SIP Switch

SX Series

**SIPSwitch** 

Through Hole

2, 4, 6,8, 10P

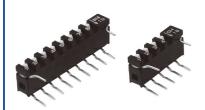


## **Outline of the Series**

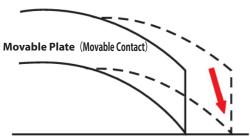
This is a SIP switch with an ultra-thin profile, reducing the mounting width to half that of our conventional DIP products.

## **Features of the Series**

- 1. The knife-edge, high-pressure contact mechanism ensures stable connection even at micro-current levels.
- 2. A click mechanism has been incorporated into the operating structure to provide a crisp and tactile clicking feel.
- 3. The switch is fully washable.

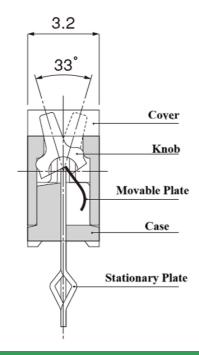


# **■** Knife-edge High-pressure Contact



Fixed Plate (Fixed Contact)

The knife-shaped tip of the movable contact penetrates into the fixed contact, providing a contact structure that is highly resistant to surface contamination and foreign particles.



### **Common Specifications**

Ratings	DC5V 10mA	
Contact Resistance	300 mΩ Max. (Initial value)	
Withstanding Voltage	AC300V 1 Minute	
Insulating Resistance	100MΩMin.	
Electrical Life	1,000 times	
Operating Temperature Range	-30°C∼ +60°C	
Storage Temperature Range	-30°C∼ +80°C	
Operating Force	5.9N Max.	

Part Name	Materials	Finish		
Knob	Heat-resistant Polyamide	White		
Cover	PBT	Black		
Case	PPS	Black		
Movable Plate (Movable Contact)	Copper Alloy	Gold Flash		
Fixed Plate(Fixed Contact)	Copper Alloy	Gold Flash		
Terminals	Copper Alloy	Gold Flash		
Hand-soldering Conditions	Tipping Temp. 32	Tipping Temp. 320°C Max. 4±1 sec.		
Flow Soldering Conditions	Pre-heat $100 \sim 105^{\circ}$ C $30 \pm 5$ sec. Solder Temp. $265 \pm 3^{\circ}$ C $8 \pm 2$ sec.			

**Specifications of Materials** 

\* For products other than those listed above or for custom items, please

contact us.

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# **Product Designations** Directions of **Series Name** Poles 8

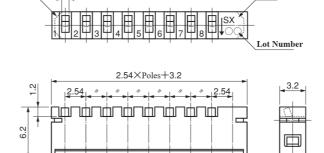
Directions of Terminals Н Horizontal

\* The terminal shape symbol and the last digit of the number of poles are not indicated on the product.

2, 4, 6,8, 10P

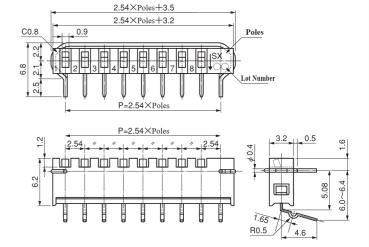
#### **Standard Dimensions**

# Vertical Type SXV □□

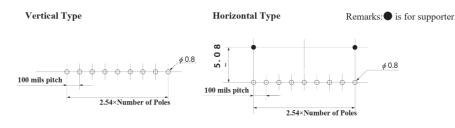


P=2.54×Poles

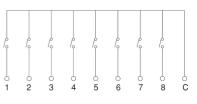
# **Horizontal Type SXH**



# **Mounting Hole Dimensions**



# **Circuit Diagram**



(Number of Poles plus Common Terminal)

2

(Number of Holes = Number of Poles + 1)

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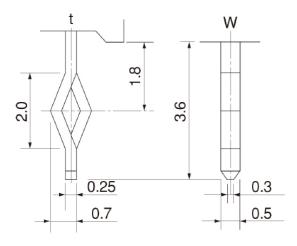
SX Series

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Through Hole

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# **PCB Terminal**



## **Quantity in each Package**

Poles Q'ty in1Magazine (pcs)		SXV		sxн	
	Number of Magazines in 1 Box (sticks)	Total Q'ty per 1 box (pcs)	Q'ty in 1 Magazine (pcs)	Total Q'ty per 1 box (pcs)	
2	50	100	5,000	70	3,500
4	30	100	3,000	70	2,100
6	25	100	2,500	70	1,750
8	20	100	2,000	70	1,400
10	15	100	1,500	70	1,050

## **Cautions on Handling Products**

- 1. Cleaning agents such as alcohol-based, petroleum-based, ketone-based, and chlorine-based solvents can be used.
- 2. The positions of Knobs are set to OFF upon Delivery. Please keep these positions during mounting, soldering, and washing.
- 3. These Products are RoHS compliant.

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SX SIP Switch Series

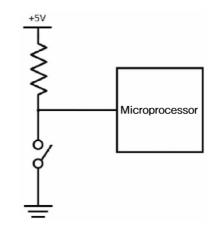
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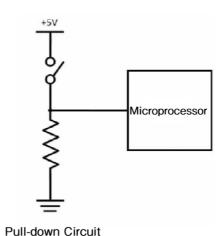
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#### **Tips for Switches**

#### Pull-up and Pull-down of a microprocessor



Pull-up Circuit



OTAX Co., Ltd.

1215, Nippacho, Kohoku-ward,

As a fundamental concept of microprocessors, one of the common stumbling blocks when first creating circuits using a microprocessor is understanding pull-up and pull-down resistors. As you may know, microprocessors operate using digital control with two values: High (1) and Low (0). Typically, the High level is connected to a power supply voltage known as Vdd (e.g., 5V, 3.3V, 1.7V, etc.). On the other hand, assuming that an unconnected pin will naturally be Low (0) is, in a sense, incorrect. This is because when a microprocessor's pin is left unconnected, it is said to be "floating" or in a "Hi-Z (high impedance)" state, which is electrically unstable and prone to noise and interference.

Therefore, it is standard practice to connect each pin to either the power supply (Vdd) or ground (Vss) through a resistor. When connected to Vdd, this is called a "pullup" (which sets the default state to High), and when connected to Vss, it is called a "pull-down" (which sets the default state to Low). This approach electrically forces each pin into either the High or Low state.

Incidentally, in the case of a pull-up configuration, if a DIP switch is connected, turning the switch ON connects the line to ground, resulting in a digital Low (0). When the switch is OFF, the line remains pulled up to High (1).

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