



# Series SS

PCB Mount Ultra-Miniature Slide Switches

## TYPICAL SWITCH ORDERING EXAMPLE

**SS** **12** **S** **D** **P** **2** **L** **C** **R**

MOUNTING	
No Code	Through-Hole
3	SMD

TERMINAL SPACING	
For Through-Hole	
B	Metric 2mm x 2mm
D	Inch 2.54mm x 2.54mm (Illuminated available with inch spacing only)
For SMD	
A	Metric 2mm x 2mm

LED CIRCUIT	
L	Isolated

LED COLORS	
C	Red
E	Yellow
F	Green

POLES & CIRCUITS				
12	SPDT	ON	NONE	ON
14	SP3T	ON	ON	ON
22	DPDT	ON	NONE	ON
(Illuminated w/3-on not available; SMD with single pole only)				

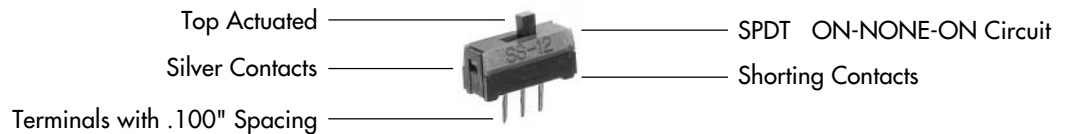
ACTUATION	
For Through-Hole	
P	Top Actuated
H	Side Actuated
For SMD	
H	Side Actuated

CONTACT MATERIALS	
2	Silver over Brass
4	Gold over Brass
Gold standard for SMD	

SMD PACKAGING	
R	Tape-Reel 500 Pieces/Reel
No Code	Partitioned Tray

CONTACTS	
S	Shorting
* See note below for SP3T.	

**DESCRIPTION FOR TYPICAL ORDERING EXAMPLE**  
**SS12SDP2**



## POLES & CIRCUITS

		Slide Position			Connected Terminals			Throw & Schematics	
Pole	Model	Right	Center	Left	Right	Center	Left	Note: Terminal numbers not actually on switch. Isolated LED circuit requires external power source.	
SP	SS12 SS312	ON	NONE	ON	2-1	OPEN	2-3	SPDT	
SP	SS14 SS314	ON	ON	ON	3-4	3-2	3-1	SP3T	<p>Note: ON-OFF-ON circuit can be created by not connecting terminal 2. * Shorting between terminals 2 &amp; 1. Nonshorting between terminals 4 &amp; 2.</p>
DP	SS22	ON	NONE	ON	2-1 5-4	OPEN	2-3 5-6	DPDT	

■ General Specifications ■ Dimensions 1 ■ Dimensions 2 ■ Dimensions illuminated



## GENERAL SPECIFICATIONS

### Electrical Capacity (Resistive Load)

**Power Level (code 2):** 0.1A @ 30V DC for PCB mount models only

**Logic Level (code 4):** 0.4VA maximum @ 28V AC/DC maximum

Note: See [Supplement Index](#) to find explanation of operating range.

### Other Ratings

**Contact Resistance:** 20 milliohms maximum for SS; 50 milliohms maximum for SS3

**Insulation Resistance:** 100 megohms minimum @ 500V DC

**Dielectric Strength:** 500V AC

**Mechanical Life:** 10,000 operations minimum

**Electrical Life:** 10,000 operations minimum

**Nominal Operating Force:** 200 grams

**Contact Timing:** Shorting (further details on Engineering Particulars page)

**Total Travel:** 2.0mm (.079")

### Materials & Finishes

**Actuator:** Polyamide for nonilluminated SS; polyacetal for illuminated SS; polyphenylene sulfide for SS3

**Upper Case:** Polyester for 3-on SS; polyacetal for all other SS models

Phosphor bronze with tin plating for SS3

**Lower Case:** Glass fiber reinforced polyester for illuminated & 3-on SS models; glass fiber reinforced polybutylene terephthalate (thermoplastic) for all other SS models; polyphenylene sulfide for SS3 models

**Movable Contact:** Phosphor bronze with silver plating (code 2); or

Phosphor bronze with gold plating over silver plating (code 4)

**Interior Base:** Phenolic resin (thermoset) for SS

**Terminals:** Brass with silver plating over copper plating for SS; or brass with gold plating for SS; phosphor bronze with gold plating for SS3

### Environmental Data

**Operating Temp Range:** -15°C through +60°C (+5°F through +140°F) for S;  
-25°C through +85°C (-13°F through +185°F) for SS3

**Humidity:** 93% humidity for 240 hours @ 40°C (104°F)

**Vibration:** 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours

**Shock:** 50g acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

### Installation

**Soldering Time & Temperature:** For SS: 5 seconds @ 270°C, or 5 seconds @ 250°C for plated-through holes;  
For SS3: 3 seconds @ 350°C manual solder or  
Automated processing techniques can be used, excluding the washing procedures.  
See [Supplement Index](#) to find details.

**Process Seal:** Not available

### Standards & Certifications

**Flammability Standards:** UL 94V-0 rated housing & base

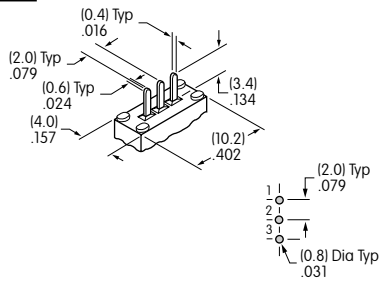
## SHORTING CONTACTS

**S** Shorting (Make-before-break) See explanation on the [Engineering Particulars](#) page.

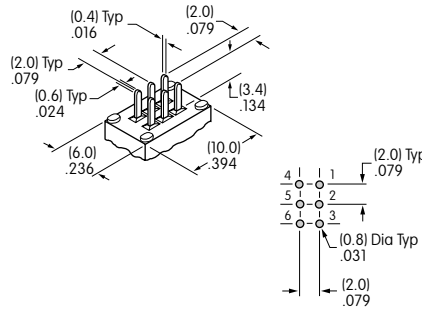
## TERMINAL SPACING

### For Through-Hole

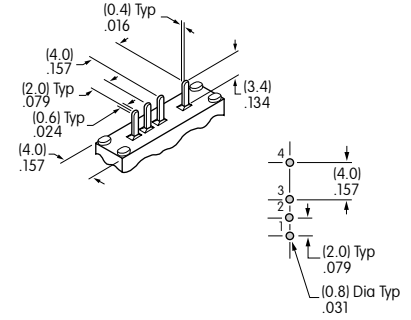
**B** Metric 2.0mm with Black Base



On-None-On Single Pole Models

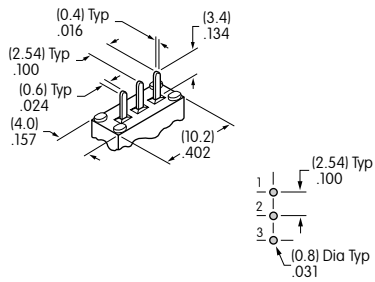


On-None-On Double Pole Models

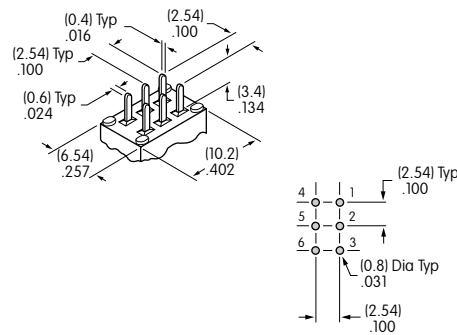


3-on Models

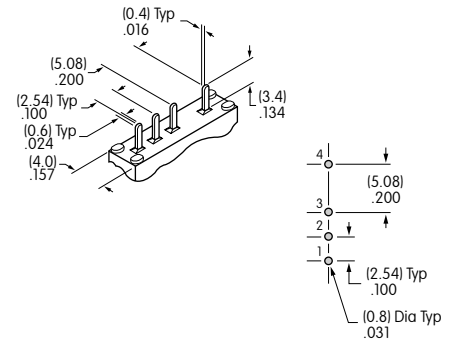
**D** Inch 2.54mm with Gray Base



On-None-On Single Pole Models



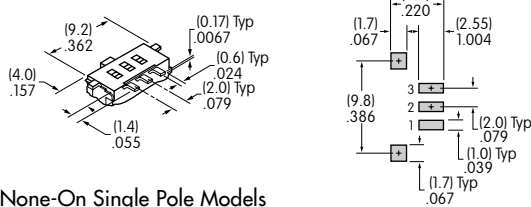
On-None-On Double Pole Models  
Illuminated Models



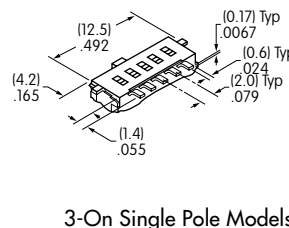
3-on Models

### For SMD

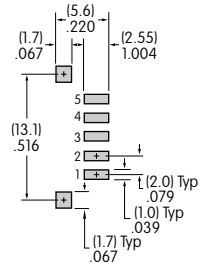
**A** Metric 2.0mm with Black Base



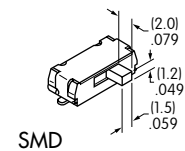
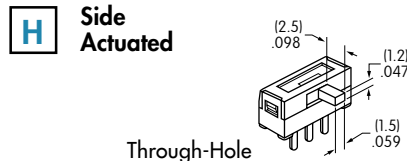
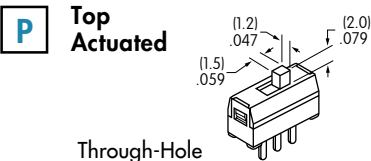
On-None-On Single Pole Models



3-On Single Pole Models



## ACTUATION





## CONTACT MATERIALS & RATINGS

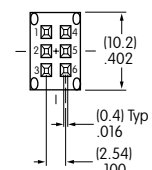
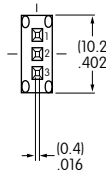
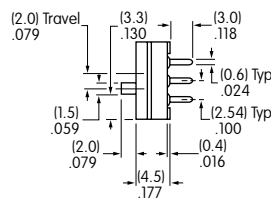
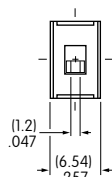
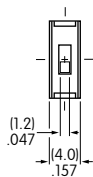
<b>2</b>	Silver over Brass	Power Level	0.1A @ 30V DC
<b>4</b>	Gold over Brass	Logic Level	0.4VA max. @ 28V AC/DC

Note: See [Supplement Index](#) to find complete explanation of operating range.

## TYPICAL SWITCH DIMENSIONS

### Top Actuated

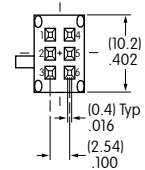
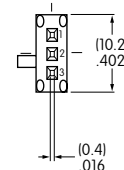
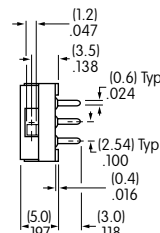
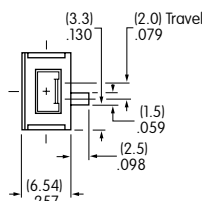
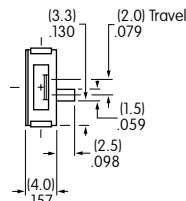
### Single & Double Pole



SS12SDP2

### Side Actuated

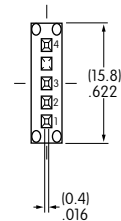
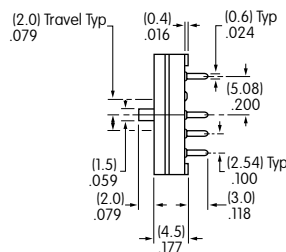
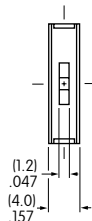
### Single & Double Pole



SS12SDH2

### 3-On Circuit • Top Actuated

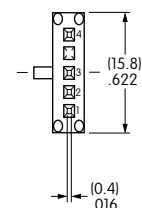
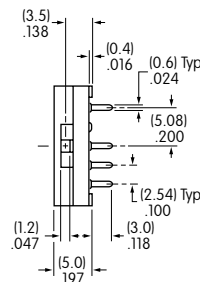
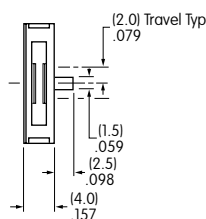
### Single Pole



SS14SDP2

### 3-On Circuit • Side Actuated

### Single Pole



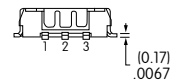
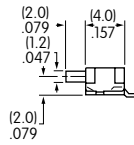
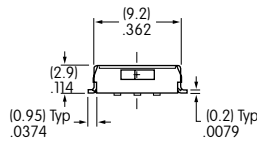
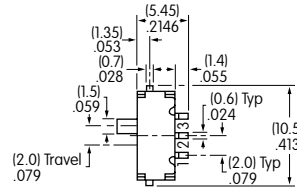
SS14SDH2



### TYPICAL SWITCH DIMENSIONS

Side Actuated • SMD

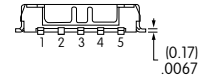
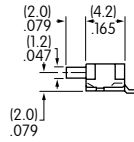
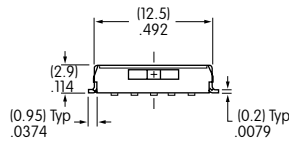
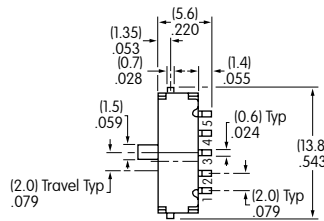
Single Pole



SS312SAH4

3-On Circuit • Side Actuated • SMD

Single Pole



SS314SAH4

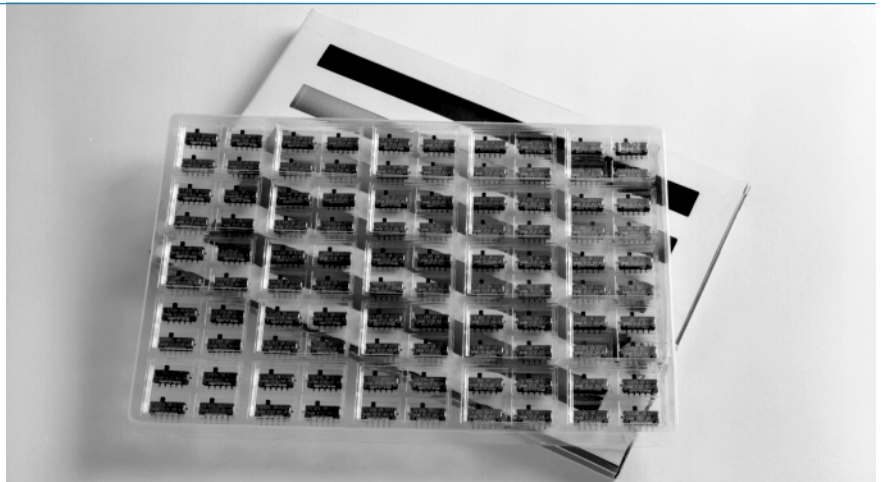
### PACKAGING FOR SURFACE MOUNT DEVICES

#### Tray Packaging

No Code

#### Partitioned Tray

If the SS3 is ordered in less than 500-piece increments, the switches are packaged in a partitioned tray. No code is required.



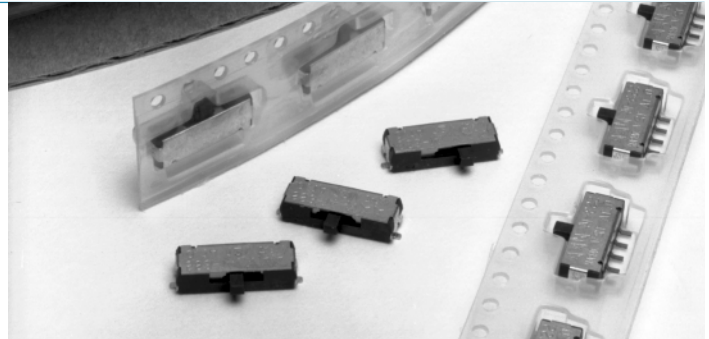
## PACKAGING FOR SURFACE MOUNT DEVICES (CONTINUED)

### Tape-Reel Packaging



#### Tape-Reel Packaging

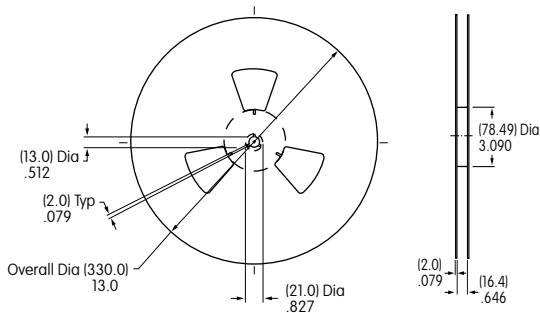
Switches must be ordered in 500-piece increments when tape-reel packaging is selected.



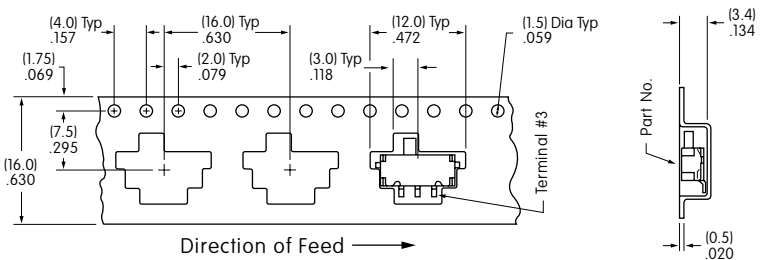
#### Tape Reel Packaging for SS312SAH4

Each tape-reel of 530 pockets contains 500 switches.

Minimum Leader Length: 304mm (11.97") Minimum Trailer Length: 176mm (6.93")



Reel Dimensions

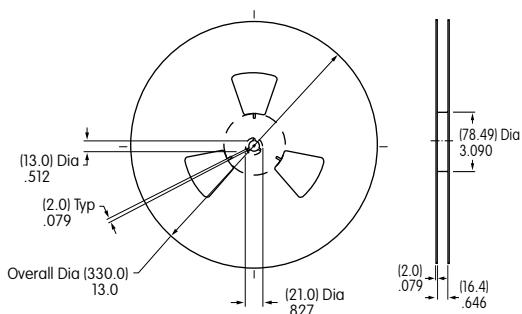


Tape Dimensions

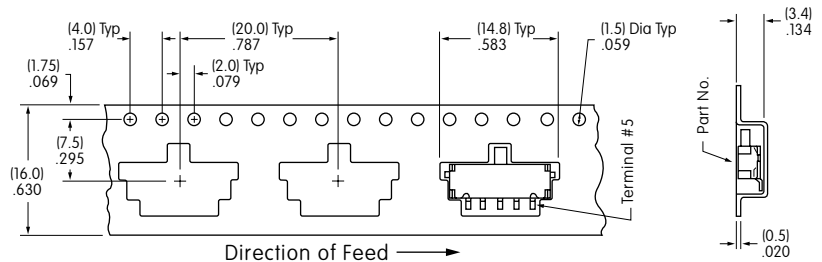
#### Tape Reel Packaging for SS314SAH4

Each tape-reel of 530 pockets contains 500 switches.

Minimum Leader Length: 380mm (14.96") Minimum Trailer Length: 220mm (8.66")



Reel Dimensions



Tape Dimensions



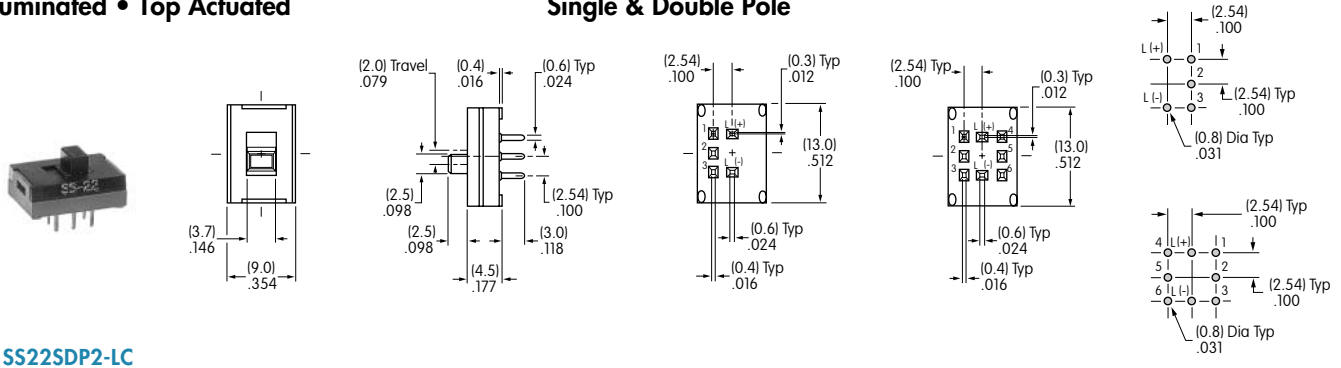
# Series SS

PCB Mount Ultra-Miniature Slide Switches

## TYPICAL SWITCH DIMENSIONS

### Illuminated • Top Actuated

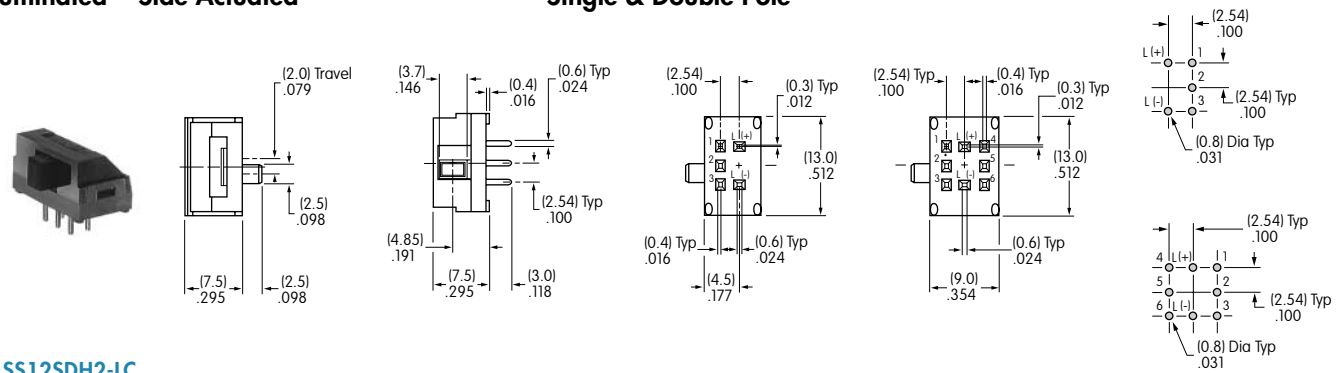
### Single & Double Pole



SS22SDP2-LC

### Illuminated • Side Actuated

### Single & Double Pole



SS12SDH2-LC

## LED COLORS & SPECIFICATIONS

Electrical specifications are determined at a basic temperature of 25°C.

Lamp circuit is independent of switch operation.

If the source voltage is greater than the LED's rated voltage, a ballast resistor must be connected in series with the LED.

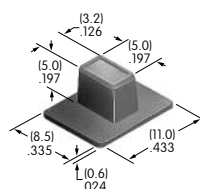
See [Supplement Index](#) for calculating ballast resistor value.

Single Element LED		C	E	F
		Red	Yellow	Green
Forward Peak Current	$I_{FM}$	20mA	20mA	20mA
Continuous Forward Current	$I_F$	16mA	16mA	16mA
Forward Voltage	$V_F$	2.07V	2.15V	2.16V
Reverse Peak Voltage	$V_{RM}$	3V	4V	4V
Current Reduction Rate Above 25°C	$\Delta I_F$	0.27mA/°C	0.27mA/°C	0.27mA/°C

## OPTIONAL CAP

### AT4065 Slide Cap for Illuminated Models

Material: Polycarbonate  
Cap can be assembled on request.  
Cap Color: Black only



Window color should match LED color:

Colors Available:

- C Red
- E Yellow
- F Green