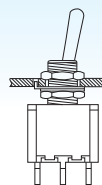
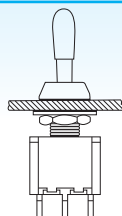
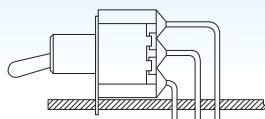
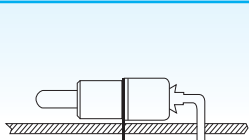




T80-T (UL1054)

Miniature Toggle Switches



SPECIFICATIONS

CONTACT RATING: 5A @125 VAC or 28 VDC (Q contact)
 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 - diallyl phthalate (DAP)
 TOGGLE HANDLE - Copper alloy , chrome plated
 BUSHING - Copper alloy , 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		Cap color		
T8013	SP on-none-on	S	10.41	E	(STD)	8.89	B	solder lug	(none)	0	transparent	
T8013A	SP on-none-(on)	T	5.08	M	(non-thd)	8.89	C	P.C 1.27width	S20	11.68	1	white
T8014	SP on-off-on	X	13.97	K	(metric)	8.89	D	Quick connect	S25	16.00	2	black
T8014A	SP (on)-off-(on)	W	21.34	F		7.10	D1	wire wrap(19.05)	S35	11.68	3	red
T8014B	SP on-off-(on)	V	16.26	N	(non-thd)	7.10	D3	wire wrap(10.8)	S40	16.00	4	orange
T8011	DP on-none-on	Y	21.34	G		7.52	Contact Material		V20	snap-in 11.68	5	yellow
T8011A	DP on-none-(on)	Flatted toggle		G1	(non-thd)	7.52			Q	silver plated	V25	snap-in 16.00
T8012	DP on-off-on			H		8.00	R	gold plated	V35	snap-in 11.68	7	blue
T8012A	DP (on)-off-(on)	U	11.43	H1	(non-thd)	8.00	Epoxy seal		V40	snap-in 16.00	O Ring	
T8012B	DP on-off-(on)	U1	7.20	H2	(metric)	8.00			G	gold over silver		
T8301	3P on-none-on	U2	21.30	J	(long)	9.60	K	tin plated	(none)		(none) for inch thd	
T8303	3P on-none-(on)	Large15/32 bushing		J1	(non-thd)	9.60	Rubber hood					
T8305	3P on-off-on			L	(splash-proof)	7.47			none		Epoxy seal	
T8307	3P (on)-off-(on)	Locking Lever		the actuator: Z/Z1/Z3/Z4/LK/LK1 No requirement to choose the bushing unless the splash proof (L & W) ZL/Z1L/ZW/Z1W/LK/LK1L and the non-thd (N) LKN/LK1N		(none) E		Actuator Cap				
T8309	3P on-off-(on)									Z	11.68	RoHS code
T8401	4P on-none-on	Z1	17.45	H = RoHS Compliant								
T8403	4P on-none-(on)	Z3	antirotation (17.45)			3 way position switches						
T8405	4P on-off-on	Z4	antirotation (11.68)	T812								
T8407	4P (on)-off-(on)	Locking Lever				the actuator: Z/Z1/Z3/Z4/LK/LK1 No requirement to choose the bushing unless the splash proof (L & W) ZL/Z1L/ZW/Z1W/LK/LK1L and the non-thd (N) LKN/LK1N		Epoxy seal		Actuator Cap		
T8409	4P on-off-(on)			LK	Round top							RoHS code
3 way position switches		LK1	Flat top	H = RoHS Compliant								
		T812A				T812B		T845		T847		T849
SP3T on-on-on				SP3T (on)-on-(on)								

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

Horizon Right Angle	Vertical Right Angle	Switches Function	Actuator		Bushing		Contact Material		Actuator Cap	
T8019 T8019A T8020 T8020A T8020B T8021 T8021A T8022 T8022A T8022B T8301P(A) T8303P(A) T8305P(A) T8307P(A) T8309P(A)	T8019L T8019LA T8020L T8020LA T8020LB T8021L T8021LA T8022L T8022LA T8022LB T8301P T8303P T8305P T8307P T8309P T8401P T8403P T8405P T8407P T8409P	SP on-none-on SP on-none-(on) SP on-off-on SP (on)-off-(on) SP on-off-(on) DP on-none-on DP on-none-(on) DP on-off-on DP (on)-off-(on) DP on-off-(on) 3P on-none-on 3P on-none-(on) 3P on-off-on 3P (on)-off-(on) 3P on-off-(on) 4P on-none-on 4P on-none-(on) 4P on-off-on 4P (on)-off-(on) 4P on-off-(on)	S T X W V	10.41 5.08 13.97 21.34 16.26	E M K F N G G1 H H1 H2 J J1 L	(STD) (non-thd) (metric) (non-thd) (non-thd) (non-thd) (metric) (long) (non-thd) (splash-proof)	8.89 8.89 8.89 7.10 7.10 7.52 7.52 8.00 8.00 8.00 9.60 9.60 7.47	Q silver plated R gold plated G gold over silver K tin plated	(none) T1 T2	-10.58 (actuator S) -7.56 (actuator T)
			Flatted toggle				Epoxy seal		Cap color	
			U U1 U2	11.43 7.2 21.30			(none) E	none seal epoxy seal	0 1 2 3 4 5 6 7	transparent white black red orange yellow green blue
			Locking Lever				Support Bracket type		RoHS code	
			LK LK1	Round top(thd) Flat top(thd)			(none) S	std. snap-in type	H = RoHS Compliant	
3 way position switches					none					
T822 T822A T822B	T822L T822LA T822LB T845P T847P T849P	SP3T on-on-on SP3T (on)-on-(on) SP3T on-on-(on) DP3T on-on-on DP3T (on)-on-(on) DP3T on-on-(on)			the actuator: LK/LK1 No requirement to choose the bushing unless the splash proof (L) LKL/LK1L and the non-thd (N) LKN/LK1N					



T80-T (UL1054)

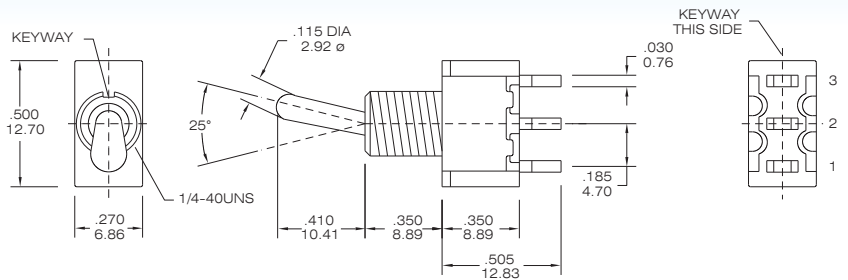
Miniature Toggle Switches (Straight Type)



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

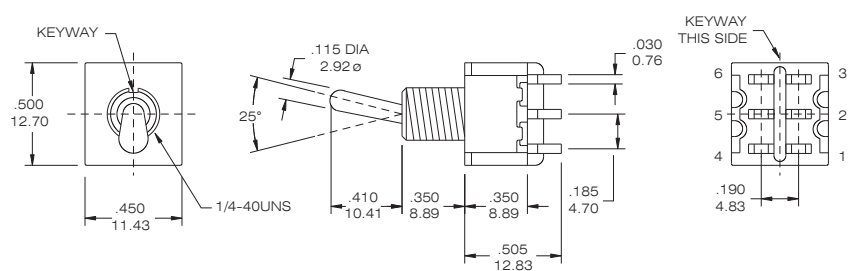


T8013 - SEBQ

DPDT



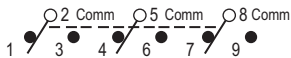
Model No.	Switching position		
T8011	ON	none	ON
T8011A	ON	none	(ON)
T8012	ON	OFF	ON
T8012A	(ON)	OFF	(ON)
T8012B	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4
3 way switches (SP3T)			
T812	ON	ON	ON
T812A	(ON)	ON	(ON)
T812B	ON	ON	(ON)
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4



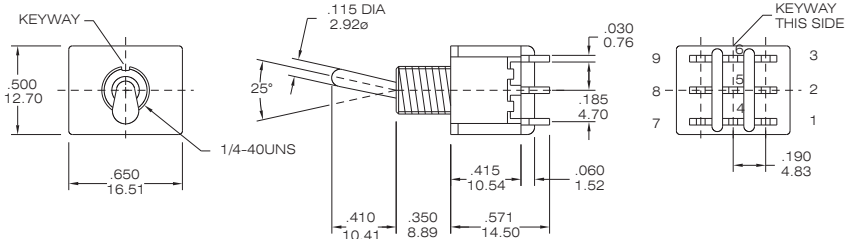
T8011 - SEBQ

Please see page A18 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

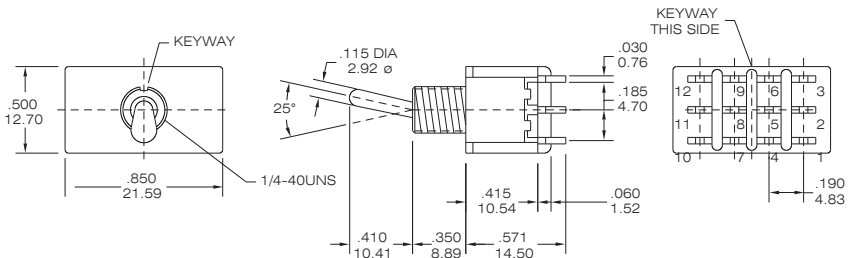


T8301- SEBQ

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
T847	(ON)	ON	(ON)
T849	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



T8401 - SEBQ

Please see page A18 to know more about T845 (3-way Switches)



FEATURE

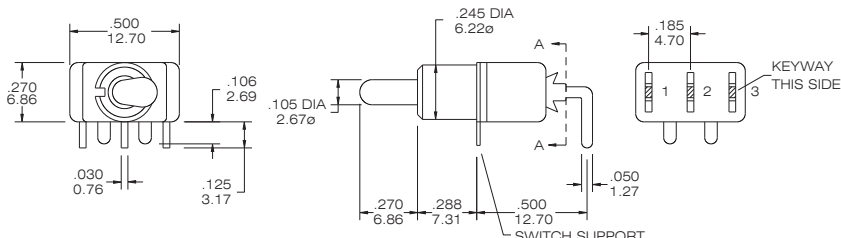
The T80-T series P.C.B Mounted Toggle Switches - Right Angle Type - are specially designed for P.C. Boards . Easy to mount and install securely with a vertical support rack . The toggle operates in the same direction as the print connectors . Customers' specifications of pitch are acceptable.

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

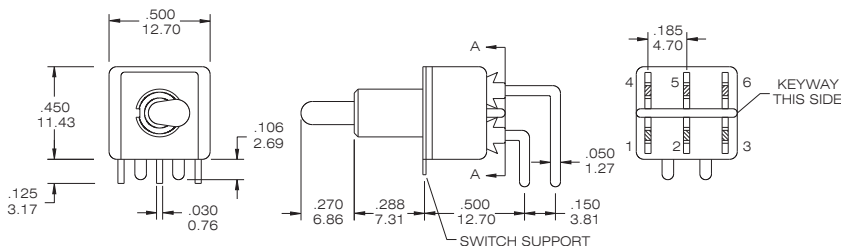


T8019 - TNQ

DPDT



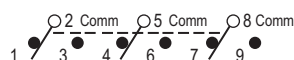
Model No.	Switching position		
T8021	ON	none	ON
T8021A	ON	none	(ON)
T8022	ON	OFF	ON
T8022A	(ON)	OFF	(ON)
T8022B	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4
3 way switches (SP3T)			
T822	ON	ON	ON
T822A	(ON)	ON	(ON)
T822B	ON	ON	(ON)
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4



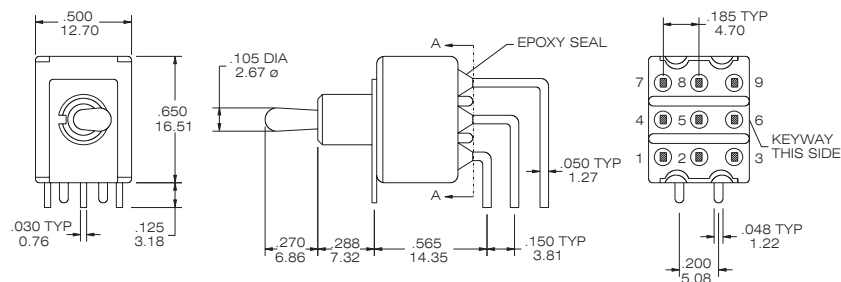
T8021 - TNQ

Please see page A18 to know more about T822 (3-way Switches)

3PDT



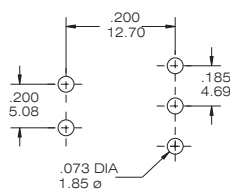
Model No.	Switching position		
T8301P(A)	ON	none	ON
T8303P(A)	ON	none	(ON)
T8305P(A)	ON	OFF	ON
T8307P(A)	(ON)	OFF	(ON)
T8309P(A)	ON	OFF	(ON)
Term. Comm.	2-3,5-6 8-9	open	2-1,5-4 8-7



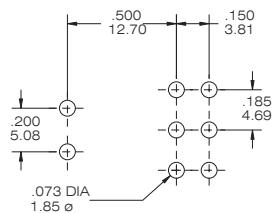
T8301P(A)- TNQ

P.C.B MOUNTING DIMENSIONS

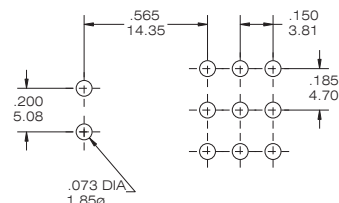
FOR T8019-T8020B



FOR T8021-T8022B

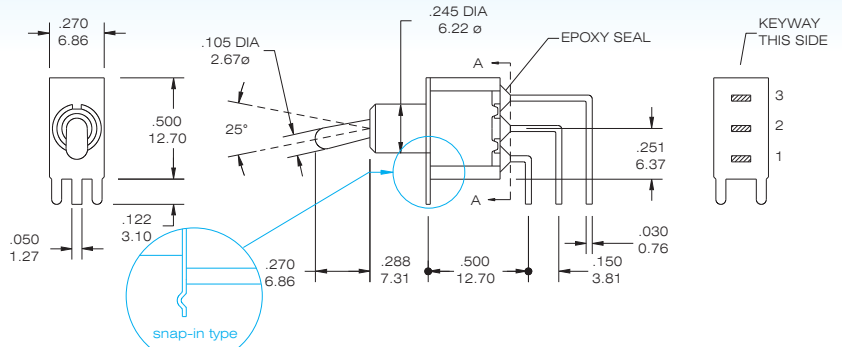


FOR T8301P(A)-T8309P(A)

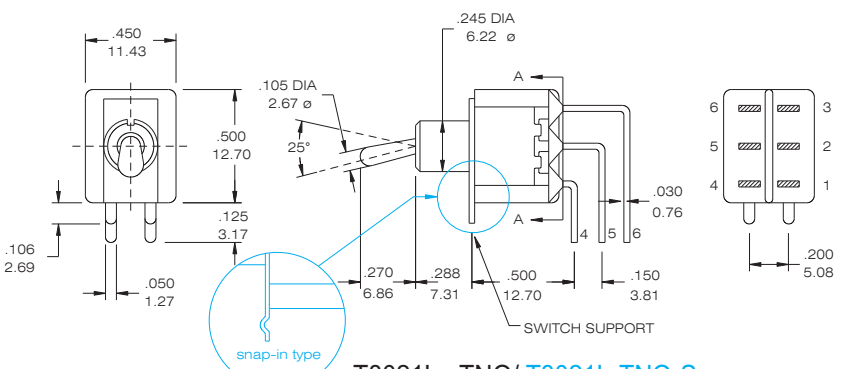


**T80-T (UL1054)****Miniature Toggle Switches (Right Angle Type)****VERTICAL RIGHT ANGLE****SPDT**

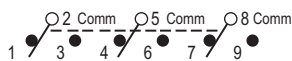
Model No.	Switching position		
T8019L	ON	none	ON
T8019LA	ON	none	(ON)
T8020L	ON	OFF	ON
T8020LA	(ON)	OFF	(ON)
T8020LB	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1

**T8019L - TNQ/ T8019L-TNQ-S****DPDT**

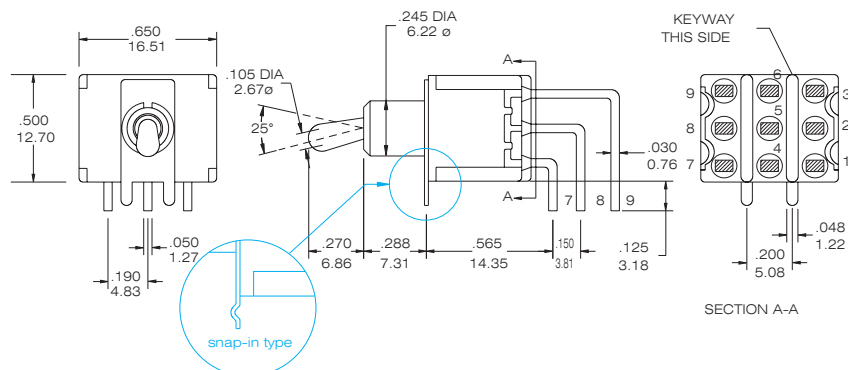
Model No.	Switching position		
T8021L	ON	none	ON
T8021LA	ON	none	(ON)
T8022L	ON	OFF	ON
T8022LA	(ON)	OFF	(ON)
T8022LB	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4
3 way switches (SP3T)			
T822L	ON	ON	ON
T822LA	(ON)	ON	(ON)
T822LB	ON	ON	(ON)
Term. Comm.	2-3,5-6	2-3,5-4	2-1,5-4

**T8021L - TNQ/ T8021L-TNQ-S**

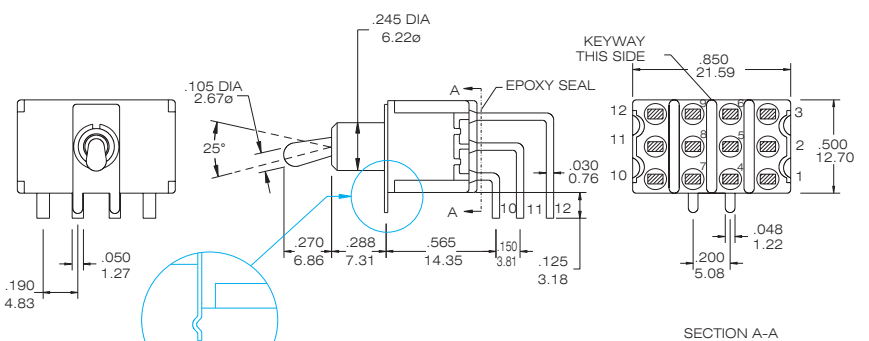
Please see page A18 to know more about T822L (3-way Switches)

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/ T8301P-TNQ-S****4PDT**

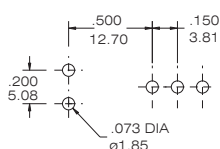
Model No.	Switching position		
T8401P	ON	none	ON
T8403P	ON	none	(ON)
T8405P	ON	OFF	ON
T8407P	(ON)	OFF	(ON)
T8409P	ON	OFF	(ON)
Term. Comm.	2-3,5-6 8-9,11-12	open	2-1,5-4 8-7,11-10
3 way switches (DP3T)			
T845P	ON	ON	ON
T847P	(ON)	ON	(ON)
T849P	ON	ON	(ON)
Term. Comm.	2-3,5-6 8-9,11-12	2-3,5-4	2-1,5-4 8-7,11-10

**T8401P- TNQ/ T8401P-TNQ-S**

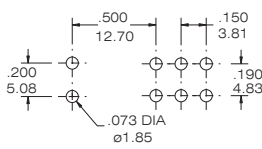
Please see page A18 to know more about T845P (3-way Switches)

P.C.B MOUNTING DIMENSIONS

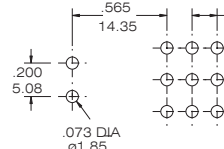
FOR T8019L-T8020LB



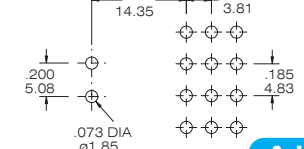
FOR T8021L-T8022LB



FOR T8301P-T8309P



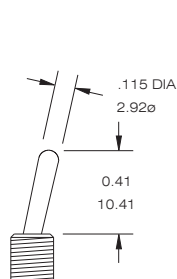
FOR T8401P-T8409P



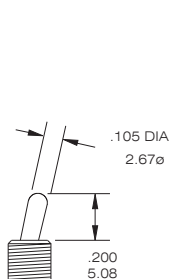
The dimensions in the catalogue and website are for reference only, not suitable for formal acknowledge.

Actuator Option

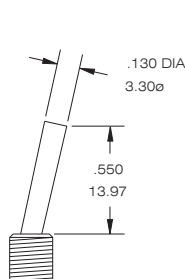
S (STD)



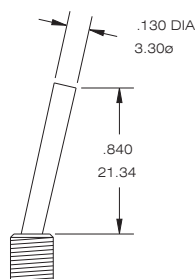
T(STD)



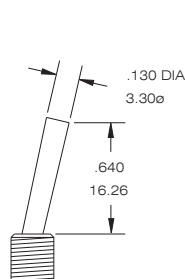
X LONG



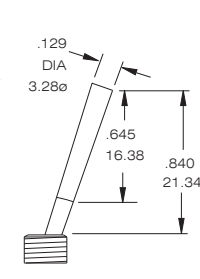
W LONG



V LONG



Y PLASTIC



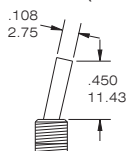
Y HANDLE COLOR NO.	COLOR
1	White
2	Black(std.)
3	Red

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

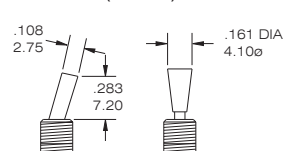
Now the available color is "2". If you need the others, please inquire first.

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

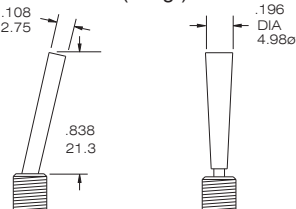
U (standard)



U1 (short)

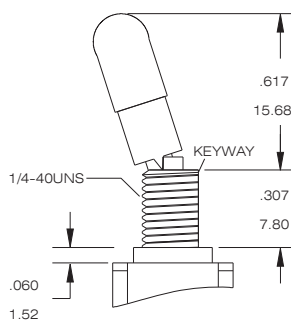


U2 (long)

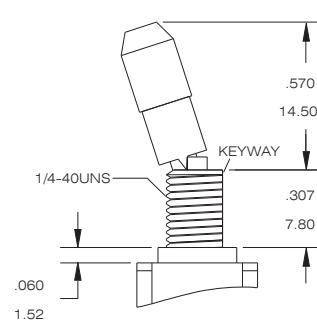


Locking Lever

LK (round top)



LK1(flat top)

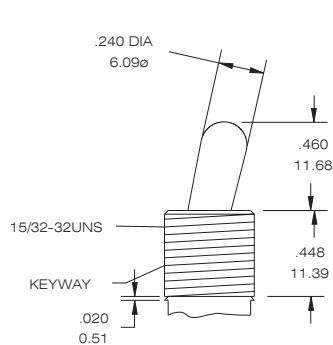


Bushing Option Code not required unless

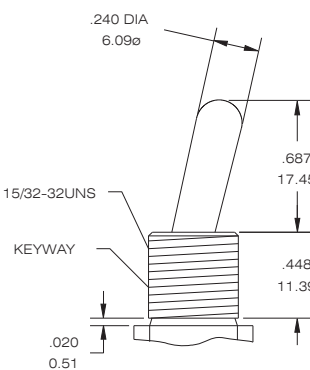
(1) " L " splashproof bushing ordered --LKL / LK1L

(2) non-thread ordered,choose the bushing code "N" -- LKN / LK1N

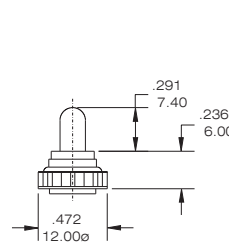
Z LARGE TOGGLE
Z4 ANTIROTATION



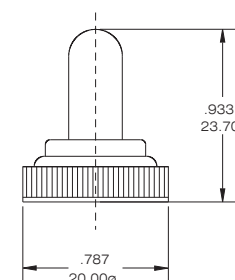
Z1 LARGE TOGGLE
Z3 ANTIROTATION



Rubber Hood Sealing



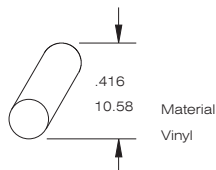
K1=METRIC
E1=INCH
E1-L=INCH



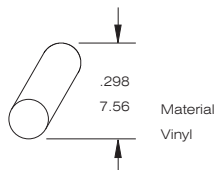
E2 for the large toggle
(15/32-32UNS)

Toggle Cap Option

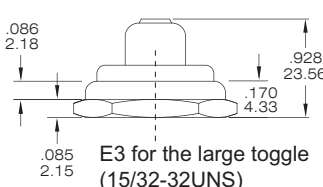
T1 for actuator "S"only



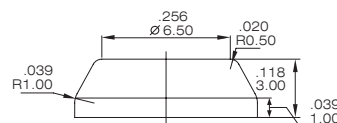
T2 for actuator "T"



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



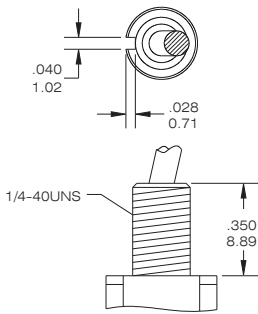
E3 for the large toggle
(15/32-32UNS)



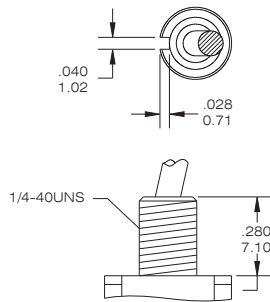
E6 O RING

Bushing Option

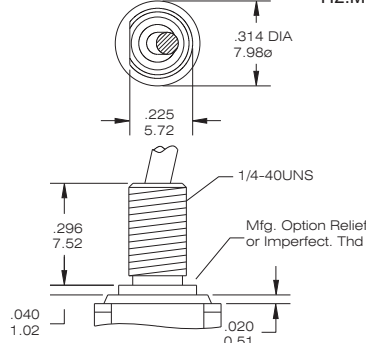
**E THD STD. TYPE
M NON-THD**



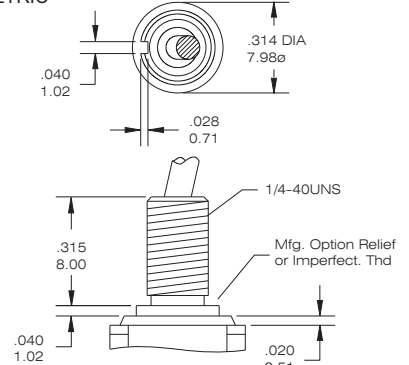
**F THD.
N NON-THD**



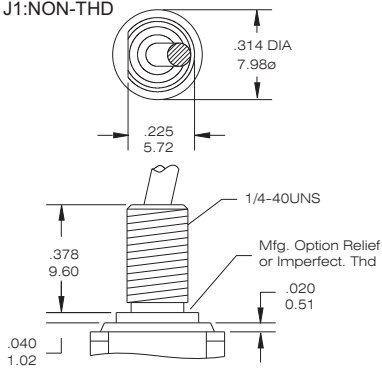
**HIGH TORQUE
G:THD STD.TYPE
G1:NON-THD**



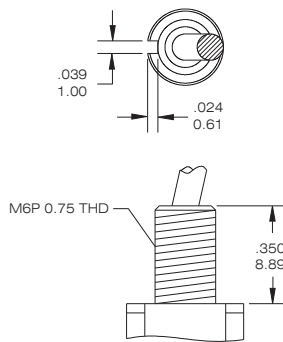
**HIGH TORQUE
H:THD STD.TYPE
H1:NON-THD
H2:METRIC**



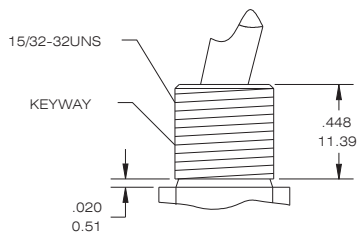
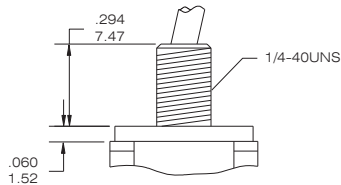
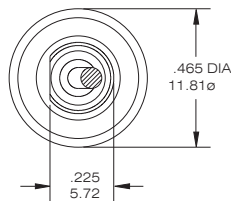
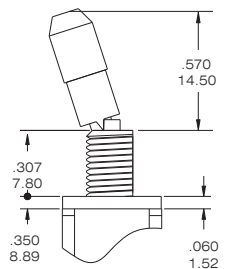
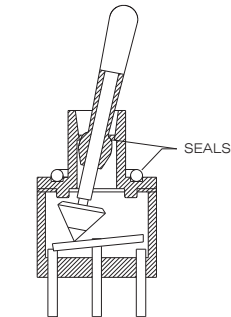
**LONG
J:THD STD.TYPE
J1:NON-THD**



K METRIC



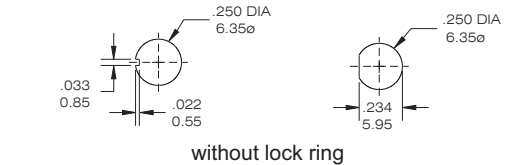
Splash water proof Solution L SPLASH-PROOF



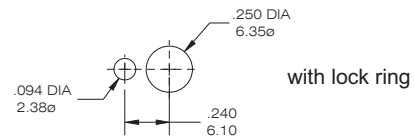
For the Large toggle (Z / Z1 option) , the internal actuator seal standard. External bushing seal washer available from:
Multi-Flex Seals Inc.,
Hackensack,NJ. Part
no:MFS-60064

Panel Mounting

1/4 IN. BUSHING

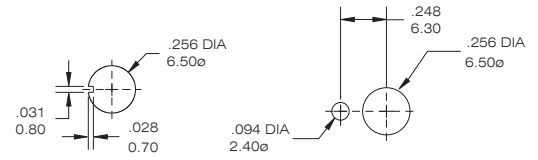


without lock ring

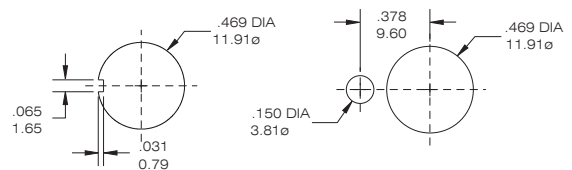


with lock ring

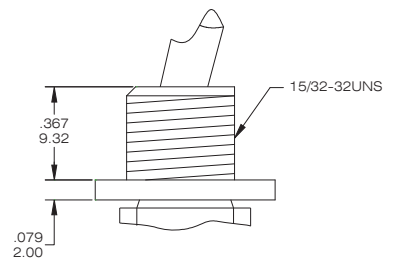
METRIC BUSHING



15/32 IN. BUSHING

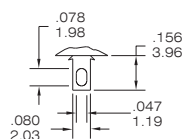


W SPLASH-PROOF

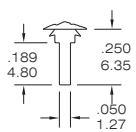


**T80-T****Miniature Toggle Switches****TERMINAL OPTION (ONLY FOR THE STRAIGHT TYPE T8013~T8401)****TERMINAL SEAL OPTION**

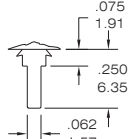
B SOLDER LUG C PRINTED CIRCUIT D QUICK CONNECT WIREWRAP



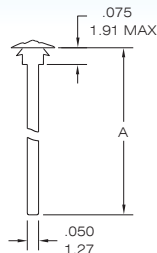
THK 0.76 (.030)



THK 0.76 (.030)



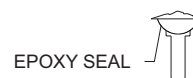
THK 0.76 (.030)



THK 0.76 (.030)

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

E TERMINAL SEAL



EPOXY SEAL

CONTACT MATERIAL OPTIONS

CODE	CONTACT MATERIAL	TERMINAL MATERIAL	RATING
Q	Silver plated	Silver plated	5 A @ 125 V 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 5 A @ 125V AC or 28 VDC; 3 A @ 250 VAC
K	Gold plated over nickel plated	Tin over nickel plated	0.4VA MAX @ 20 V AC or DC MAX

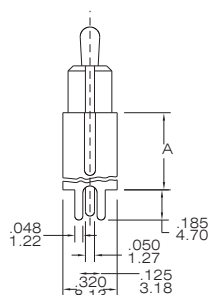
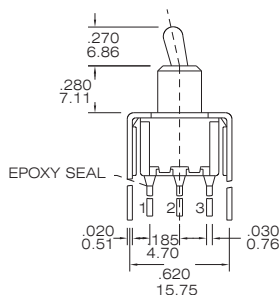
★ The K option is only for some special item. Please inquire first when you need the "K" option

VERTICAL SUPPORT BRACKET OPTION

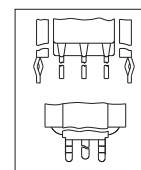
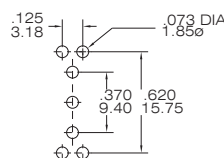
(only apply the straight type terminal -page A12. Please build the terminal option "c" code)

SPDT

S20/S25/V20/V25



P.C. MOUNTING

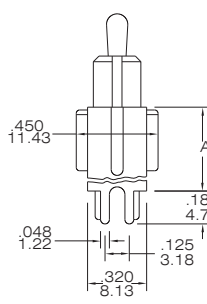
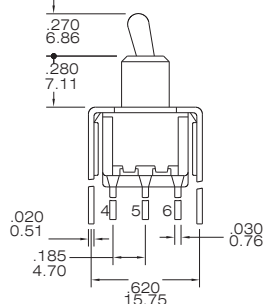
SNAP-IN
V20/ V25

CODE	"A" dimension
S20/V20	.460 (11.68)
S25/V25	.630 (16.00)
V20/V25 : the snap-in type	

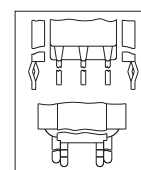
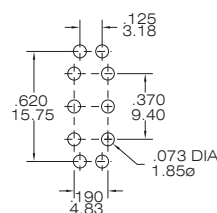
T8013 - TNCQ-S20(S25)

DPDT

S20/S25/V20/V25



P.C. MOUNTING

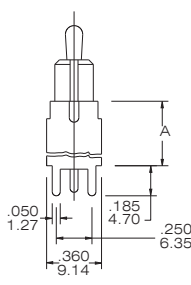
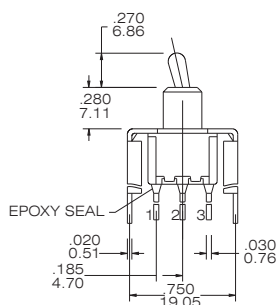
SNAP-IN
V20/ V25

CODE	"A" dimension
S20/V20	.460 (11.68)
S25/V25	.630 (16.00)
V20/V25 : the snap-in type	

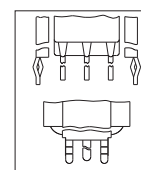
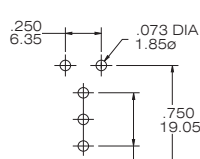
T8011 - TNCQ-S20(S25)

SPDT

S35/S40/V35/V40



P.C. MOUNTING

SNAP-IN
V35/ V40

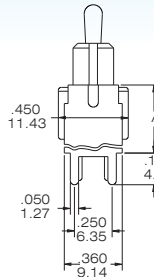
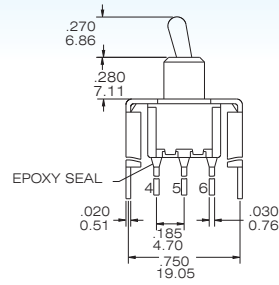
CODE	"A" dimension
S35/V35	.460 (11.68)
S40/V40	.630 (16.00)
V35/V40 : the snap-in type	

T8013 - TNCQ-S35(S40)

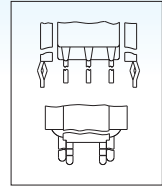
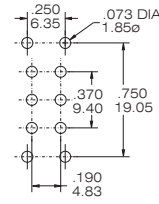
S35 / S40/ V35/V40



DPDT



P.C. MOUNTING



SNAP-IN
V35/ V40

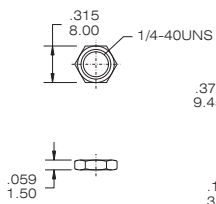
CODE	"A" dimension
S35/V35	.460 (11.68)
S40/V40	.630 (16.00)
V35/V40 : the snap-in type	

T8011 - TNCQ-S35(S40)

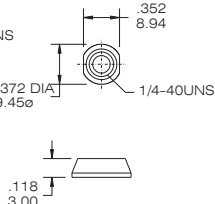
The hardware of T80-T TOGGLE SWITCHES

NUT

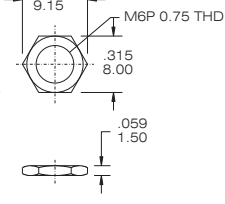
STD.



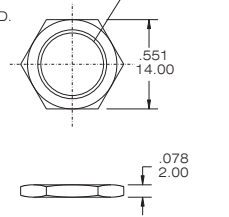
DRESS NUT



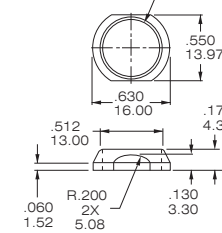
METRIC NUT



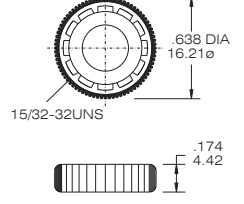
STD. FOR Z Z1



DRESS NUT FOR Z Z1

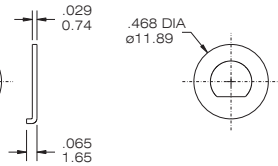
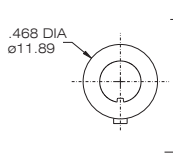


KNURLED NUT

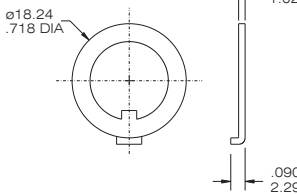


LOCKING RING

STD

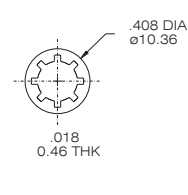


STD. FOR Z Z1

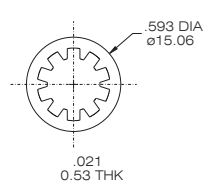


LOCK WASHER

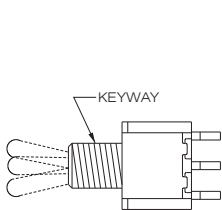
STD.



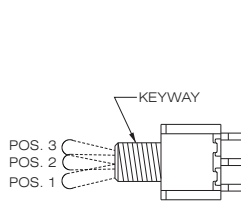
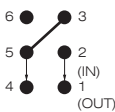
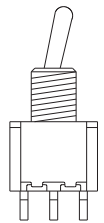
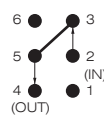
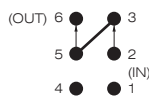
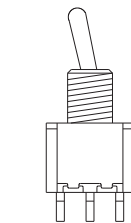
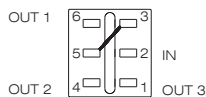
STD. FOR Z Z1



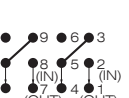
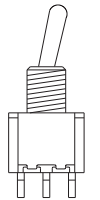
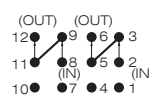
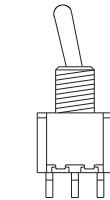
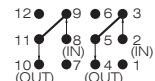
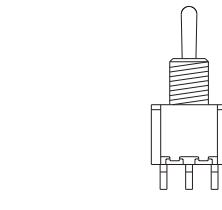
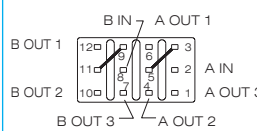
The information of 3-way toggle switches



SINGLE POLE, 3 POSITION



DOUBLE POLE, 3 POSITION



SP3T

DP3T