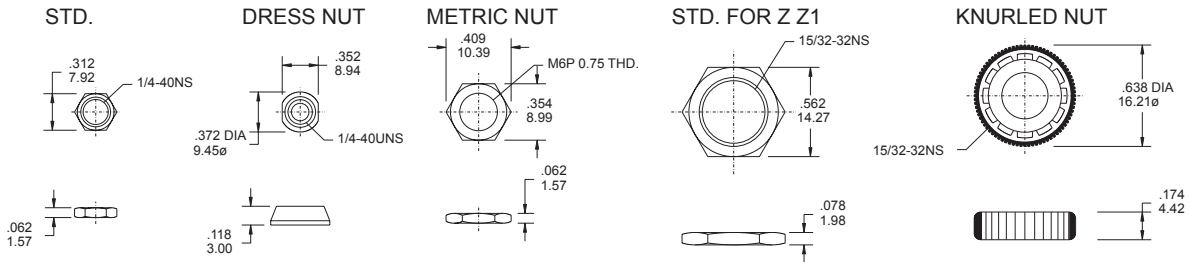
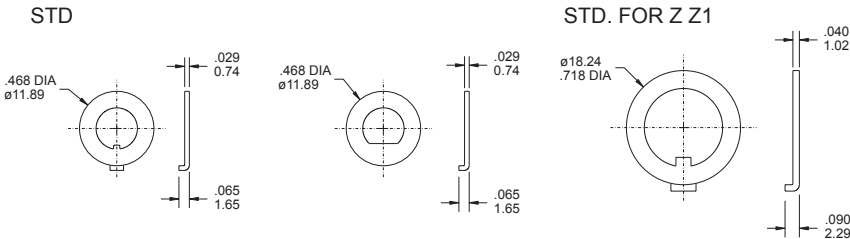
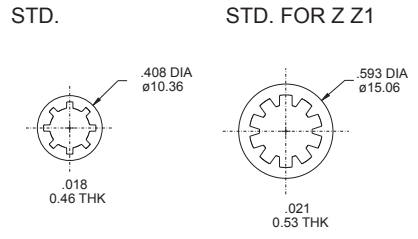
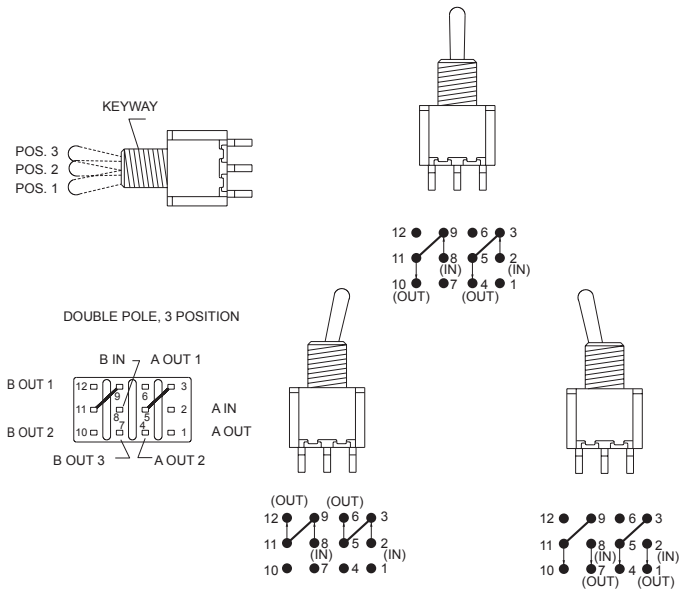
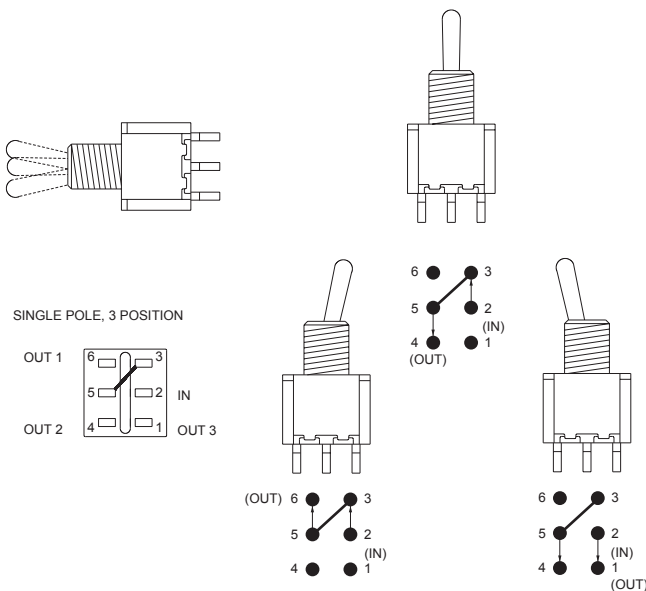
T8013 - TNCQ-S35(S40)

option Code	A dimension
S35/V35	.460 11.68
S40/V40	.630 16.00

V35/V40 : the snap-in type

DPDT


T8011 - TNCQ-S35(S40)

The hard ware of T80-T TOGGLE SWITCHES
NUT

LOCKING RING

LOCK WASHER

The information of 3-way toggle switches

SP3T
DP3T