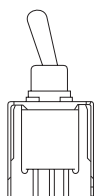
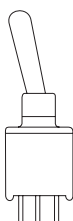
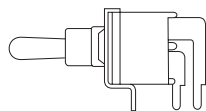


## FEATURE

1. Sealed construction - internal actuator o-ring and epoxy terminal seal standard □
2. Carry the IP67 approvals □
3. The ESD protection available - Anti-static plastic actuator -9000 V DC static resistance between □ toggle and terminal.



IP 67 protection degree

## SPECIFICATIONS

CONTACT RATING: R- 0.4 VA max @ 20 V AC or DC  
 ELECTRICAL LIFE: 30,000 make-and-break cycles at full load  
 CONTACT RESISTANCE: 20 mΩ max. initial @ 2-4 VDC, 100 mA  
 INSULATION RESISTANCE: 1,000 MΩ min.  
 DIELECTRIC STRENGTH: 1,500 V RMS @ sea level.

## ESD Resistant Option :

P2 insulating actuator only: 9,000 VDC min. @ sea level, actuator to terminals.

DEGREE OF PROTECTION : IP67

OPERATING TEMPERATURE: -30? C to 85? C

## MATERIALS

CASE and BUSHING - glass filled nylon 4/6, flame retardant heat stabilized (UL94V-0)

Actuator - Brass , chrome plated, internal o-ring seal standard with all actuators

P2 / the anti-static actuator: Nylon 6/6, black standard (UL 94V-0)

CONTACT AND TERMINAL - Brass , silver plated

SWITCH SUPPORT - Brass , tin-lead

TERMINAL SEAL - Epoxy

## How do you build the switches you need!!

The ES-4 / ES-5 , please see the (A) ;

The ES-6/ES-7/ES-8/ES-9, please see the (B)

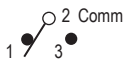
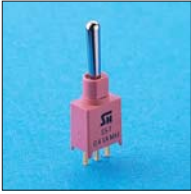
(A) **E S** - **4** - **P 2** **C** **R** - **A 5**

Switch Function		Actuator		Termination	Contact Material	Vertical support Bracket	
ES-4	SP on-none-on	T1	Std. 10.57	C (std) P.C	Q silver plated R gold plated G gold over silver K gold / tin-lead	(none)	straight type (std.) snap-in type
ES-4B	SP on-none-(on)	T2	Std. 6.10			A5	
ES-4A	SP on-off-on	T3	8.13			A5S	
ES-4H	SP (on)-off-(on)	T4	13.97				
ES-4I	SP on-off-(on)	T5	3.5				
ES-5	DP on-none-on	ESD protection actuator					
ES-5B	DP on-none-(on)	P2	(std - black) 6.10				
ES-5A	DP on-off-on	P21	(white) 6.10				
ES-5H	DP (on)-off-(on)						
ES-5I	DP on-off-(on)						

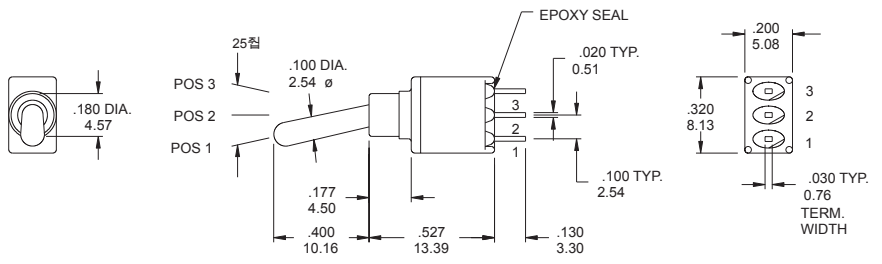
(B) **E S** - **6** - **T 2** **R** - **S**

Horizon Right Angle	Vertical Right Angle	Switches Function	Actuator		Contact Material	Support Bracket type	
ES-6	ES-8	SP on-none-on	T1	Std. 10.57	Q silver plated R gold plated G gold over silver K gold / tin-lead	S	(std.) Snap-in type
ES-6B	ES-8B	SP on-none-(on)	T2	6.10		(none)	straight type
ES-6A	ES-8A	SP on-off-on	T3	8.13			
ES-6H	ES-8H	SP (on)-off-(on)	T4	13.97			
ES-6I	ES-8I	SP on-off-(on)	T5	3.5			
ES-7	ES-9	DP on-none-on	ESD protection actuator				
ES-7B	ES-9B	DP on-none-(on)	P2	(std - black) 6.10			
ES-7A	ES-9A	DP on-off-on	P21	(white) 6.10			
ES-7H	ES-9H	DP (on)-off-(on)					
ES-7I	ES-9I	DP on-off-(on)					

## SPDT



Model No.	Switching position		
ES-4	ON	none	ON
ES-4A	ON	OFF	ON
ES-4B	ON	None (ON)	
ES-4H	(ON)	OFF	(ON)
ES-4I	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1

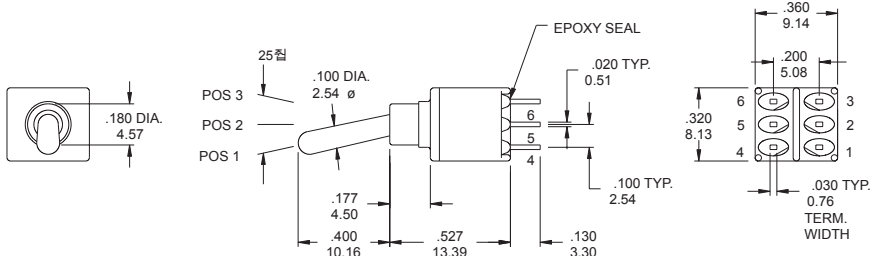


ES-4- T1CR

## DPDT

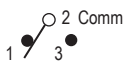
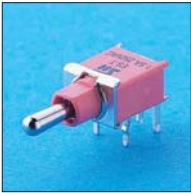


Model No.	Switching position		
ES-5	ON	none	ON
ES-5A	ON	OFF	ON
ES-5B	ON	None (ON)	
ES-5H	(ON)	OFF	(ON)
ES-5I	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4

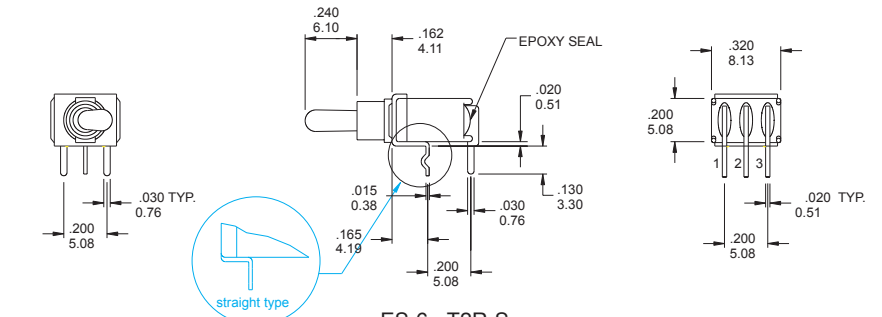


ES-5- T1CR

## SPDT

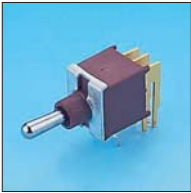


Model No.	Switching position		
ES-6	ON	none	ON
ES-6A	ON	OFF	ON
ES-6B	ON	None (ON)	
ES-6H	(ON)	OFF	(ON)
ES-6I	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1

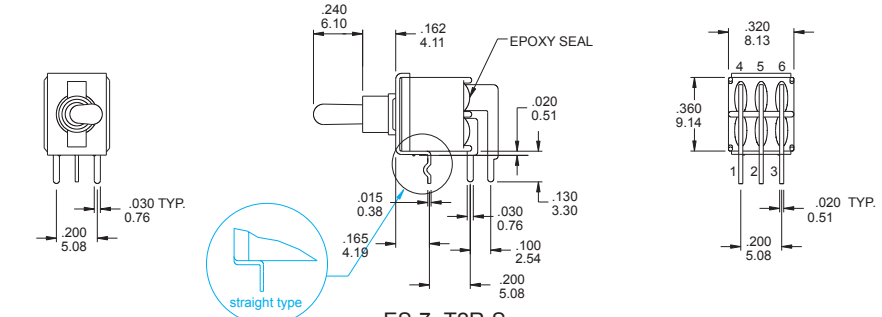


ES-6 - T2R-S

## DPDT

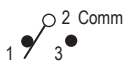
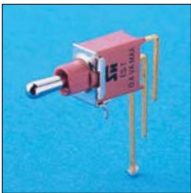


Model No.	Switching position		
ES-7	ON	none	ON
ES-7A	ON	OFF	ON
ES-7B	ON	None (ON)	
ES-7H	(ON)	OFF	(ON)
ES-7I	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4

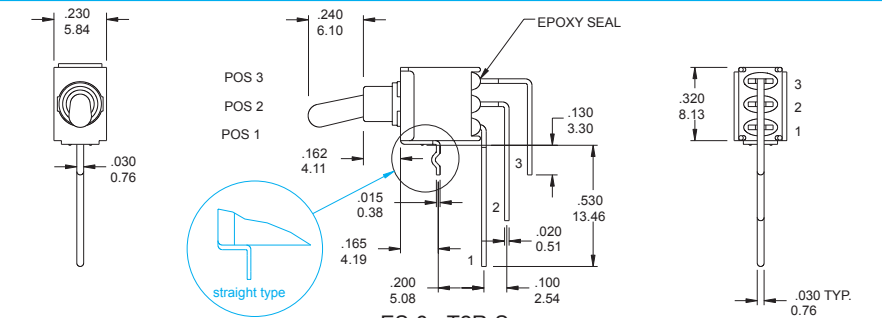


ES-7- T2R-S

## SPDT



Model No.	Switching position		
ES-8	ON	none	ON
ES-8A	ON	OFF	ON
ES-8B	ON	None (ON)	
ES-8H	(ON)	OFF	(ON)
ES-8I	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1

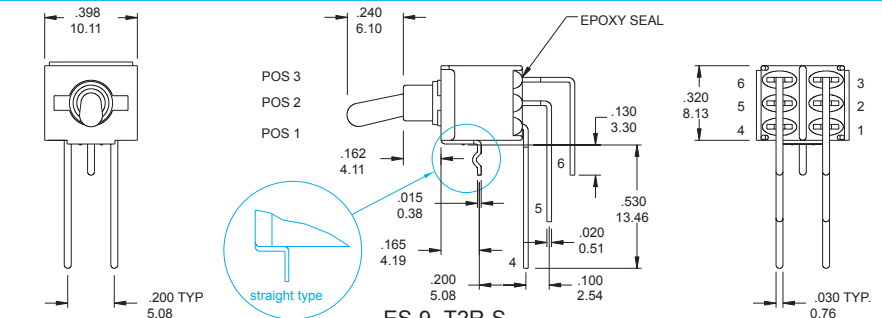


ES-8 - T2R-S

## DPDT

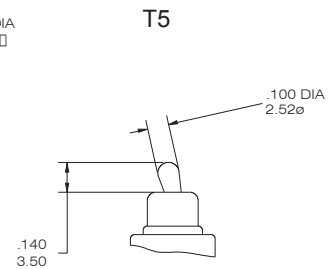
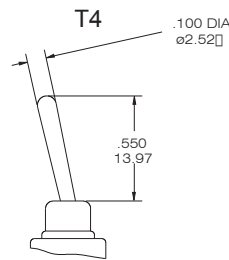
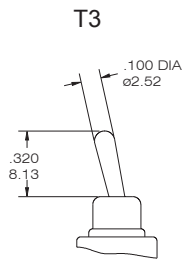
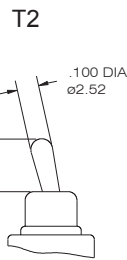
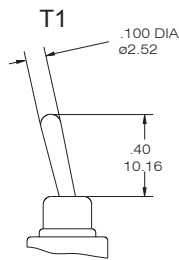


Model No.	Switching position		
ES-9	ON	none	ON
ES-9A	ON	OFF	ON
ES-9B	ON	None (ON)	
ES-9H	(ON)	OFF	(ON)
ES-9I	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4

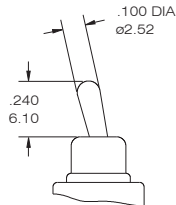


ES-9- T2R-S

## Actuator Option



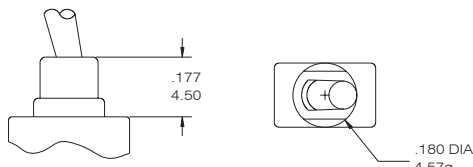
P2 PLASTIC TOGGLE (NEW)



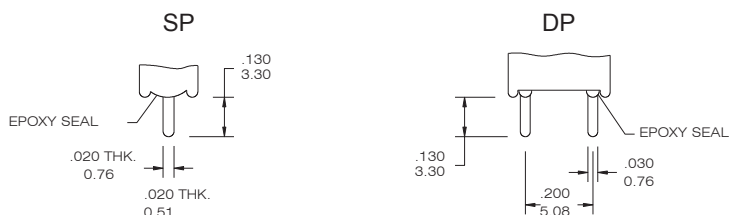
Material Nylon 4/6 (UL 94V-0), black std.  
Static resistance: 9,000V DC min. @ sea level, actuator to terminals

code	description
P2	black(std.)
P21	white

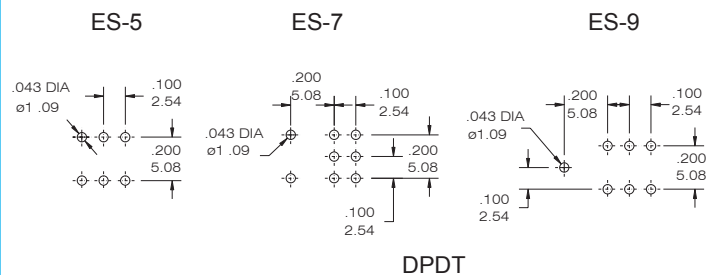
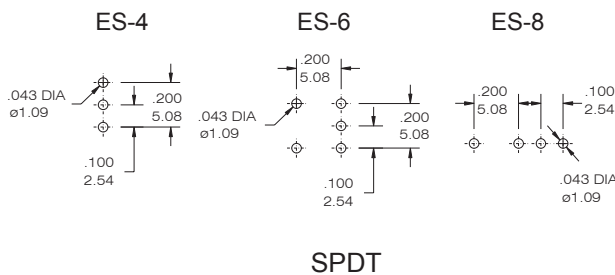
## Bushing dimension



## Terminal dimension



## P.C.B Mounting Dimension



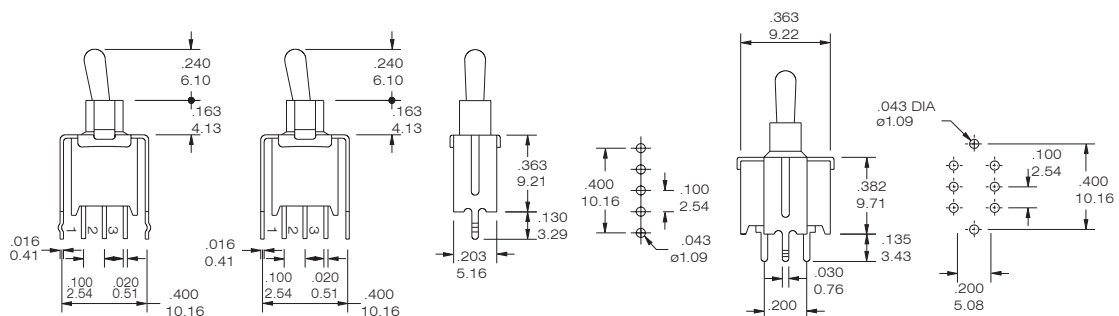
## CONTACT MATERIAL OPTIONS

CODE	CONTACT MATERIAL	TERMINAL MATERIAL	RATING
Q	Silver plated	Silver plated	3 A @ 120V AC or 28 V DC; 1.5 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 3 A @ 120V AC or 28 V DC; 1.5 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

## A5



A5S (std.) snap-in type

A5 straight type

ES-4-T2-CQ-A5S

ES-5-T2-CQ-A5S

## FEATURE

1. Sealed construction - internal actuator o-ring and epoxy terminal seal standard
2. Carry the IP67 approvals
3. The ESD protection available - Anti-static plastic actuator -9000 V DC static resistance between toggle and terminal.
4. Surface mounting (SMT)
5. Tape and Reel package

## SPECIFICATIONS

CONTACT RATING:R- 0.4 VA max @ 20 V AC or DC  
 DCELECTRICAL LIFE:30,000 make-and-break cycles at full load  
 CONTACT RESISTANCE: 20 m $\Omega$  max. initial @2-4 VDC,100 mA  
 INSULATION RESISTANCE: 1,000 M $\Omega$  min.  
 DIELECTRIC STRENGTH: 1,500 V RMS @ sea level.

### ESD Resistant Option :

P2 insulating actuator only:9,000 VDC min. @ sea level,actuator to terminals.

DEGREE OF PROTECTION : IP67

OPERATING TEMPERATURE: -30 $^{\circ}$  C to 85 $^{\circ}$  C

## MATERIALS

CASE and BUSHING - glass filled nylon 4/6,flame retardant heat stabilized (UL94V-0)

Actuator - Brass , chrome plated,internal o-ring seal standard with all actuators

P2 / the anti-static actuator: Nylon 4/6,black standard(UL 94V-0)

CONTACT AND TERMINAL - Copper alloy , silver plated

SWITCH SUPPORT - Brass , tin-lead

TERMINAL SEAL - Epoxy



**IP67**

## How do you build the switches you need!!

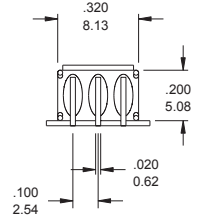
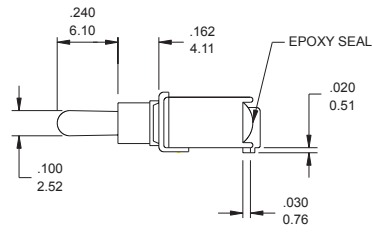
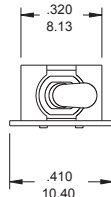
E S - 3 - T 2 N R

Switches Function		Actuator		Terminal		Contact Material	
ES-3	SP on-none-on	T1	10.57	(none)	std	Q	silver plated
ES-3B	SP on-none-(on)	T2	Std. 6.10	N	backward	R	gold plated
ES-3A	SP on-off-on	T3	8.13	M	backward	G	gold over silver
ES-3H	SP (on)-off-(on)	T4	13.97			K	gold / tin-lead
ES-3I	SP on-off-(on)	T5	3.5				
		ESD protection actuator					
		P2	(std - black) 6.10				
		P21	(white) 6.10				

\* the Contact K only apply to the terminal N/ M



Model No.	Switching position		
ES-3	ON	none	ON
ES-3A	ON	OFF	ON
ES-3B	ON	None	(ON)
ES-3H	(ON)	OFF	(ON)
ES-3I	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1

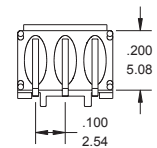
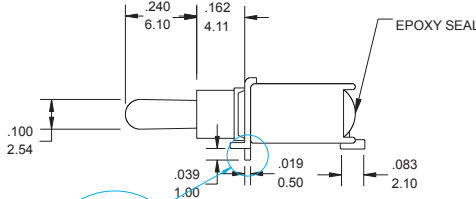
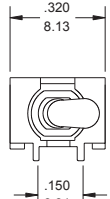


ES-3 - T2R

## The N terminal type



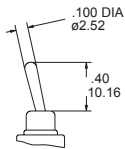
Model No.	Switching position		
ES-3	ON	none	ON
ES-3A	ON	OFF	ON
ES-3B	ON	None	(ON)
ES-3H	(ON)	OFF	(ON)
ES-3I	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1

without positioning pins  
ES-3-T2NK

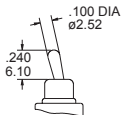
ES-3 - T2 MK

## Actuator Option

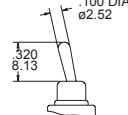
T1



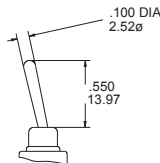
T2



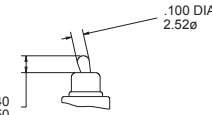
T3



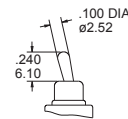
T4



T5



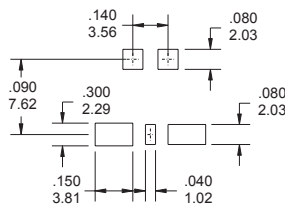
P2 PLASTIC TOGGLE (NEW)



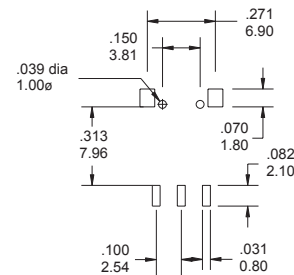
code	description
P2	black(std.)
P21	white

Material Nylon 4/6 (UL 94V-0), black std.  
Static resistance: 9,000V DC min. @ sea level, actuator to terminals

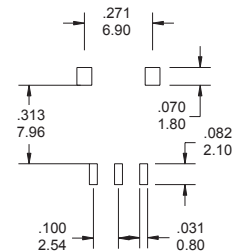
## THE P.C.B MOUNTING



ES-3-TX-R



ES-3-TX-MK



ES-3-TX-NK

## CONTACT MATERIAL OPTIONS

CODE	CONTACT MATERIAL	TERMINAL MATERIAL	RATING
Q	Silver plated	Silver plated	3 A @ 120V AC or 28 V DC; 1.5 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 3 A @ 120V AC or 28 V DC; 1.5 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 the terminal "N/ M"