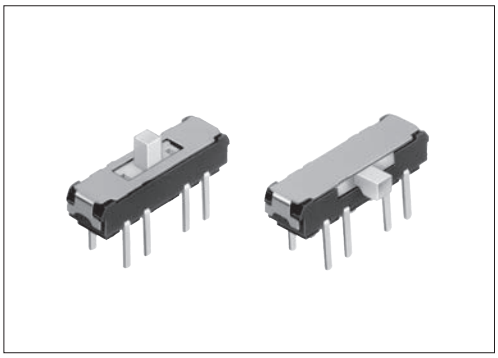
SSSS2 3.5(H)mm, 2mm-travel Type

Excellent application for designing compact and high density portable devices



Typical Specifications

Items		Specifications
Rating (max.)/(min.) (Resistive load)		0.3A 6V DC / 50μA 3V DC
Contact resistance (Initial performance / After lifetime)		70mΩ max. / 130mΩ max.
Operating force		Refer to the dimensions.
Operating life	Without load	10,000 cycles※
	With load	10,000 cycles (0.3A 6V DC)※

Note ※ Operating life for SSSS213202 is 100 cycles

Product Line

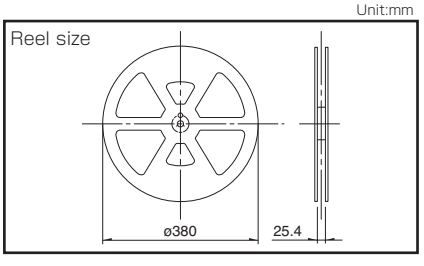
Travel (mm)	Actuator direction	Actuator length (mm)	Poles	Positions	Changeover timing	Soldering	Minimum order unit (pcs.) Japan	Minimum order unit (pcs.) Export	Products No.	Drawing No.
2	Vertical	2	1	2	Non shorting	Manual, Dip	100	10,000	**SSSS213000**	1
				3					**SSSS211900**	2
			2	2					**SSSS222700**	3
				3					**SSSS223600**	4
			1	2		Reflow	12,00	4,800	**SSSS213202**	5
				3			1,000	4,000	**SSSS212901**	6
	Horizontal		1	2		Manual, Dip	100	10,000	**SSSS213100**	7
				3					**SSSS212200**	8
				4					**SSSS212400**	9
			2	2					**SSSS223200**	10
				3					**SSSS223900**	11
				4					**SSSS224100**	12
			1	2		Reflow	1,400	5,600	**SSSS211603**	13
				3					**SSSS212301**	14
			2						**SSSS224001**	15

Packing Specifications

Taping

Product No.	Number of packages (pcs.) 1 reel	1 case /Japan	1 case /export packing	Tape width (mm)	Export package measurements (mm)
SSSS213202	1,200	2,400	4,800	24	428×413×172
SSSS212901	1,000	2,000	4,000		406×406×190
SSSS211603 SSSS212301 SSSS224001	1,400	2,800	5,600		

Unit:mm



Bulk

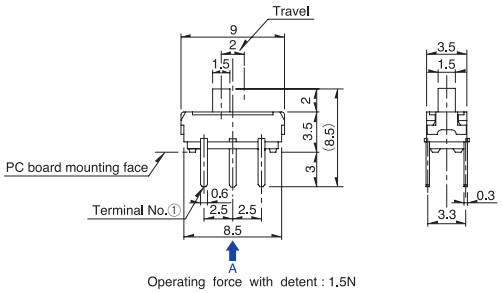
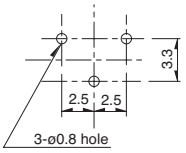
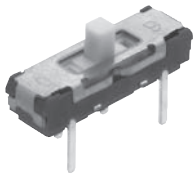
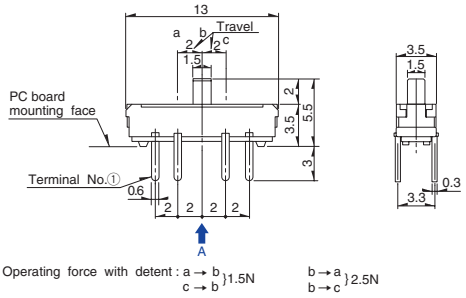
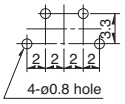
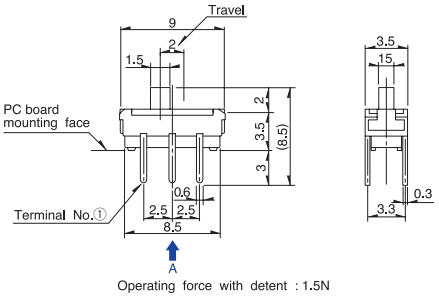
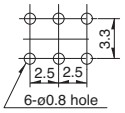
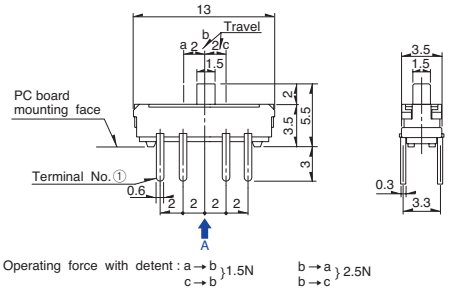
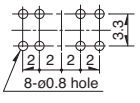
Product No.	Number of packages (pcs.) 1 case /Japan	1 case /export packing	Export package measurements (mm)
SSSS211900, SSSS212200, SSSS212400, SSSS213000, SSSS213100, SSSS222700, SSSS223200, SSSS223600, SSSS223900, SSSS224100	2,000	10,000	400×270×290

Refer to P.111 for soldering conditions.

Dimensions

Vertical Actuator Type

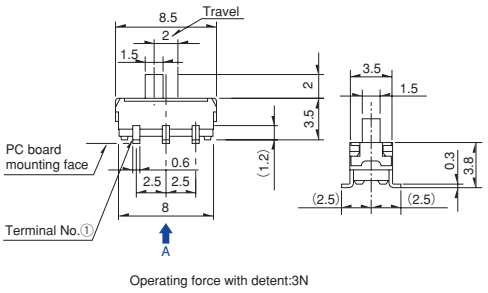
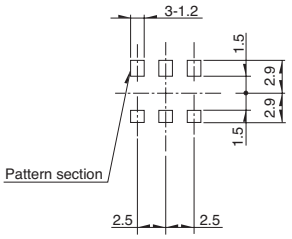
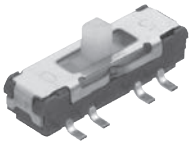
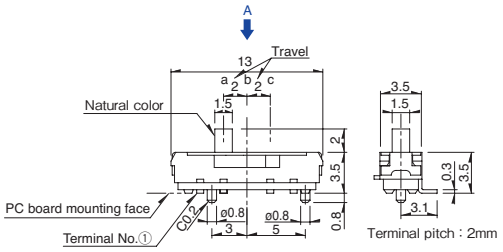
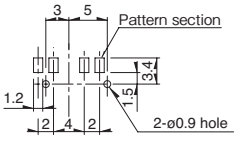
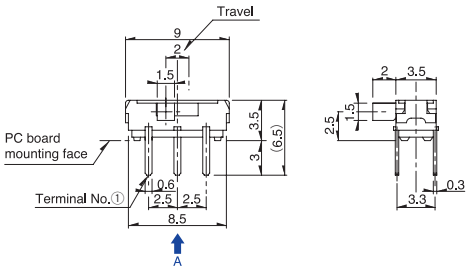
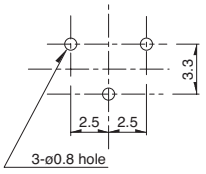
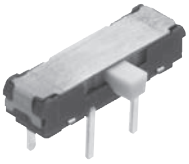
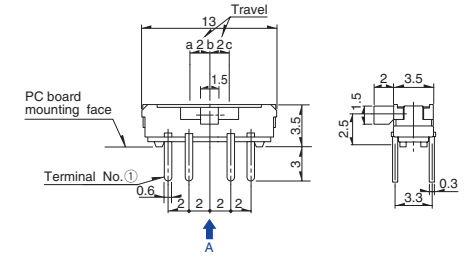
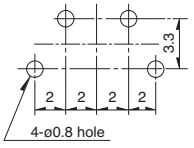
Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from direction A)
1	**1-pole, 2-position** 		
2	**1-pole, 3-position** 		
3	**2-pole, 2-position** 		
4	**2-pole, 3-position** 		

Dimensions

Vertical Actuator Type/Horizontal Actuator Type

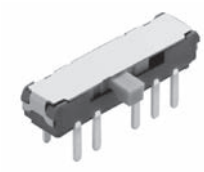
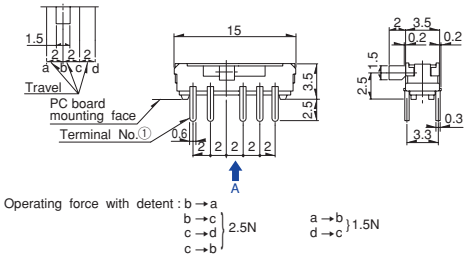
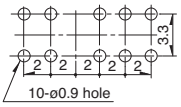
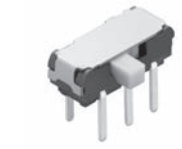
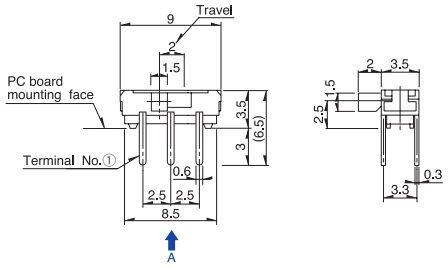
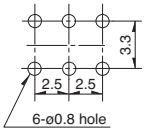
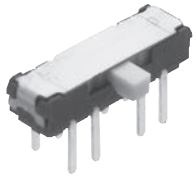
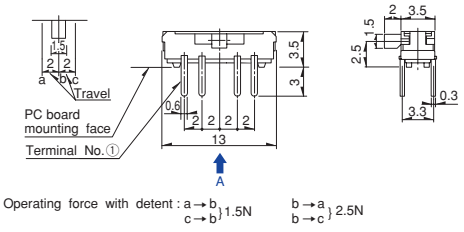
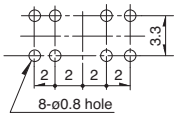
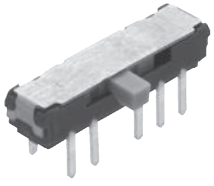
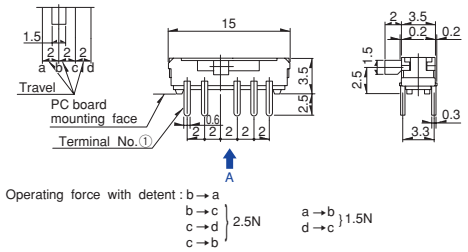
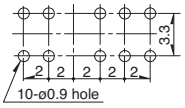
Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from direction A)
5	**1-pole, 2-position Reflow** 	 Operating force with detent:3N	
6	**1-pole, 3-position Reflow** 	 Terminal pitch : 2mm Operating force with detent : a → b, c → b }1.5N b → a, b → c }2.5N	
7	**1-pole, 2-position** 	 Operating force with detent : 1.5N	
8	**1-pole, 3-position** 	 Operating force with detent : a → b, c → b }1.5N b → a, b → c }2.5N	

Dimensions

Horizontal Actuator Type

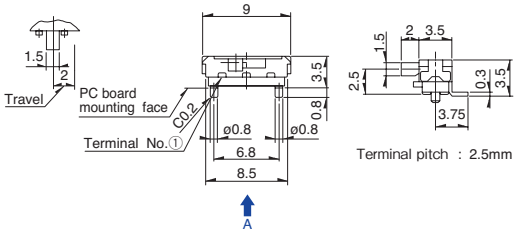
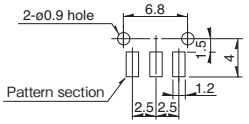
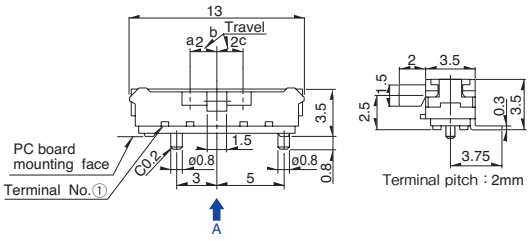
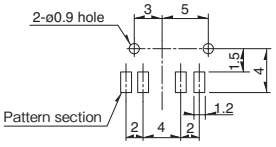
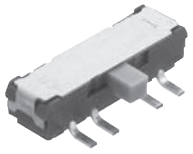
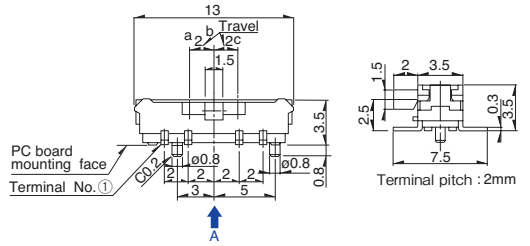
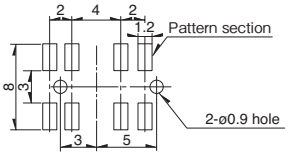
Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from direction A)
9	**1-pole, 4-position** 		
10	**2-pole, 2-position** 		
11	**2-pole, 3-position** 		
12	**2-pole, 4-position** 		

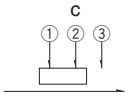
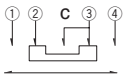
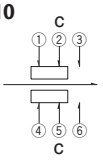
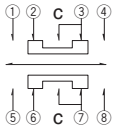
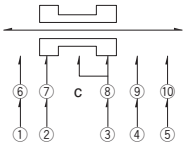
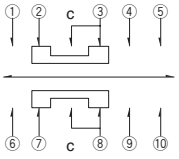
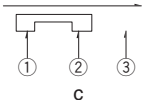
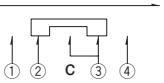
Dimensions

Horizontal Actuator Type/Reflow Type

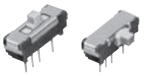
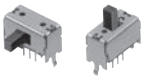
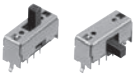
Unit:mm

No.	Photo	Style	PC board mounting hole and land dimensions (Viewed from direction A)
13	**1-pole, 2-position** 	 Operating force with detent : 1.5N	
14	**1-pole, 3-position** 	 Operating force with detent : a→b, c→b } 1.5N b→a, b→c } 2.5N	
15	**2-pole, 3-position** 	 Operating force with detent : a→b, c→b } 1.5N b→a, b→c } 2.5N	

Circuit Diagram (Viewed from Direction A)

1-pole, 2-position **Drawing No.1, 5, 7** 	**1-pole, 3-position** **Drawing No.2, 6, 8** 	**2-pole, 2-position** **Drawing No.3, 10** 
2-pole, 3-position **Drawing No.4, 11, 15** 	**1-pole, 4-position** **Drawing No.9** 	**2-pole, 4-position** **Drawing No.12** 
1-pole, 2-position **Drawing No.13** 	**1-pole, 3-position** **Drawing No.14** 	

List of Varieties

Series			SSSS2※1	SSSS9	SSAC	SSSF※2	SSSU※2
Photo							
Actuator direction	Horizontal		●	●	●	●	●
	Vertical		●	●	—	●	●
Poles-positions	1-2		●	●	—	●	●
	1-3		●	●	—	●	●
	1-4		●	—	—	—	—
	2-2		●	●	●	●	●
	2-3		●	●	●	●	●
	2-4		●	—	—	—	—
	4-2		—	—	—	●	●
Travel (mm)			2	2	1.5	2	3
Operating temperature range			−40℃ to +85℃		−10℃ to +60℃	−40℃ to +85℃	
Automotive use			—	—	—	—	—
Life cycle			★3	★3	★3	★3	★3
Rating (max.) (Resistive load)			0.3A 6V DC	0.1A 12V DC	1mA 5V DC	0.1A 30V DC	
Rating (min.) (Resistive load)			50μA 3V DC	1mA 5V DC	50μA 3V DC	10μA 1V DC	
Durability	Operating life without load		10,000 cycles 100mΩ max.※1	10,000 cycles 60mΩ max.	10,000 cycles 200mΩ max.	10,000 cycles 45mΩ max.	
	Operating life with load Load: as rating		10,000 cycles 130mΩ max.※1	10,000 cycles 80mΩ max.		10,000 cycles 65mΩ max.	
Electrical performance	Initial contact resistance		70mΩ max.	30mΩ max.	100mΩ max.	25mΩ max.	
	Insulation resistance		100MΩ min. 500V DC		100MΩ min. 100V DC	100MΩ min. 500V DC	
	Voltage proof		500V AC for 1minute		100V AC for 1minute	500V AC for 1minute	
Mechanical performance	Terminal strength		3N for 1minute		5N for 1minute		
	Actuator strength	Operating direction	20N	30N	5N	30N	
		Pulling direction	10N				
Environmental performance	Cold		−20℃ 500h	−40℃ 500h	−20℃ 96h	−40℃ 500h	
	Dry heat		85℃ 500h		85℃ 96h	85℃ 500h	
	Damp heat		60℃, 90 to 95%RH 500h		40℃, 90 to 95%RH 96h	60℃, 90 to 95%RH 500h	
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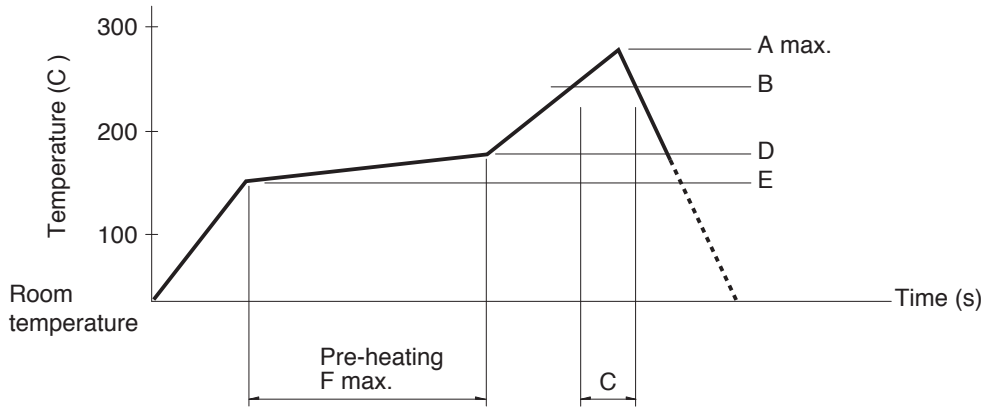
Slide Switches Soldering Conditions · · ·

Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple ϕ 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 (℃) 3s max.	B (℃)	C (s)	D (℃)	E (℃)	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								
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℃	3+1/0s
SSSS2	350±10℃	4s max.
SSSS9	350±10℃	3s max.
SSAH, SSAG, SSAJ, SSAL	350±5℃	3s max.
SSSS8	330±5℃	3s max.
SSSS7	320±5℃	3s max.
SSAC	300±10℃	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℃ max.	60s max.	260±5℃	3±1s
SSSS9	120℃ max.	60s max.	260±5℃	5+0/-1s (2 times)
SSSF, SSSU	100℃ max.	60s max.	260±5℃	10±1s/5±1s
SSAC	100℃ max.	60s max.	260±5℃	5±1s