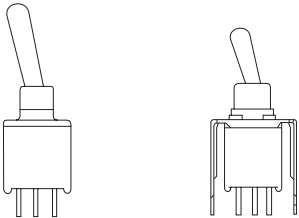
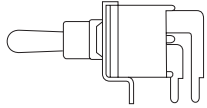


**FEATURE**

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 m? max. initial @2-4 VDC,100 mA  
 INSULATION RESISTANCE: 1,000 M? 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)

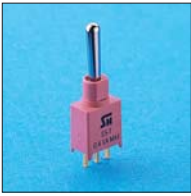
(A) E S - 4 - P 2 C R - A 5

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	(none) A5 straight type A5S (std.) snap-in type
ES-4B	SP on-none-(on)	T2	Std. 6.10		R	gold plated	
ES-4A	SP on-off-on	T3	8.13	G gold over silver K gold / tin-lead	G	gold over silver	
ES-4H	SP (on)-off-(on)	T4	13.97				
ES-4I	SP on-off-(on)	T5	3.5				
ES-5	DP on-none-on	<b>ESD protection actuator</b>					
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)						

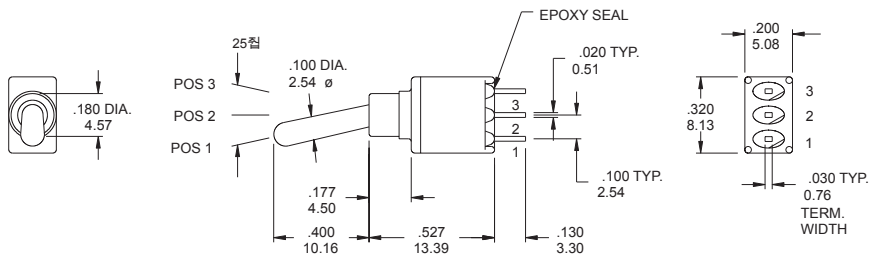
(B) E S - 6 - T 2 R - S

Horizon Right Angle	Vertical Right Angle	Switches Function	Actuator	Contact Material	Support Bracket type □
ES-6	ES-8	SP on-none-on	T1	Q	S (std.) Snap-in type (none) straight type
ES-6B	ES-8B	SP on-none-(on)	T2	R	
ES-6A	ES-8A	SP on-off-on	T3	G	
ES-6H	ES-8H	SP (on)-off-(on)	T4	K	
ES-6I	ES-8I	SP on-off-(on)	T5		
ES-7	ES-9	DP on-none-on	<b>ESD protection actuator</b>		
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

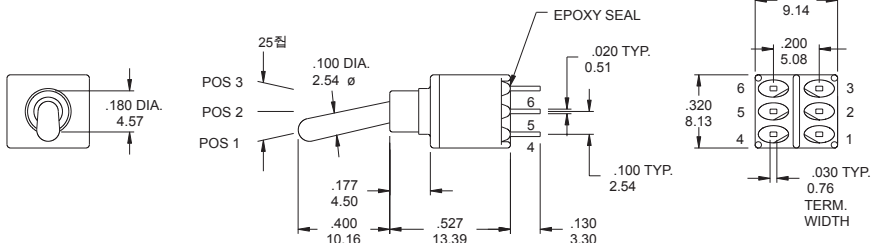


ES-4 - T1CR

## DPDT

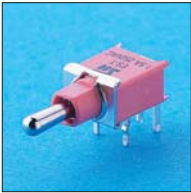


Model No.	Switching position		
ES-5	ON	none	ON
ES-5A	ON	OFF	ON
ES-5B	ON	None (ON)	
ES-5H	(ON)	OFF	(ON)
ES-5I	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4

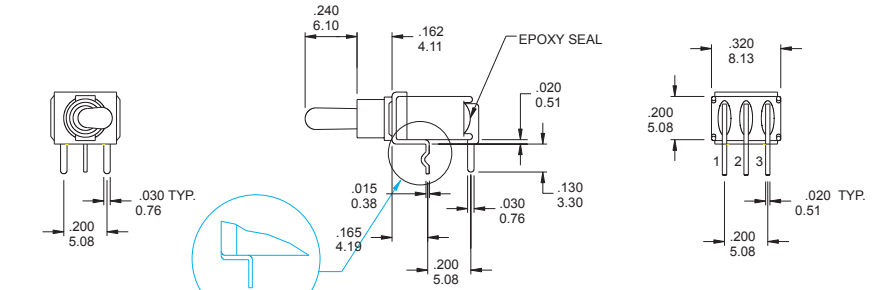
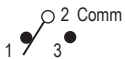


ES-5 - T1CR

## SPDT

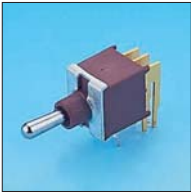


Model No.	Switching position		
ES-6	ON	none	ON
ES-6A	ON	OFF	ON
ES-6B	ON	None (ON)	
ES-6H	(ON)	OFF	(ON)
ES-6I	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1

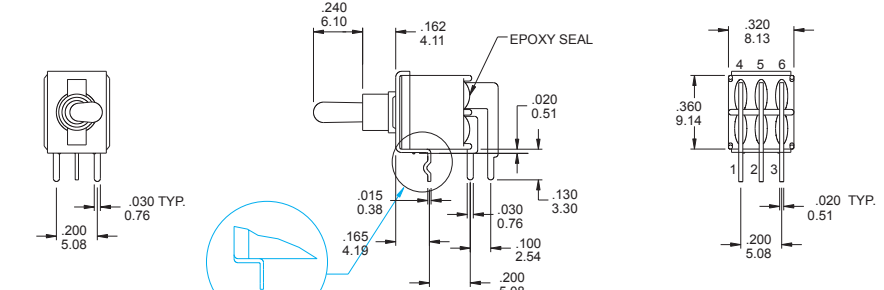


ES-6 - T2R-S

## DPDT

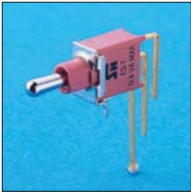


Model No.	Switching position		
ES-7	ON	none	ON
ES-7A	ON	OFF	ON
ES-7B	ON	None (ON)	
ES-7H	(ON)	OFF	(ON)
ES-7I	ON	OFF	(ON)
Term. Comm.	2-3,5-6	open	2-1,5-4

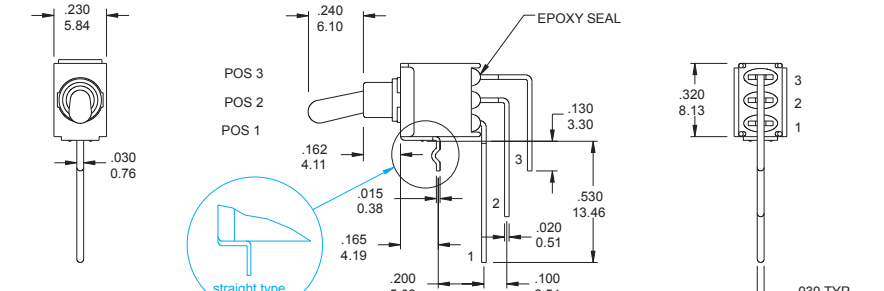


ES-7 - T2R-S

## SPDT

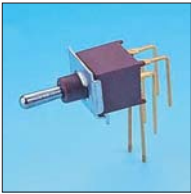


Model No.	Switching position		
ES-8	ON	none	ON
ES-8A	ON	OFF	ON
ES-8B	ON	None (ON)	
ES-8H	(ON)	OFF	(ON)
ES-8I	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1

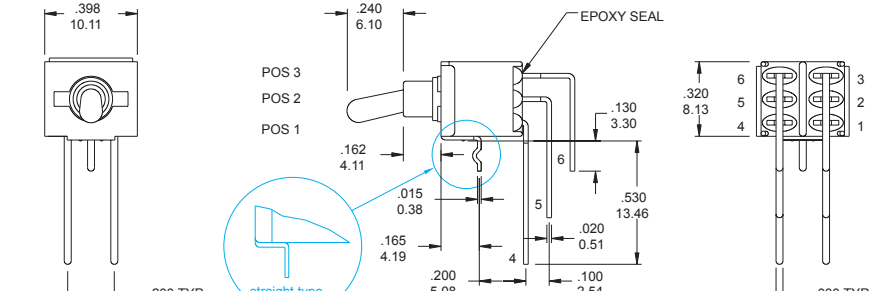


ES-8 - T2R-S

## 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



## 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!!

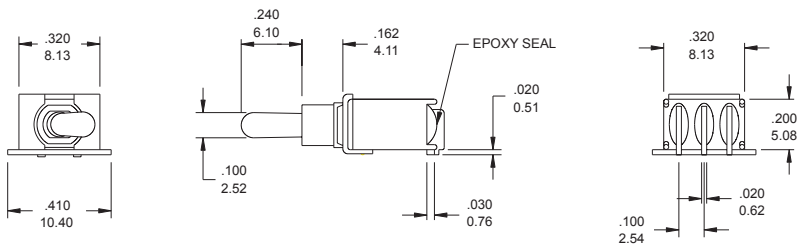
E S - 3 - T 2 N R

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				

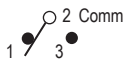
\* the Contact K only apply to the terminal N/ M



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



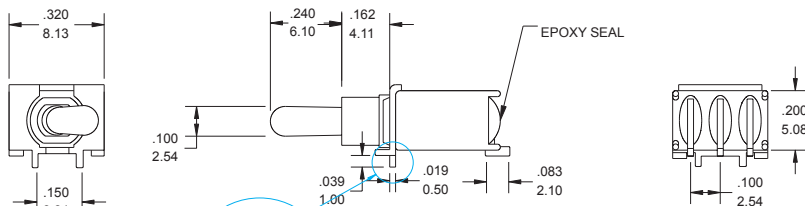
ES-3 - T2R



## The N terminal type

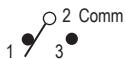


Model No.	Switching position		
ES-3	ON	none	ON
ES-3A	ON	OFF	ON
ES-3B	ON	None	(ON)
ES-3H	(ON)	OFF	(ON)
ES-3I	ON	OFF	(ON)
Term. Comm.	2-3	open	2-1



without positioning pings  
ES-3-T2NK

ES-3 - T2 MK



## Actuator Option

T1

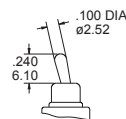
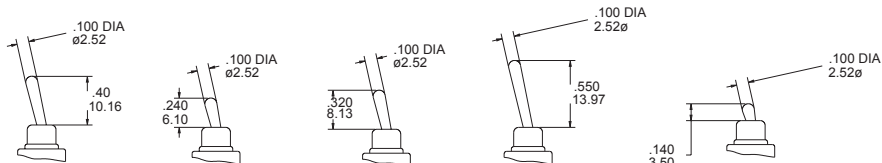
T2

T3

T4

T5

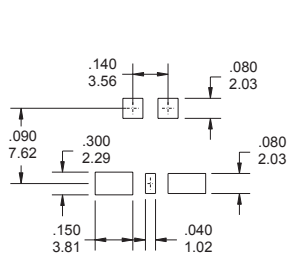
P2 PLASTIC TOGGLE (NEW)



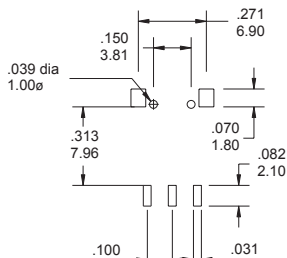
code	description
P2	black(std.)
P21	white

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

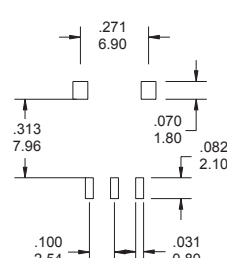
## THE P.C.B MOUNTING



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"