

Long life recoil type meeting more compact and low-profile needs



Detector

Slide

Push

Rotary

Power

Dual-in-line Package Type

Small size General Use Type

Big size General Use Type



### Typical Specifications

Items		Specifications
Rating (max.)/(min.) (Resistive load)		10mA 5V DC / 50μA 3V DC
Contact resistance (Initial performance / After lifetime)		200mΩ max. / 500mΩ max.
Operating force		1N (Recoil side) 1.5N (Lock side)
Operating life	Without load	100,000 cycles (Recoil side) 30,000 cycles (Lock side)
	With load	100,000 cycles (Recoil side) 30,000 cycles (Lock side) (10mA 5V DC)

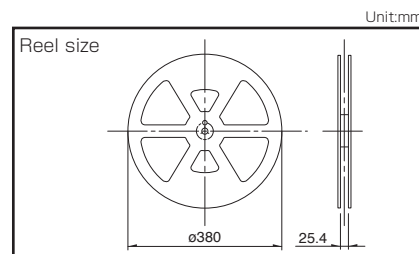
### Product Line

Travel (mm)	Operating section directions	Poles	Positions	Changeover timing	Soldering	Operating	Shape of flame leg	Location lug	Minimum order unit (pcs.)		Products No.	Drawing No.	
									Japan	Export			
1.5	Horizontal	1	3	Not specified	Reflow	Left-side recoil	For PC board insert	Without	4,000	16,000	<b>SSAG130100</b>	1	
								With			<b>SSAG130200</b>		
							Flat	Without			<b>SSAG130300</b>	2	
								With			<b>SSAG130400</b>		
							Right-side recoil	For PC board insert			Without	<b>SSAG230100</b>	3
											With	<b>SSAG230200</b>	
						Flat		Without			<b>SSAG230300</b>	4	
								With			<b>SSAG230400</b>		
						Double-side recoil		For PC board insert			Without	<b>SSAG330100</b>	5
											With	<b>SSAG330200</b>	
							Flat	Without			<b>SSAG330300</b>	6	
								With			<b>SSAG330400</b>		

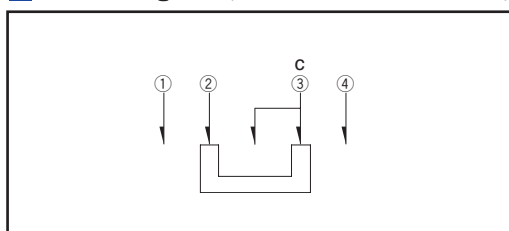
### Packing Specifications

Taping

Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case /Japan	1 case /export packing		
4,000	8,000	16,000	24	428×413×172

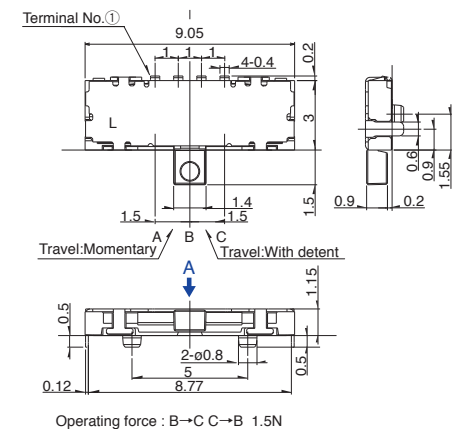
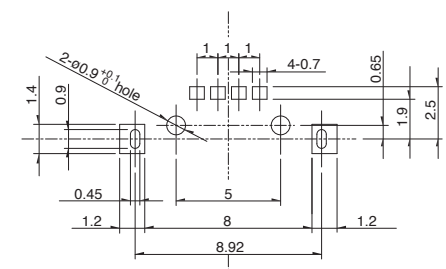
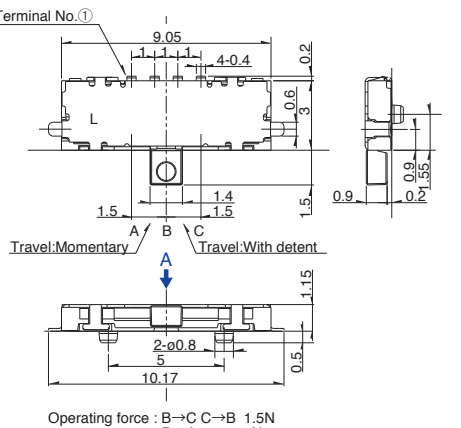
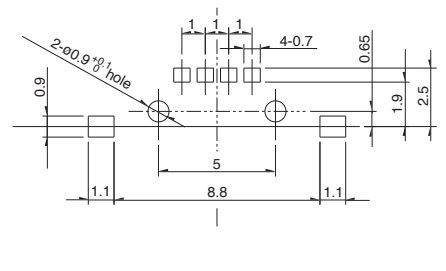
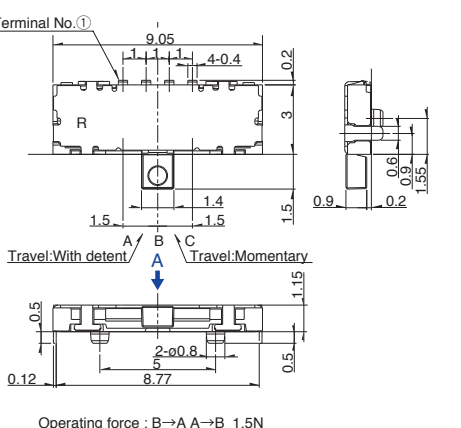
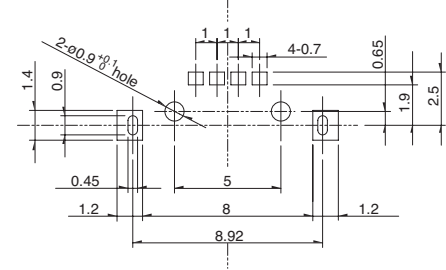


### Circuit Diagram (Viewed from Direction A)



Dimensions

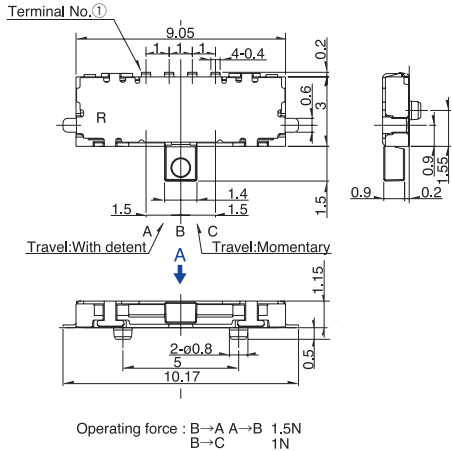
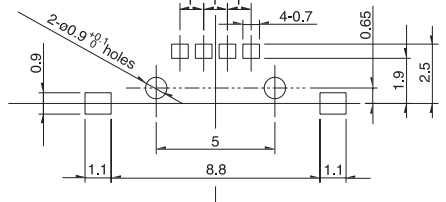
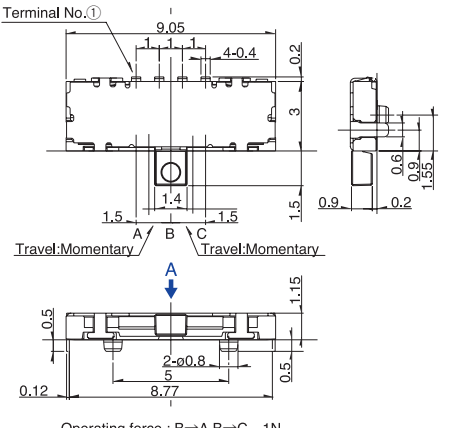
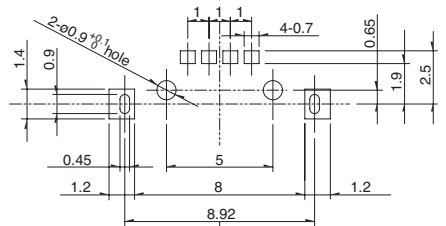
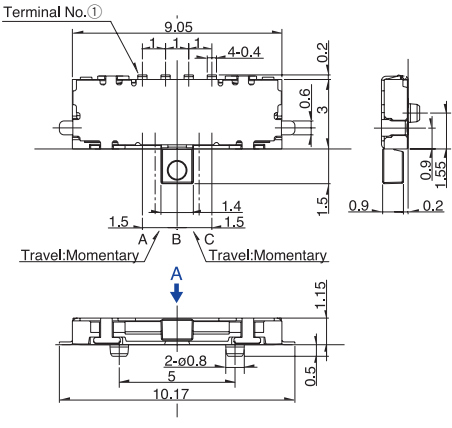
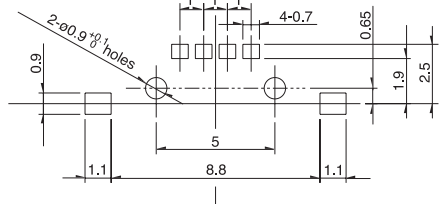
Unit:mm

No.	Style	PC board mounting hole and land dimensions (Viewed from the direction A)
1	<p><b>With boss</b></p>  <p>Terminal No.①</p> <p>9.05, 4-0.4, 0.2, 1.5, 1.4, 1.5, 1.5, 0.9, 0.6, 0.9, 1.55, 3, 0.2</p> <p>Travel: Momentary / A B C / Travel: With detent</p> <p>Operating force : B→C C→B 1.5N B→A 1N</p>	 <p>2-φ0.9<sup>+0.1</sup> hole</p> <p>1.4, 0.9, 1.1, 1, 1, 4-0.7, 0.65, 1.9, 2.5, 0.45, 5, 8, 1.2, 8.92</p>
2	<p><b>With boss</b></p>  <p>Terminal No.①</p> <p>9.05, 4-0.4, 0.2, 1.5, 1.4, 1.5, 1.5, 0.9, 0.6, 0.9, 1.55, 3, 0.2</p> <p>Travel: Momentary / A B C / Travel: With detent</p> <p>Operating force : B→C C→B 1.5N B→A 1N</p>	 <p>2-φ0.9<sup>+0.1</sup> hole</p> <p>0.9, 1.1, 1, 1, 4-0.7, 0.65, 1.9, 2.5, 5, 8.8, 1.1</p>
3	<p><b>With boss</b></p>  <p>Terminal No.①</p> <p>9.05, 4-0.4, 0.2, 1.5, 1.4, 1.5, 1.5, 0.9, 0.6, 0.9, 1.55, 3, 0.2</p> <p>Travel: With detent / A B C / Travel: Momentary</p> <p>Operating force : B→A A→B 1.5N B→C 1N</p>	 <p>2-φ0.9<sup>+0.1</sup> hole</p> <p>1.4, 0.9, 1.1, 1, 1, 4-0.7, 0.65, 1.9, 2.5, 0.45, 5, 8, 1.2, 8.92</p>

Detector  
Slide  
Push  
Rotary  
Power  
Dual in-line  
Package Type  
Small size  
General Use type  
Big size  
General Use type

Dimensions

Unit:mm













No.	Style	PC board mounting hole and land dimensions (Viewed from the direction A)
4	<p><b>With boss</b></p>  <p>Terminal No.①</p> <p>9.05 4-0.4 0.2 0.6 3 1.5 1.4 1.5 1.5 0.9 0.9 0.2 1.56</p> <p>Travel: With detent A B C Travel: Momentary</p> <p>Operating force : B→A A→B 1.5N B→C 1N</p>	 <p>2-ø0.9±0.1 holes</p> <p>0.9 1.1 5 8.8 1.1 4-0.7 0.65 1.9 2.5</p>
5	<p><b>With boss</b></p>  <p>Terminal No.①</p> <p>9.05 4-0.4 0.2 0.6 3 1.5 1.4 1.5 1.5 0.9 0.6 0.2 1.56</p> <p>Travel: Momentary A B C Travel: Momentary</p> <p>Operating force : B→A B→C 1N</p>	 <p>2-ø0.9±0.1 hole</p> <p>1.4 0.9 0.45 1.2 5 8 8.92 1.2 4-0.7 0.65 1.9 2.5</p>
6	<p><b>With boss</b></p>  <p>Terminal No.①</p> <p>9.05 4-0.4 0.2 0.6 3 1.5 1.4 1.5 1.5 0.9 0.9 0.2 1.56</p> <p>Travel: Momentary A B C Travel: Momentary</p> <p>Operating force : B→A B→C 1N</p>	 <p>2-ø0.9±0.1 holes</p> <p>0.9 1.1 5 8.8 1.1 4-0.7 0.65 1.9 2.5</p>

Note

Dimensions drawing is for type with location lugs.

# Slide Switches

## List of Varieties

Series		SSAJ	SSAH	SSSS8	SSAL	SSAG	SSSS7
Photo							
Actuator direction	Horizontal	●	●	●	●	●	●
	Vertical	—	—	●	—	—	—
Poles-positions	1-2	●	—	●	●	—	●
	1-3	—	●	●	—	●	●
	1-4	—	—	—	—	—	—
	2-2	—	—	●	—	—	—
	2-3	—	—	●	—	—	—
	2-4	—	—	—	—	—	—
	4-2	—	—	—	—	—	—
Travel (mm)		1.4	1.5	1.5, 2	2	1.5	2
Operating temperature range		-10°C to +60°C	-30°C to +60°C	-40°C to +85°C	-10°C to +60°C		-40°C to +85°C
Automotive use		—	—	—	—	—	—
Life cycle							
Rating (max.) (Resistive load)		10mA 5V DC	1mA 5V DC	0.3A 5V DC	10mA 5V DC		0.3A 4V DC
Rating (min.) (Resistive load)		50μA 3V DC					
Durability	Operating life without load	10,000 cycles 500mΩ max.	10,000 cycles 300mΩ max.	10,000 cycles 100mΩ max.	100,000 cycles 10Ω max.	30,000 cycles (Lock side) 100,000 cycles (Recoil side) 500mΩ max.	10,000 cycles 100mΩ max.
	Operating life with load Load: as rating			10,000 cycles 130mΩ max.			
Electrical performance	Initial contact resistance	300mΩ max.	200mΩ max.	70mΩ max.	10Ω max.	200mΩ max.	70mΩ max.
	Insulation resistance	100MΩ min. 100V DC					
	Voltage proof	100V AC for 1minute					
Mechanical performance	Terminal strength	3N for 1minute					
	Actuator strength	Operating direction	10N				
Pulling direction							
Environmental performance	Cold	-40°C 96h		-40°C 500h	-40°C 96h		-20°C 500h
	Dry heat	85°C 96h		85°C 500h	85°C 96h		85°C 500h
	Damp heat	40°C, 90 to 95%RH 96h	60°C, 90 to 95%RH 240h	60°C, 90 to 95%RH 500h	40°C, 90 to 95%RH 96h		60°C, 90 to 95%RH 500h
Page		77	79	81	84	86	89

Slide Switches Soldering Conditions	113
Slide Switches Cautions	114

### Note

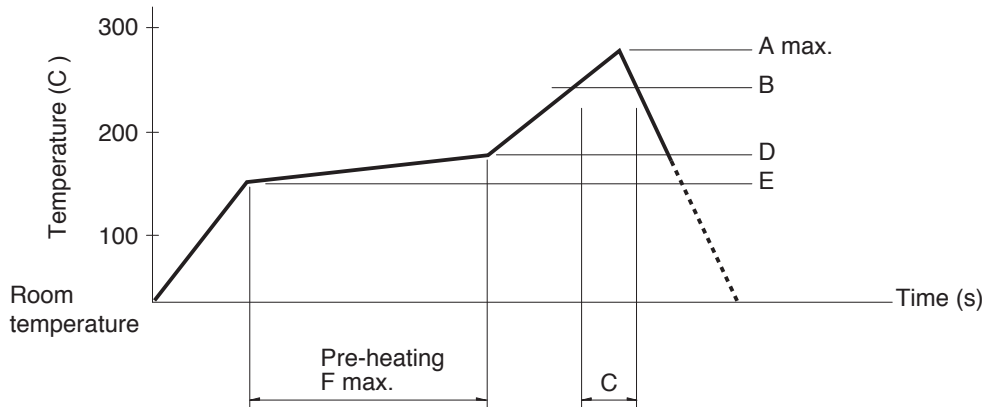
● Indicates applicability to all products in the series.

Detector  
Slide  
Push  
Rotary  
Power  
Dual-In-line Package Type  
Small size General Use Type  
Big size General Use Type

# Slide Switches Soldering Conditions

## Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple  $\phi$  0.1 to 0.2 CA (K) or CC (T) at soldering portion (copper foil surface).  
A heat resisting tape should be used for fixed measurement.
3. Temperature profile



Series (Reflow type)		A (°C) 3s max.	B (°C)	C (s)	D (°C)	E (°C)	F (s)
SSSS2	Vertical 1-pole, 3-position	260	230	40	180	150	120
	Horizontal 1-pole, 2-position 1-pole, 3-position 2-pole, 3-position						
	Vertical 1-pole, 2-position	250					
SSSS7		260					
SSAH, SSAG, SSAJ, SSAL, SSSS8		260					

## Notes

1. The condition mentioned above is the temperature on the mounting surface of a PC board. There are cases where the PC board's temperature greatly differs from that of the switch, depending on the PC board's material, size, thickness, etc. The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.

## Reference for Hand Soldering

Series	Soldering temperature	Soldering time
SSSF, SSSU	350±10°C	3+1/0s
SSSS2	350±10°C	4s max.
SSSS9	350±10°C	3s max.
SSAH, SSAG, SSAJ, SSAL	350±5°C	3s max.
SSSS8	330±5°C	3s max.
SSSS7	320±5°C	3s max.
SSAC	300±10°C	2s max.

## Reference for Dip Soldering

(For PC board terminal types)

Series	Items		Dip soldering	
	Preheating temperature	Preheating time	Soldering temperature	Duration of immersion
SSSS2	100°C max.	60s max.	260±5°C	3±1s
SSSS9	120°C max.	60s max.	260±5°C	5+0/-1s (2 times)
SSSF, SSSU	100°C max.	60s max.	260±5°C	10±1s/5±1s
SSAC	100°C max.	60s max.	260±5°C	5±1s