

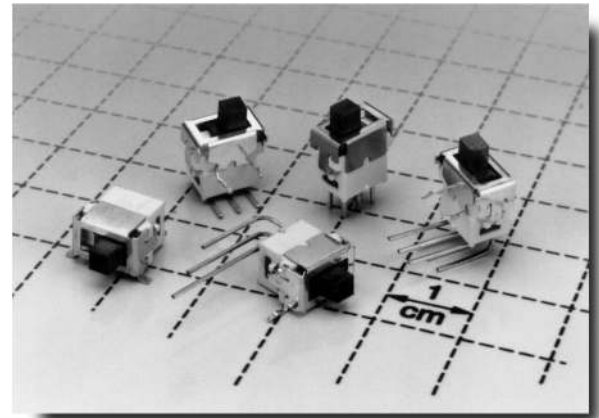
Patent Pending

### Features/Benefits

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

### Typical Applications

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



### How To Order

Complete part numbers for ES Series Sealed Tiny Slide Switches are shown on pages E-3 thru E-6. These unique tiny slide switches are process compatible. An internal o-ring and epoxy base seal protects the switch from wave and reflow soldering, as well as cleaning processes.

### 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 milliohms max. initial @ 2-4 V DC, 100 mA.

INSULATION RESISTANCE:  $10^9$  ohms min.

DIELECTRIC STRENGTH: 500 V RMS min.

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

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, see page L-39 for drawings and reel information.

### Materials

HOUSING & BASE: Nylon (UL 94V-0).

ACTUATOR: LCP (UL 94V-0) black, standard.

SURFACE PLATE: Stainless steel with tin plate.

MOVABLE CONTACT: Phosphor bronze with gold plate over nickel plate.

STATIONARY CONTACTS: Copper alloy, with gold plate over nickel plate.

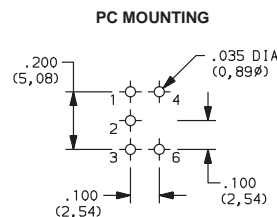
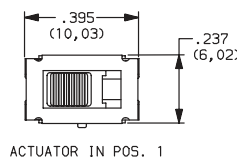
TERMINALS: Copper alloy, with tin-lead alloy over nickel plate.

All terminals insert molded.

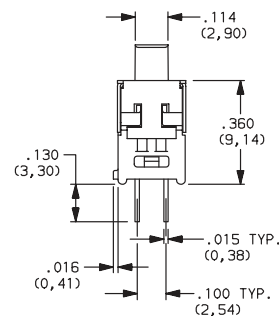
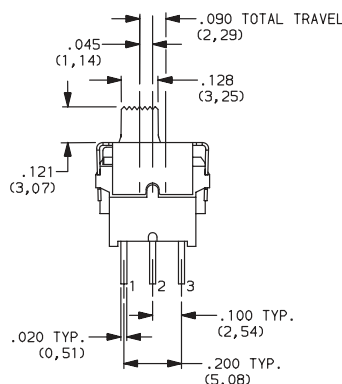
TERMINAL SEAL: Epoxy.

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

PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES01MCKE</b>	ON	NONE	ON
<b>ES03MCKE</b>	ON	OFF	ON
CONN. TERMINALS	2-3	OPEN	2-1
SCHEMATIC SPDT 			
<b>ES02MCKE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1
SCHEMATIC SPST 			



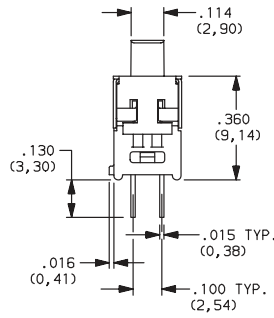
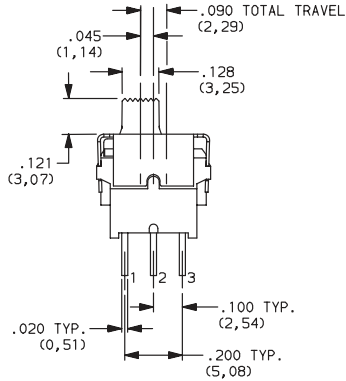
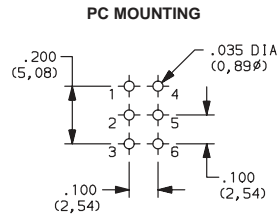
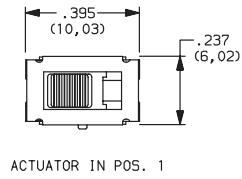
ES01MCKE  
SPDT



# ES Series Sealed Tiny Slide Switches *New!*



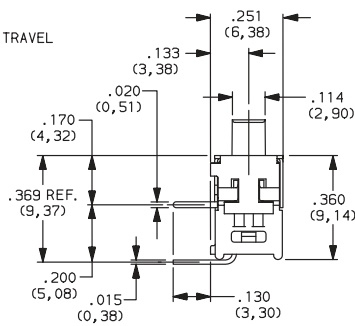
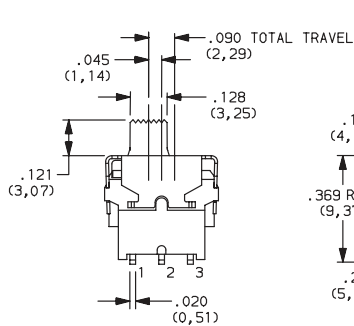
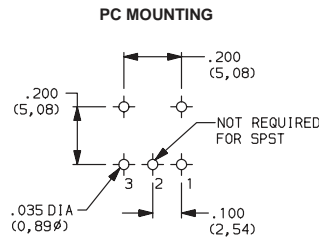
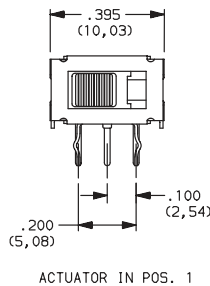
ES21MCKE  
DPDT



PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES21MCKE</b>	ON	NONE	ON
<b>ES23MCKE</b>	ON	OFF	ON
CONN. TERMINALS	2-3, 5-6	OPEN	2-1, 5-4
SCHEMATIC			
DPDT			
<b>ES22MCKE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1, 6-4
SCHEMATIC			
DPST			



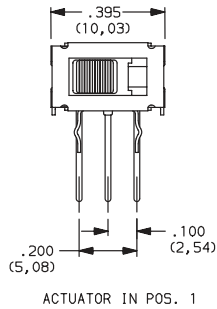
ES01MAKE  
SPDT



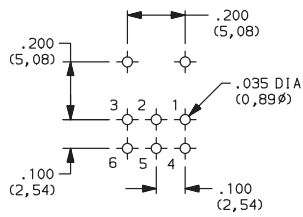
PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES01MAKE</b>	ON	NONE	ON
<b>ES03MAKE</b>	ON	OFF	ON
CONN. TERMINALS	2-3	OPEN	2-1
SCHEMATIC			
SPDT			
<b>ES02MAKE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1
SCHEMATIC			
SPST			



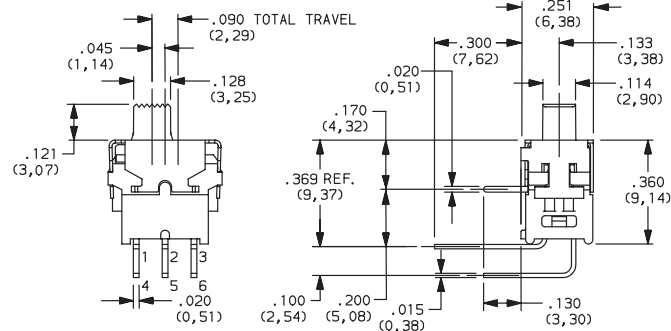
PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES21MAKE</b>	ON	NONE	ON
<b>ES23MAKE</b>	ON	OFF	ON
CONN. TERMINALS	2-3, 5-6	OPEN	2-1, 5-4
SCHEMATIC			
DPDT			
<b>ES22MAKE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1, 6-4
SCHEMATIC			
DPST			



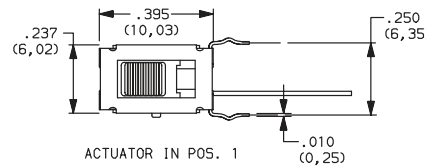
PC MOUNTING



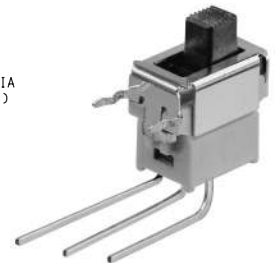
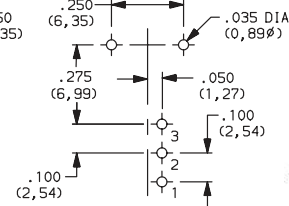
ES21MAKE  
DPDT



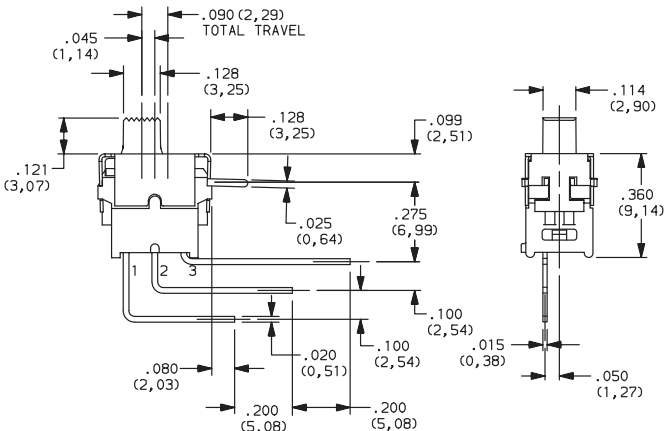
PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES01MAVKE</b>	ON	NONE	ON
<b>ES03MAVKE</b>	ON	OFF	ON
CONN. TERMINALS	2-3	OPEN	2-1
SCHEMATIC			
SPDT			
<b>ES02MAVKE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1
SCHEMATIC			
SPST			



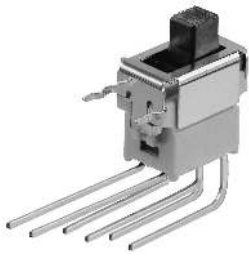
PC MOUNTING



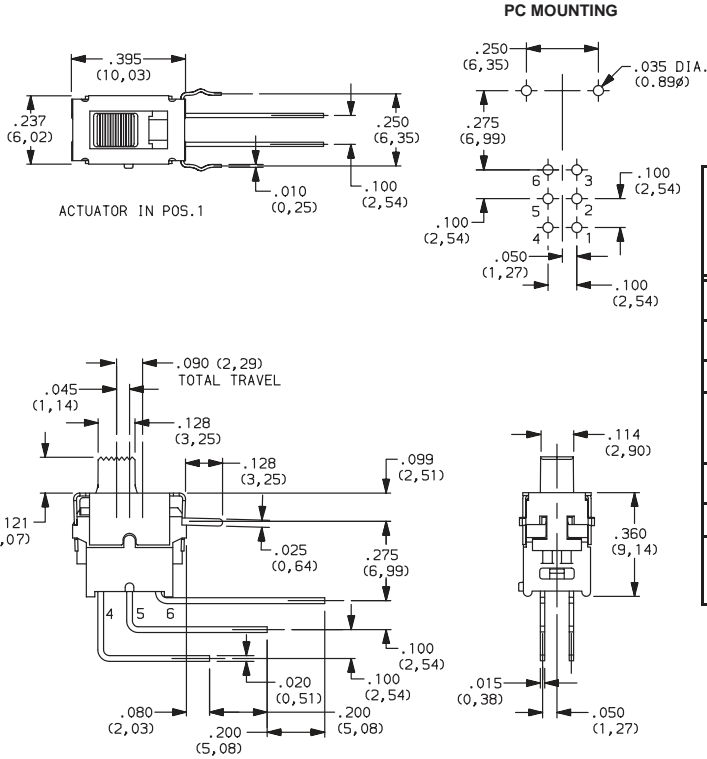
ES01MAVKE  
SPDT



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ES21MAVKE  
DPDT

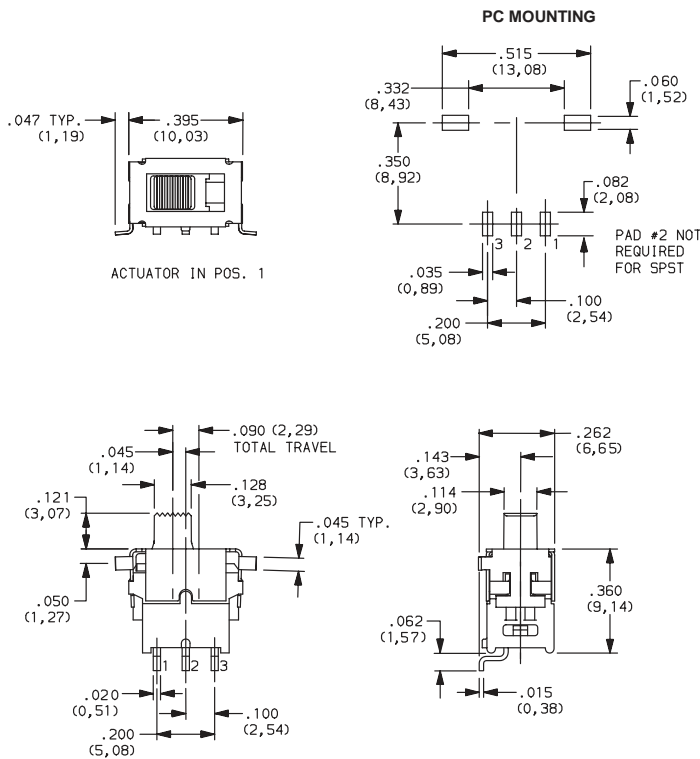


PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES21MAVKE</b>	ON	NONE	ON
<b>ES23MAVKE</b>	ON	OFF	ON
CONN. TERMINALS	2-3, 5-6	OPEN	2-1, 5-4
SCHEMATIC			
DPDT			
<b>ES22MAVKE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1, 6-4
SCHEMATIC			
DPST			

*SMT*



ES01MSAKE  
Horizontal Actuation  
SPDT



PART NUMBER	SWITCH FUNCTION		
	POS. 1	POS. 2	POS. 3
<b>ES01MSAKE</b>	ON	NONE	ON
<b>ES03MSAKE</b>	ON	OFF	ON
CONN. TERMINALS	2-3	OPEN	2-1
SCHEMATIC			
SPDT			
<b>ES02MSAKE</b>	OFF	NONE	ON
CONN. TERMINALS	OPEN	N/A	3-1
SCHEMATIC			
SPST			