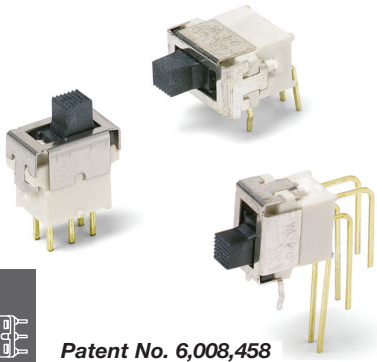


# ES Series Sealed Tiny Slide Switches



Patent No. 6,008,458

## Features/Benefits

- Process compatible—internal o-ring and epoxy base seal
- Thru-hole & surface mount models
- Reliable contact design ensures long electrical life
- Robust actuator for easy actuation
- RoHS compliant

## Typical Applications

- Computer peripherals & network products
- Test & measurement equipment
- Telephone & cable modems

Slide

## Specifications

CONTACT RATING: 0.4 VA max. @ 20 V AC or DC max.  
 MECHANICAL & ELECTRICAL LIFE: 40,000 make-and-break cycles at full load.  
 CONTACT RESISTANCE: 50 m Ω max. initial @ 2-4 V DC, 100 mA.  
 INSULATION RESISTANCE: 10<sup>9</sup> Ω min.  
 DIELECTRIC STRENGTH: 500 Vrms min.  
 OPERATING TEMPERATURE: -30°C to 85°C.  
 SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9.  
 DEGREE OF PROTECTION: IP57; Protection against harmful dust deposit, full-scale voltage protection, temporary immersion.  
 ESD ENDURANCE: 8kv min. (EIA 545).  
 PACKAGING: Thru-hole switches supplied in anti-static trays. Surface mount switches available in tape and reel packaging.

## Materials

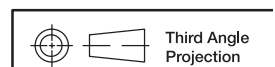
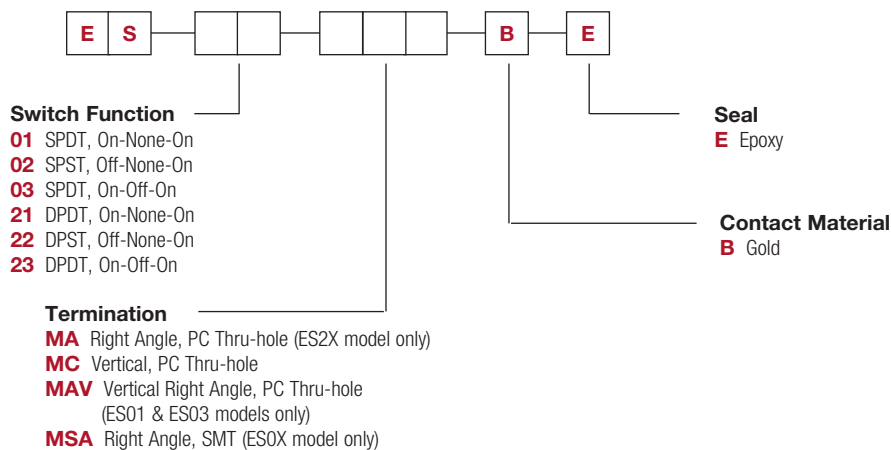
HOUSING & BASE: Nylon (UL 94V-0).  
 ACTUATOR: LCP (UL 94V-0) black, standard.  
 SURFACE PLATE: Stainless steel with tin plate.  
 MOVABLE CONTACT: Bronze with gold plate over nickel plate.  
 STATIONARY CONTACTS: Copper alloy, with gold plate over nickel plate.  
 TERMINALS: Copper alloy, with gold over nickel plate. All terminals insert molded.  
 BASE & TERMINAL SEAL: Epoxy.

**NOTE:** All models RoHS compliant and compatible with all options.

**NOTE:** Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

## How To Order

Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.

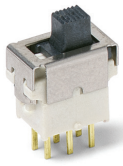


Dimensions are shown: Inch (mm)

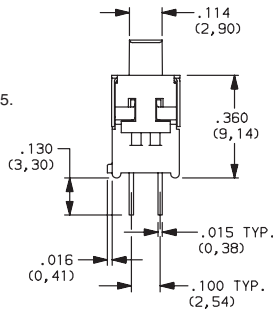
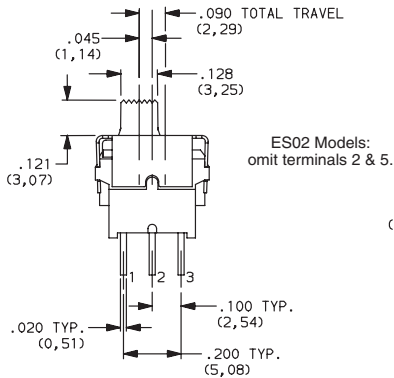
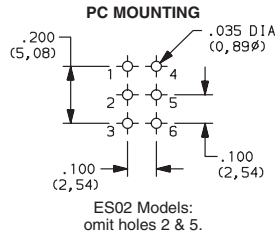
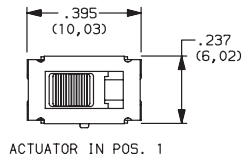
Specifications and dimensions subject to change



# ES Series Sealed Tiny Slide Switches



ES21MCBE  
DPDT



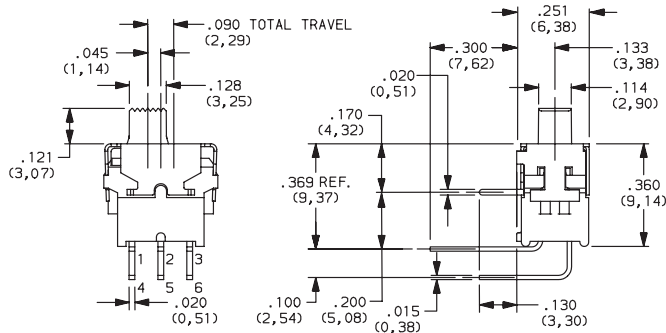
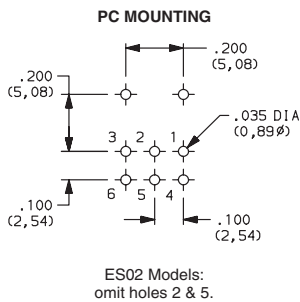
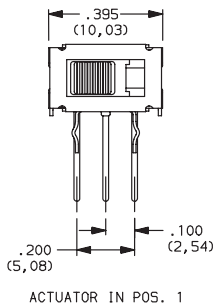
PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES21MCBE</b>	ON	NONE	ON
<b>ES23MCBE</b>	ON	OFF	ON
CONN. TERMINALS	2-3, 5-6	OPEN	2-1, 5-4
SCHEMATIC			
DPDT			
<b>ES22MCBE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1, 6-4
SCHEMATIC			
DPST			



Slide



ES21MABE  
DPDT



ES22 Models:  
omit terminals 2 & 5.

PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES21MABE</b>	ON	NONE	ON
<b>ES23MABE</b>	ON	OFF	ON
CONN. TERMINALS	2-3, 5-6	OPEN	2-1, 5-4
SCHEMATIC			
DPDT			
<b>ES22MABE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1
SCHEMATIC			
DPST			



Third Angle  
Projection

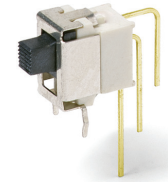
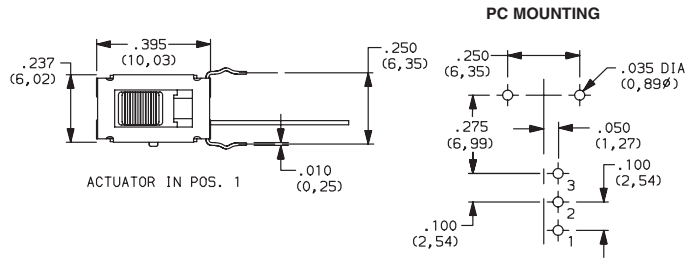
Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change



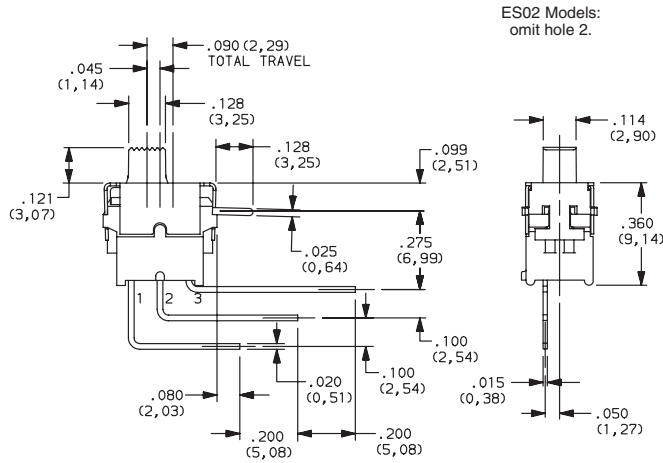
# ES Series Sealed Tiny Slide Switches

Slide

PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES01MAVBE</b>	ON	NONE	ON
<b>ES03MAVBE</b>	ON	OFF	ON
CONN. TERMINALS	2-3	OPEN	2-1
SCHEMATIC			



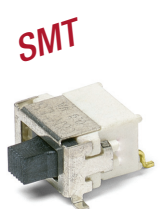
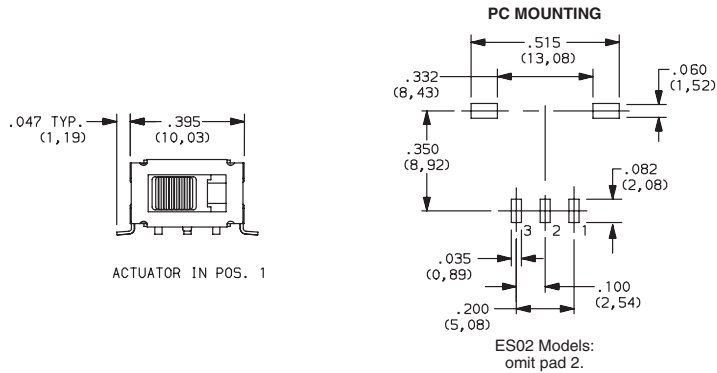
**ES01MAVBE  
SPDT**



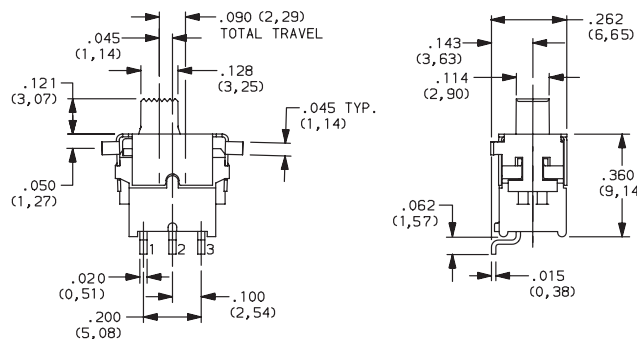
ES02 Models:  
omit hole 2.

ES02 Models:  
omit terminal 2.

PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES01MSABE</b>	ON	NONE	ON
<b>ES03MSABE</b>	ON	OFF	ON
CONN. TERMINALS	2-3	OPEN	2-1
SCHEMATIC			
SPDT			
<b>ES02MSABE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1
SCHEMATIC			
SPST			



**ES01MSABE  
Horizontal Actuation  
SPDT**



ES02 Models:  
omit terminal 2.



Third Angle  
Projection

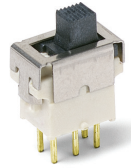
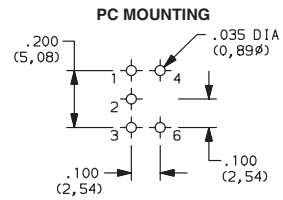
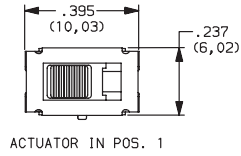
Dimensions are shown: Inch (mm)  
Specifications and dimensions subject to change



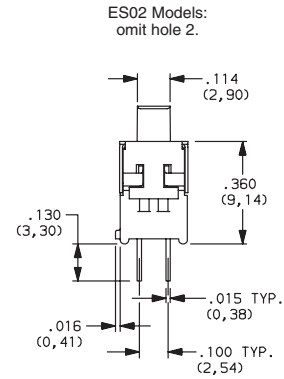
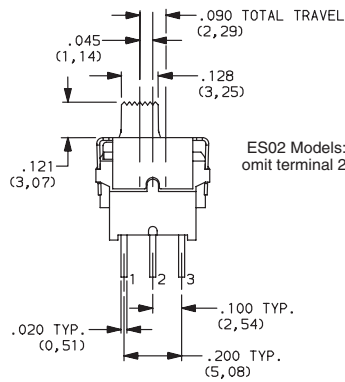
16 Mar 22

# ES Series Sealed Tiny Slide Switches

PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
	<b>ES01MCBE</b>	ON	NONE
<b>ES03MCBE</b>	ON	OFF	ON
CONN. TERMINALS	2-3	OPEN	2-1
SCHEMATIC			
SPDT			
<b>ES02MCBE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1
SCHEMATIC			
SPST			



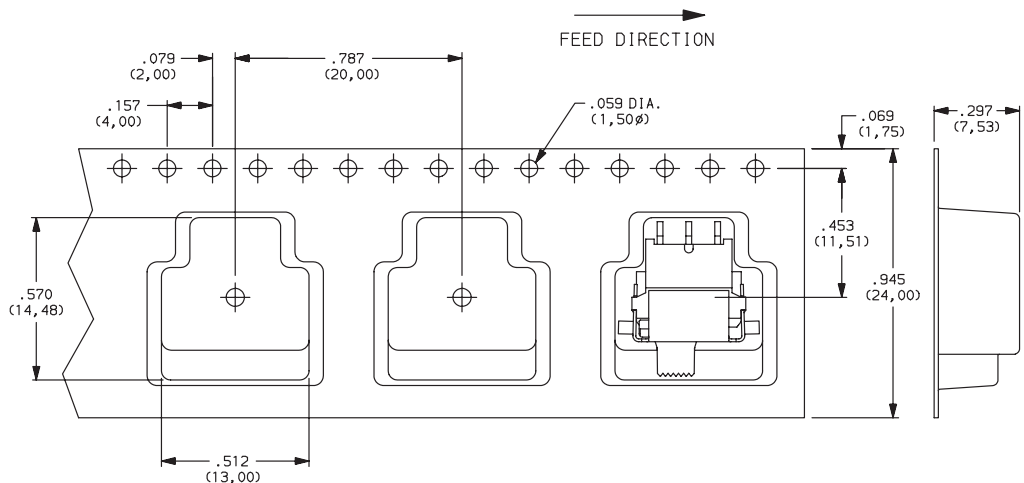
ES01MCBE  
SPDT



## TAPE & REEL

For part numbers ESXXMSABE

REEL INFORMATION	
OUTSIDE DIAMETER	13.00 (330,0)
PILOT HOLE	.512 (13,0)
QUANTITY PER REEL	300



Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change



Slide