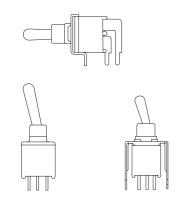


- 1. Sealed construction internal actuator o-ring and epoxy terminal seal standard
- 2. Carry the IP67 approvals
- 3. The ESD protection available Anti-static plastic actuator -9000 V DC static resistance between toggle and terminal.



#### **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 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°C to +85°C

#### **MATERIALS**

CASE and BUSHING - glass filled nylon 6/6,flame retardant heat stabilized (UL94V-0) Actuator - Copper alloy, 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 - Copper alloy, tin-plated

TERMINAL SEAL - Epoxy

# IP 67 protection degree

# 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)



Switch Function				
ES-4	SP	on-none-on		
ES-4B	SP	on-none-(on)		
ES-4A	SP	on-off-on		
ES-4H	SP	(on)-off-(on)		
ES-4I	SP	on-off-(on)		
ES-5	DP	on-none-on		
ES-5B	DP	on-none-(on)		
ES-5A	DP	on-off-on		
ES-5H	DP	(on)-off-(on)		
ES-5I	DP	on-off-(on)		

T1 T2 T3	Std. Std.	10.16 6.10 8.13		
T4 T5		13.97 3.5		
ESD p	ESD protection actuator			
P1 P11 P2 P21	(white std - blad	() 10.16 e) 10.16 ck) 6.10 te) 6.10		

**Actuator** 

Termination		
С	(std)	P.C

Contact Material		
Q	silver plated	
R	gold plated	
G	gold over silver	
K	gold / tin	

Vertical support Bracket	
(none) A5 A5S	straight type (std.) snap-in type

RoHS code
H = RoHS Compliant

(B)	ES-	6 –	T 2	R - S -

Horizon Right Angle	Vertical Right Angle	Switches Function
ES-6	ES-8	SP on-none-on
ES-6B	ES-8B	SP on-none-(on)
ES-6A	ES-8A	SP on-off-on
ES-6H	ES-8H	SP (on)-off-(on)
ES-6I	ES-8I	SP on-off-(on)
ES-7	ES-9	DP on-none-on
ES-7B	ES-9B	DP on-none-(on)
ES-7A	ES-9A	DP on-off-on
ES-7H	ES-9H	DP (on)-off-(on)
ES-7I	ES-9I	DP on-off-(on)

T2 T3 T4	Std.	6.10 8.13 13.97	
T5		3.5	
ESD protection actuator			
P1	(black	() 10.16	
P11	(white	9) 10.16	
P2	(std - blad	ck) 6.10	
P21			

Actuator

<b>Contact Material</b>		
Q	silver plated gold plated gold over silver gold / tin	
R	gold plated	
G	gold over silver	
K	gold / tin	

Support Bracket type		
S (none)	(std.) Snap-in type straight type	
RoHS code		
H = RoHS Compliant		

# Sealed Sub-Miniature Toggle Switches

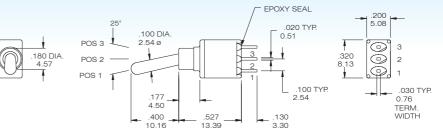








Model	Switching position			
No.	<b>.</b>	~		
ES-4	ON	none	ON	
ES-4A	ON	OFF	ON	
ES-4B	ON	None	(ON)	
ES-4H	(ON)	OFF	(ON)	
ES-4I	ON	OFF	(ON)	
Term. Comm.	2-3	open	2-1	

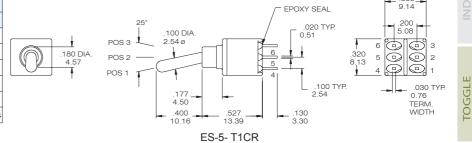


ES-4-T1CR

DPDT



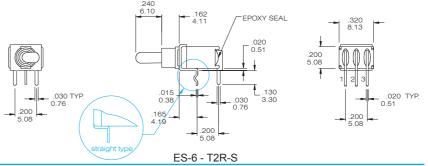
Model	Switching position			
No.	<b>.</b>	<b>~</b>		
ES-5	ON	none	ON	
ES-5A	ON	OFF	ON	
ES-5B	ON	None	(ON)	
ES-5H	(ON)	OFF	(ON)	
ES-5I	ON	OFF	(ON)	
Term. Comm.	2-3,5-6	open	2-1,5-4	



**SPDT** 



Model	Switching position		
No.	~	~.	
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

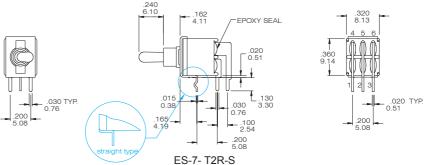


DPDT



Model	Switching position			
No.	<b>.</b>	<b>.</b> ✓•		
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	

Switching position

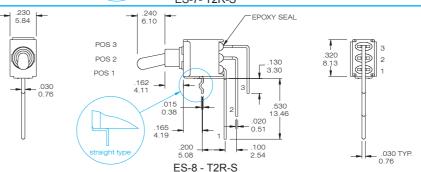


**SPDT** 



	No.	,	~	
TO NOT THE PARTY OF THE PARTY O	ES-8	ON	none	ON
	ES-8A	ON	OFF	ON
11	ES-8B	ON	None	(ON)
	ES-8H	(ON)	OFF	(ON)
	ES-8I	ON	OFF	(ON)
Comm	Term. Comm.	2-3	open	2-1

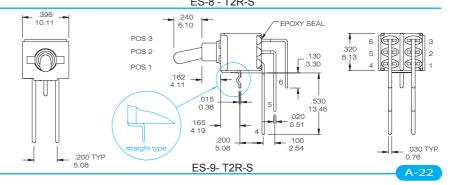
Model



DPDT

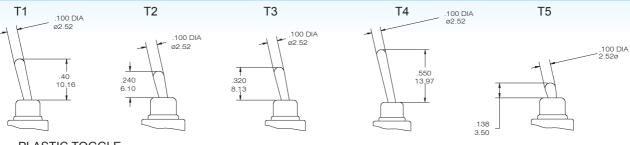


	Model	Switching position		
	No.	•	<b>&gt;</b>	
Tues!	ES-9	ON	none	ON
I I	ES-9A	ON	OFF	ON
111	ES-9B	ON	None	(ON)
11	ES-9H	(ON)	OFF	(ON)
72.00	ES-9I	ON	OFF	(ON)
omm 05 Comm	Term. Comm.	2-3,5-6	open	2-1,5-4
4 <b>9</b> 6				

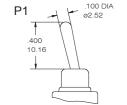








#### PLASTIC TOGGLE



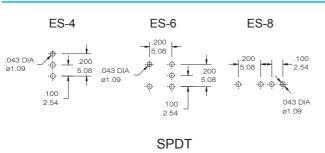


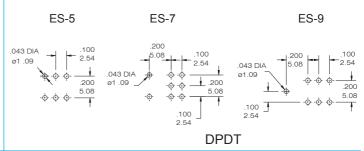
Material Nylon 4/6 (UL 94V-0),black std. Static resistance:9,000V DC min. @sea level , actuator to terminals

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

# Bushing dimension Terminal dimension SP DP .130 .130 4.50 .180 DIA .020 THK. .020 THK. .020 THK. .030 .020 THK. .051

# **P.C.B Mounting Dimension**





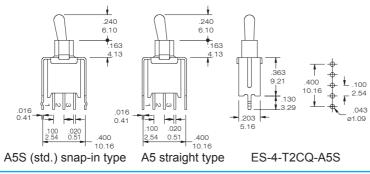
#### **CONTACT MATERIAL OPTIONS**

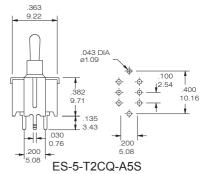
CODE	CONTACT MATERIAL	TERMINAL MATERIAL	RATING
Q	Silver plated	Silver plated	3 A @ 120V AC or 28 V DC; 1.5 A @ 250 VAC
R	Gold plated over nickel plated	Gold plated over nickel plated	0.4VA MAX @ 20 V AC or DC MAX
G	Gold plated over silver plated		0.4 VA MAX @ 20 V AC or DC MAX or 3 A @ 120V AC or 28 V DC; 1.5 A @ 250 VAC
K	Gold plated over nickel plated	Tin 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**







TOGGLE

ROCI

SID

USH BUTTO