

## SPECIFICATIONS

CONTACT RATING: 6A @125 VAC or 28 VDC (Q terminal)  
 ELECTRICAL LIFE: 50,000 make-and-break cycles at full load  
 CONTACT RESISTANCE: 10 mΩ max. initial @2-4 VDC, 100 mA  
 INSULATION RESISTANCE: 1,000 MΩ min.  
 DIELECTRIC STRENGTH: 1,500 V RMS @ sea level.  
 OPERATING TEMPERATURE: -30°C to +85°C

## MATERIALS

CASE - Glass filled nylon 6/6 or nylon 4/6 (UL94V-0)  
 ACTUATOR - Copper alloy, chrome plated with internal o-ring standard  
 SWITCH SUPPORT - Copper alloy or steel, tin plated  
 CONTACT AND TERMINAL- Copper alloy, silver plated  
 TERMINAL SEAL: Epoxy

**IP67 protection degree**

How do you build the switches you need!!

The straight type, please see the (A);

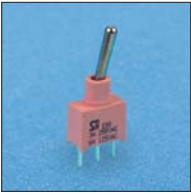
The right angle P.C terminals, please see the (B)

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

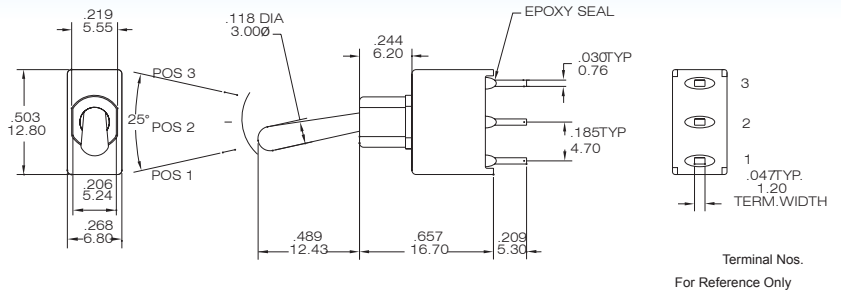
Switch Function		Actuator		Bushing		Contact Material		Actuator Cap/ O Ring		Cap color	
NE8013	SP on-none-on	S	12.43	N	(std.) non-thd. 6.15	Q	silver plated	(none)	0	transparent	
NE8013A	SP on-none-(on)	T	7.30	E	thd. 8.89	R	gold plated	<b>O Ring</b>	1	white	
NE8014	SP on-off-on	<b>Esd protection actuator</b>		<b>Termination</b>		G	gold over silver	E6	for inch thd (E bushing)	2	black
NE8014A	SP (on)-off-(on)	P1	(black) 12.43	B	solder lug	K	tin plated			3	red
NE8014B	SP on-off-(on)	P11	(white) 12.43	C	P.C 1.27width	<b>Vertical support Bracket</b>		<b>Actuator Cap</b>		4	yellow
NE8011	DP on-none-on	P19	(silver) 12.43	D	Quick connect	(none)		T1	10.58 (for actuator S)	5	blue
NE8011A	DP on-none-(on)	P2	(black) 7.30	D1	wire wrap	S20	11.68	T2	7.56 (for actuator T)	6	green
NE8012	DP on-off-on	P21	(white) 7.30	D3	wire wrap	S25	16.00			7	orange
NE8012A	DP (on)-off-(on)	P29	(silver) 7.30			S35	11.68			<b>RoHS code</b>	
NE8012B	DP on-off-(on)					S40	16.00			H = RoHS Compliant	
<b>3 way position switches</b>						V20	snap-in 11.68				
NE812	DP on-on-on					V25	snap-in 16.00				
						V35	snap-in 11.68				
						V40	snap-in 16.00				

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

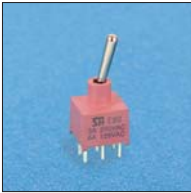
Horizon Right Angle	Vertical Right Angle	Switches Function	Actuator		Bushing		Contact Material		Cap color		RoHS code
NE8019	NE8019L	SP on-none-on	S	12.43	N	(std) non-thd	6.15	Q	silver plated	0	transparent
NE8019A	NE8019LA	SP on-none-(on)	T	7.30			<b>Actuator Cap</b>		1	white	H = RoHS Compliant
NE8020	NE8020L	SP on-off-on	<b>Esd protection actuator</b>		<b>Contact Material</b>				2	black	
NE8020A	NE8020LA	SP (on)-off-(on)	P1	(black) 12.43	R	gold plated			3	red	
NE8020B	NE8020LB	SP on-off-(on)	P11	(white) 12.43	G	gold over silver			4	yellow	
NE8021	NE8021L	DP on-none-on	P19	(silver) 12.43	K	tin plated			5	blue	
NE8021A	NE8021LA	DP on-none-(on)	P2	(black) 7.30					6	green	
NE8022	NE8022L	DP on-off-on	P21	(white) 7.30					7	orange	
NE8022A	NE8022LA	DP (on)-off-(on)	P29	(silver) 7.30							
NE8022B	NE8022LB	DP on-off-(on)									
<b>3 way position switches</b>											
NE822	NE822L	DP on-on-on									



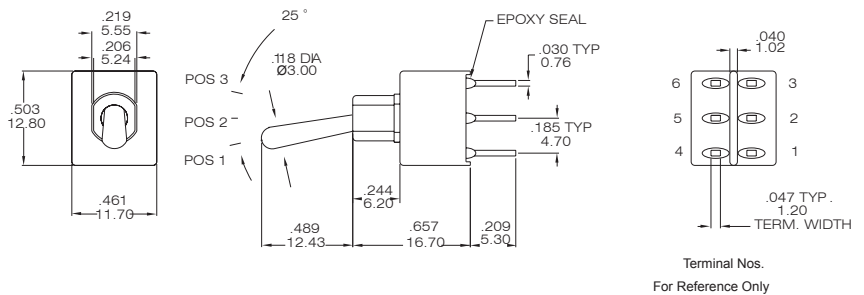
Model No.	Switching position		
NE8013	ON	none	ON
NE8013A	ON	none	(ON)
NE8014	ON	OFF	ON
NE8014A	(ON)	OFF	(ON)
NE8014B	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1



NE8013 - SNCQ

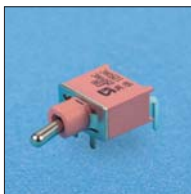


Model No.	Switching position		
NE8011	ON	none	ON
NE8011A	ON	none	(ON)
NE8012	ON	OFF	ON
NE8012A	(ON)	OFF	(ON)
NE8012B	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4
3 way switches			
NE812	ON	ON	ON
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4

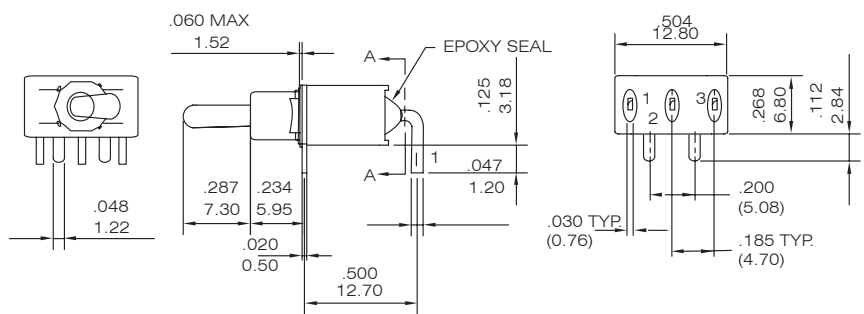


NE8011 - SNCQ

Please see page A06 to know more about NE812 (3-way Switches)



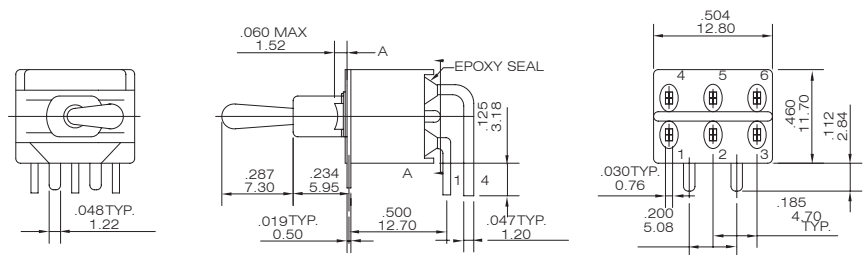
Model No.	Switching position		
NE8019	ON	none	ON
NE8019A	ON	none	(ON)
NE8020	ON	OFF	ON
NE8020A	(ON)	OFF	(ON)
NE8020B	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1



NE8019 - TNQ

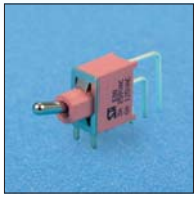


Model No.	Switching position		
NE8021	ON	none	ON
NE8021A	ON	none	(ON)
NE8022	ON	OFF	ON
NE8022A	(ON)	OFF	(ON)
NE8022B	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4
3 way switches			
NE822	ON	ON	ON
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4

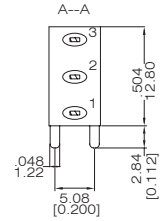
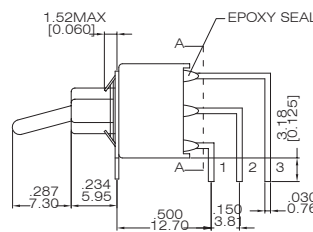
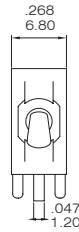


NE8021 - TNQ

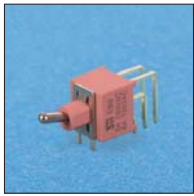
Please see page A06 to know more about NE822 (3-way Switches)



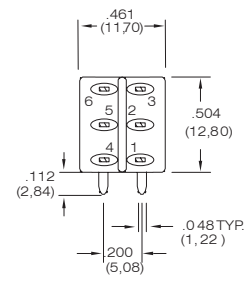
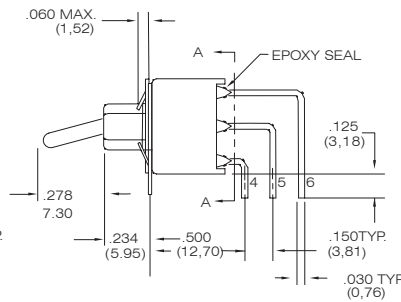
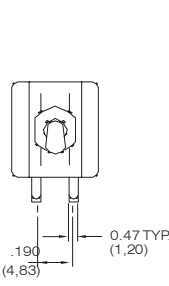
Model No.	Switching position		
NE8019L	ON	none	ON
NE8019LA	ON	none	(ON)
NE8020L	ON	OFF	ON
NE8020LA	(ON)	OFF	(ON)
NE8020LB	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1



NE8019L - TNQ



Model No.	Switching position		
NE8021L	ON	none	ON
NE8021LA	ON	none	(ON)
NE8022L	ON	OFF	ON
NE8022LA	(ON)	OFF	(ON)
NE8022LB	ON	OFF	(ON)
Term. Comm.	2-3, 5-6	open	2-1, 5-4
3 way switches			
NE822L	ON	ON	ON
Term. Comm.	2-3, 5-6	2-3, 5-4	2-1, 5-4

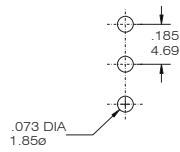


NE8021L - TNQ

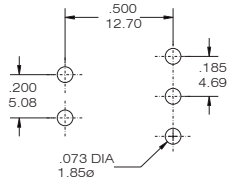
Please see page A06 to know more about NE822L ( 3-way Switches)

## P.C.B MOUNTING DIMENSIONS

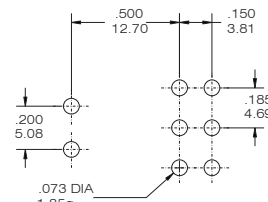
NE8013-NE8014B



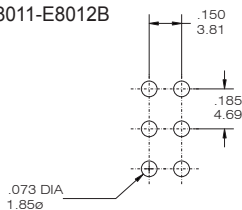
NE8019-NE8020B



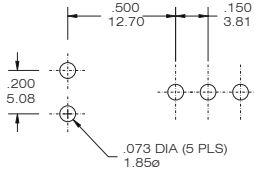
NE8021-NE8022B



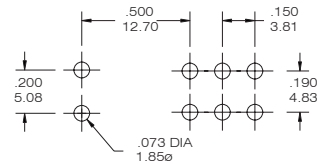
NE8011-E8012B



NE8019L-NE8020LB

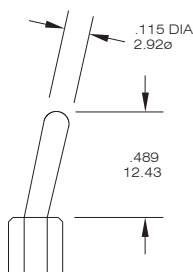


NE8021L-NE8022LB

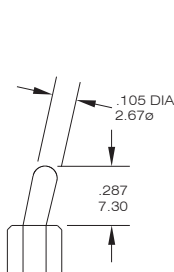


## Actuator Option

S (STD)

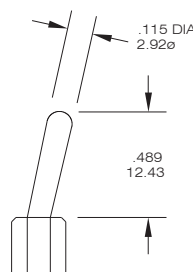


T (STD)

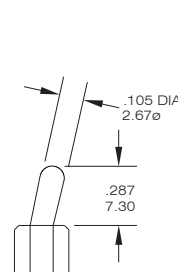


PLASTIC TOGGLE

P1



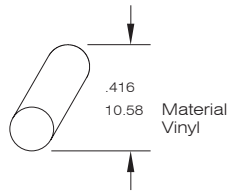
P2



code	description
P1/P2	black(std.)
P11/P21	white
P19/P29	silver

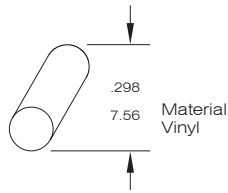
## Toggle Cap Option

T1



For actuator "S" only

T2

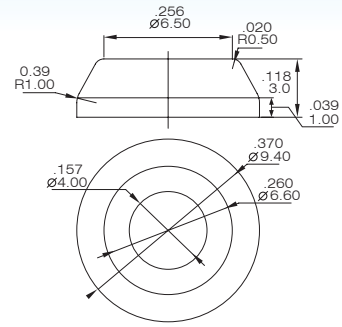


For actuator "T"

code	color
0	transparent
1	white
2	black
3	red
4	yellow
5	blue
6	green
7	orange

## O Ring

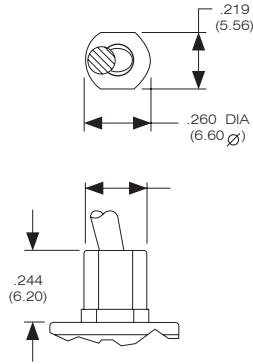
E6



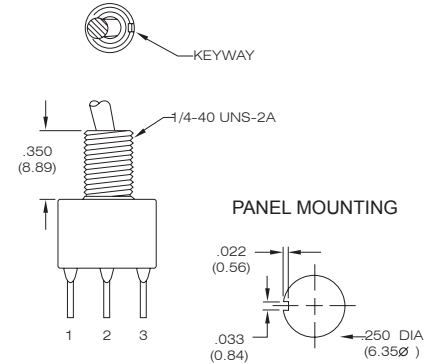
For "E" bushing

## Bushing Option

N (std)

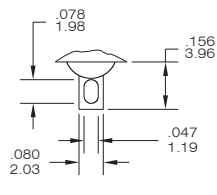


E



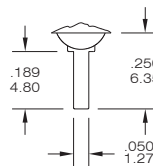
## TERMINAL OPTION

B SOLDER LUG



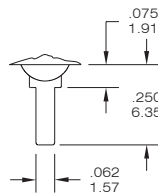
THK 0.76 (.030)

C PRINTED CIRCUIT



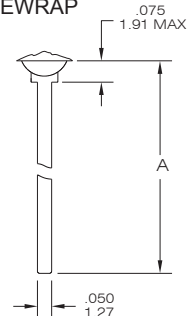
THK 0.76 (.030)

D QUICK CONNECT



THK 0.76 (.030)

WIREWRAP



THK 0.76 (.030)

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

## CONTACT MATERIAL OPTIONS

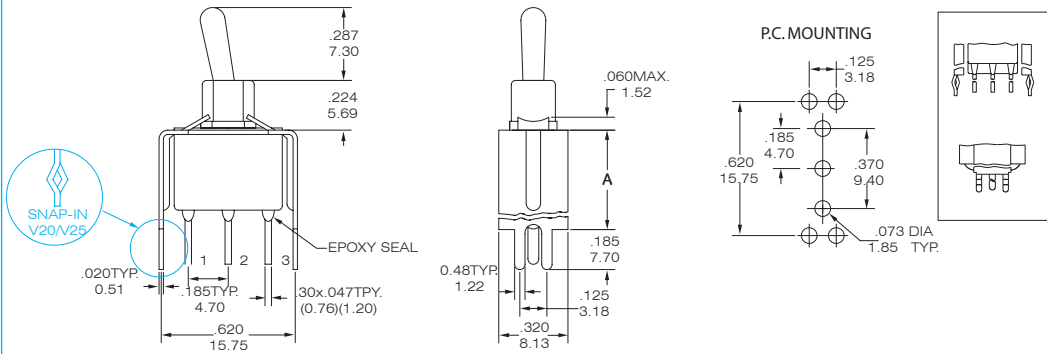
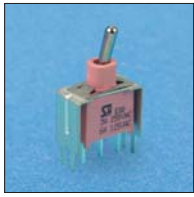
CODE	CONTACT MATERIAL	TERMINAL MATERIAL	RATING
Q	Silver plated	Silver plated	6 A @ 125V AC or 28 V DC; 3 A @ 250 VAC
R	Gold plated over nickel plated	Gold plated over nickel plated	0.4VA MAX @ 20 V AC or DC MAX
G	Gold plated over silver plated	Gold plated over silver plated	0.4 VA MAX @ 20 V AC or DC MAX or 6 A @ 125V AC or 28 V DC; 3 A @ 250 VAC
K	Gold plated over nickel plated	Tin over nickel plated	0.4VA MAX @ 20 V AC or DC MAX

\* THE K option is only for some special item. Please inquire first when you need the "K" option

## VERTICAL SUPPORT BRACKET OPTION

( only apply the straight type terminal -page A02. Please build the terminal option is "c" code)

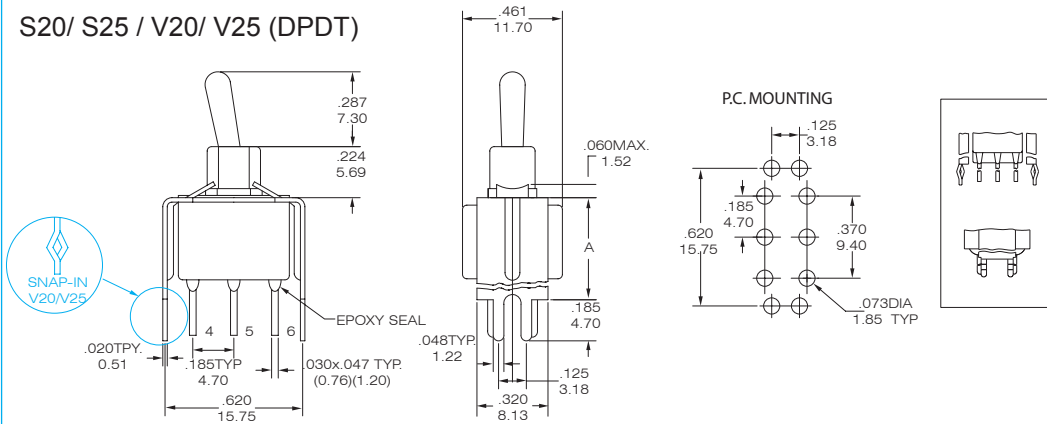
### S20/ S25 / V20/ V25 (SPDT)



NE8013 - TNCQ-S20(S25)

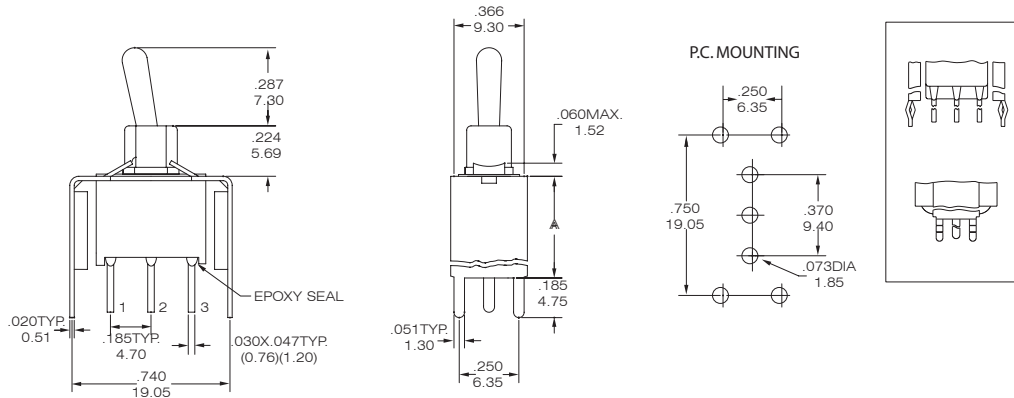
option Code	A dimension
S20/V20	.460 11.68
S25/V25	.630 16.00
V20/V25 : the snap-in type	

### S20/ S25 / V20/ V25 (DPDT)



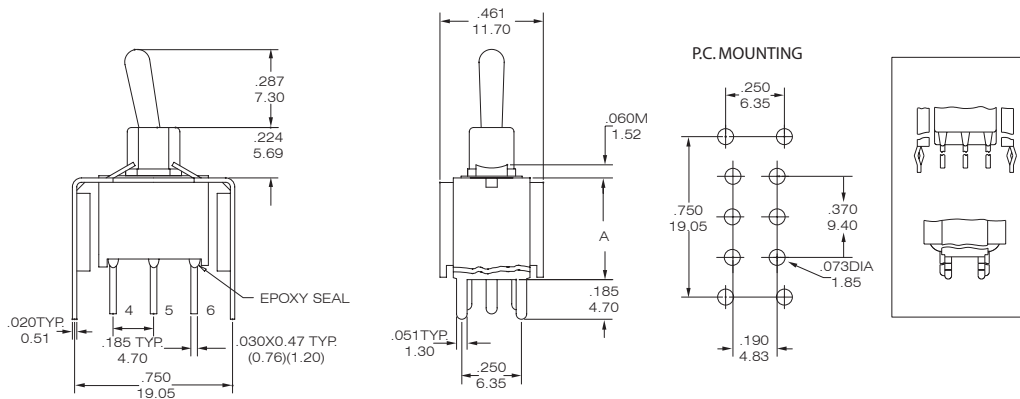
NE8011 - TNCQ-S20(S25)

option Code	A dimension
S35/V35	.460 11.68
S40/V40	.630 16.00
V35/V40 : the snap-in type	



NE8013 - TNCQ-S35(S40)

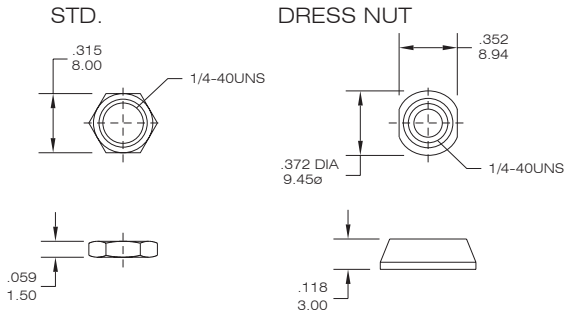
option Code	A dimension
S35/V35	.460 11.68
S40/V40	.630 16.00
V35/V40 : the snap-in type	



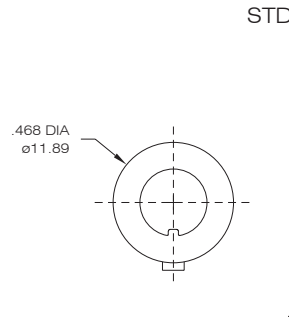
NE8011 - TNCQ-S35(S40)

## The hardware of E80-T toggle switches (only for E bushing)

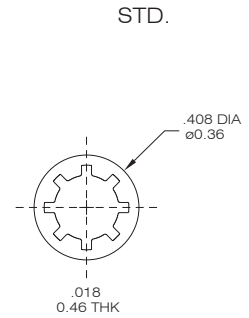
### NUT



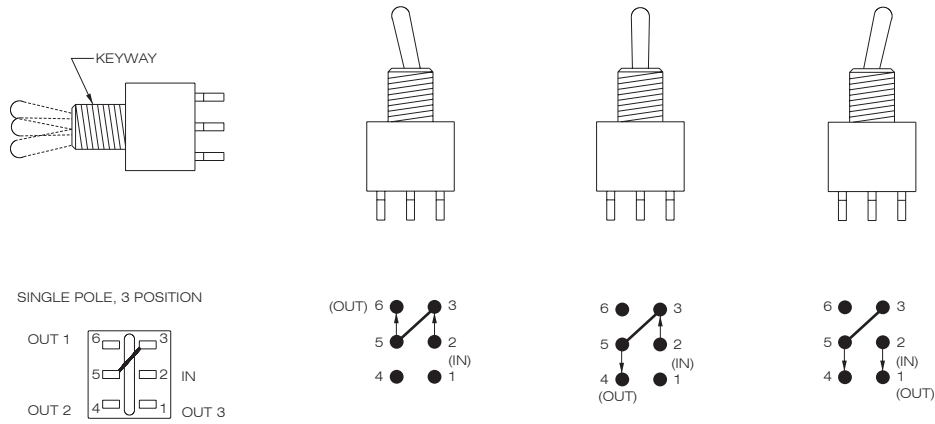
### LOCKING RING



### LOCK WASHER



## The information of 3-way toggle switches



## SP3T