

Slide Switch 3.5(H)mm, 2mm-travel Type SSSS2 Series



Excellent application for designing compact and high density portable devices.

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

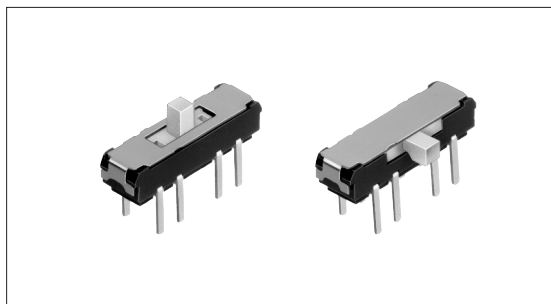
TACT Switch™

Custom-
Products

Small size
General Use type

Big size
General Use type

Other Use type



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	10,000cycles※
	With load	10,000cycles (0.3A 6V DC)※

Note

※Operating life for SSSS213202 is 100 cycles

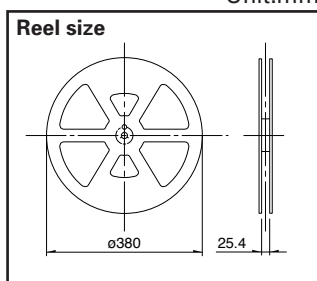
Product Line

Product Line										
Travel (mm)	Actuator direction	Actuator length (mm)	Poles	Positions	Changeover timing	Soldering	Minimum order unit (pcs.)	Products No.	Drawing No.	
2	Vertical	2	1	2	Non shorting	Manual, Dip	10.000	SSSS213000	1	
				3				SSSS211900	2	
			2	2				SSSS222700	3	
				3				SSSS223600	4	
			1	2		Reflow	4.800	SSSS213202	5	
				3			4,000	SSSS212901	6	
	Horizontal			1		2	Manual, Dip	10.000	SSSS213100	7
						3			SSSS212200	8
						4			SSSS212400	9
			2	2		SSSS223200			10	
				3		SSSS223900			11	
				4		SSSS224100			12	
			1	2		Reflow	5.600	SSSS211603	13	
				3				SSSS212301	14	
								2	SSSS224001	15

Packing Specifications

Taping

Unit:mm



Series	Actuator direction		Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
			1 reel	1 case /Japan	1 case /export packing		
SSSS213202	Vertical	1-pole, 2-positions	1,200	2,400	4,800	24	428 × 413 × 172
SSSS212901		1-pole, 3-positions	1,000	2,000	4,000		406 × 406 × 190
SSSS211603	Horizontal		1,400	2,800	5,600		
SSSS212301							
SSSS224001							

Bulk

Series	Number of packages (pcs.)		Export package measurements (mm)
	1 case /Japan	1 case /export packing	
SSSS211900,SSSS212200,SSSS212400,SSSS213000,SSSS213100,SSSS222700,SSSS223200,SSSS223600,SSSS223900,SSSS224100	2,000	10,000	400 × 270 × 290

Notes

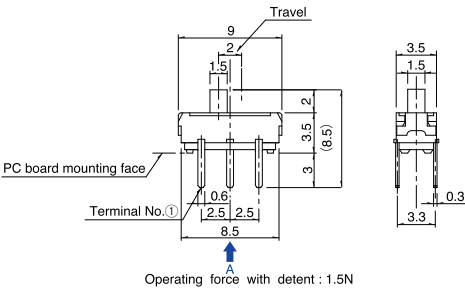
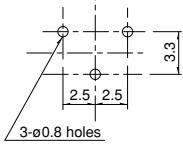
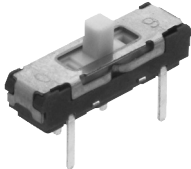
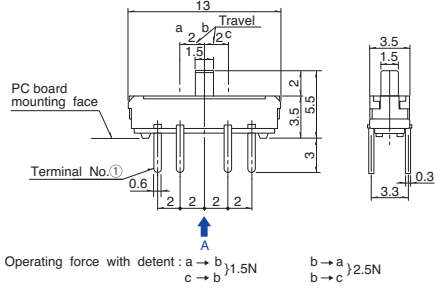
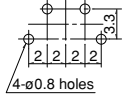
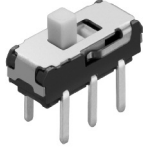
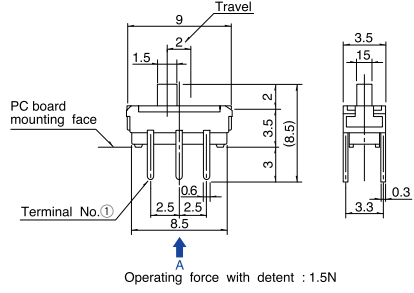
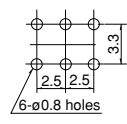
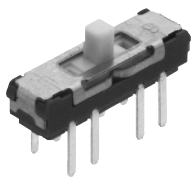
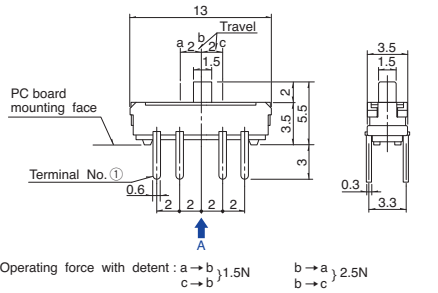
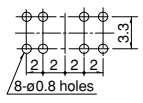
- Products other than those listed in the above chart are also available. Please contact us for details.
- Please place purchase orders per minimum order unit N (integer).

Refer to P.175 for soldering conditions.

■ Dimensions

Vertical Actuator Type

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from direction A)
1			
2			
3			
4			

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Dimensions

Horizontal Actuator Type

Unit:mm

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

■ Dimensions

Horizontal Actuator Type

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from direction A)
9		Operating force with detent : $\begin{matrix} b \rightarrow a \\ c \rightarrow b \end{matrix} \left. \begin{matrix} a \rightarrow b \\ c \rightarrow d \end{matrix} \right\} 2.5\text{N}$ $\begin{matrix} a \rightarrow b \\ d \rightarrow c \end{matrix} \left. \begin{matrix} b \rightarrow c \\ c \rightarrow d \end{matrix} \right\} 1.5\text{N}$	10-ϕ0.9 holes
10		Operating force with detent : 1.5N	6-ϕ0.8 holes
11		Operating force with detent : $\begin{matrix} a \rightarrow b \\ c \rightarrow b \end{matrix} \left. \begin{matrix} b \rightarrow a \\ c \rightarrow d \end{matrix} \right\} 1.5\text{N}$ $\begin{matrix} b \rightarrow a \\ d \rightarrow c \end{matrix} \left. \begin{matrix} a \rightarrow b \\ c \rightarrow d \end{matrix} \right\} 2.5\text{N}$	8-ϕ0.8 holes
12		Operating force with detent : $\begin{matrix} b \rightarrow a \\ c \rightarrow b \end{matrix} \left. \begin{matrix} a \rightarrow b \\ c \rightarrow d \end{matrix} \right\} 2.5\text{N}$ $\begin{matrix} a \rightarrow b \\ d \rightarrow c \end{matrix} \left. \begin{matrix} b \rightarrow c \\ c \rightarrow d \end{matrix} \right\} 1.5\text{N}$	10-ϕ0.9 holes

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Other Use type

Dimensions

Horizontal Actuator Type, Reflow Type

Unit:mm

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

Circuit Diagram (Viewed from Direction A)

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

List of Varieties

Series		SSAL	SSAJ	SSAG	SSAH	SSSS8	SSSS7 ※1	SSSS2	
Photo									
Outline specifications	Travel (mm)	2	1.4	1.5		1.5 2		2	
	Actuator direction	Horizontal				Vertical Horizontal	Horizontal	Vertical Horizontal	
	Number of poles	1				1 2			
Dimensions (mm)	W	7.6	5.5	9.05	9.5	11.2	8.8	13	
	D	2.6	2.5	3		2.6	3	3.5	
	H	1.2	0.7	1.15	0.9	1.4	2		
Operating temperature range		-10℃ to +60℃			-30℃ to +60℃	-40℃ to +85℃			
Automotive use		—	—	—	—	○	—	—	
Rating (max.) / (min.) (Resistive load)		10mA 5V DC			1mA 5V DC	0.3A 5V DC	0.3A 4V DC	0.3A 6V DC	
		50μA 3V DC							
Electrical performance	Initial contact resistance	10Ω max.	300mΩ max.	200mΩ max.		70mΩ max.			
	Insulation resistance	100MΩ min. 100V DC					100MΩ min. 500V DC		
	Voltage proof	100V AC for 1minute					500V AC for 1minute		
Mechanical performance	Terminal strength	3N for 1minute							
	Actuator strength	Operating direction Pulling direction	10N			10N		20N	
						10N Static force			
Durability	Operating life without load	100,000cycles 10Ω max.	10,000cycles 500mΩ max.	30,000cycles (Lockside) 100,000cycles 500mΩ max. (Recoilside)	10,000cycles 300mΩ max.	10,000cycles 100mΩ max. ※2			
	10,000cycles 130mΩ max. ※2								
Environmental performance	Cold	-40±2℃ for 96h		-20±2℃ for 96h		-40℃±2℃ for 96h	-20℃±2℃ for 96h		
	Dry heat	85±2℃ for 96h							
	Damp heat	40±2℃, 90 to 95%RH for 96h							
Soldering	Manual soldering	350±5℃ 3s max.				300±5℃ 5s max.	300±5℃ 3s max.	350±10℃ 4s max.	
	Dip soldering	—							260±5℃ 3±1s
	Reflow soldering	Please see P.175							
Poles-positions	1-2	●	●	—	—	●	●	●	
	1-3	—	—	●	●	●	●	●	
	1-4	—				●	—	●	
	2-2	—				●	—	●	
	2-3	—				●	—	●	
	2-4	—						●	
	4-2	—							
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Notes

※1. The operating temperature range for automotive applications can be raised upon request. Please contact us for details.

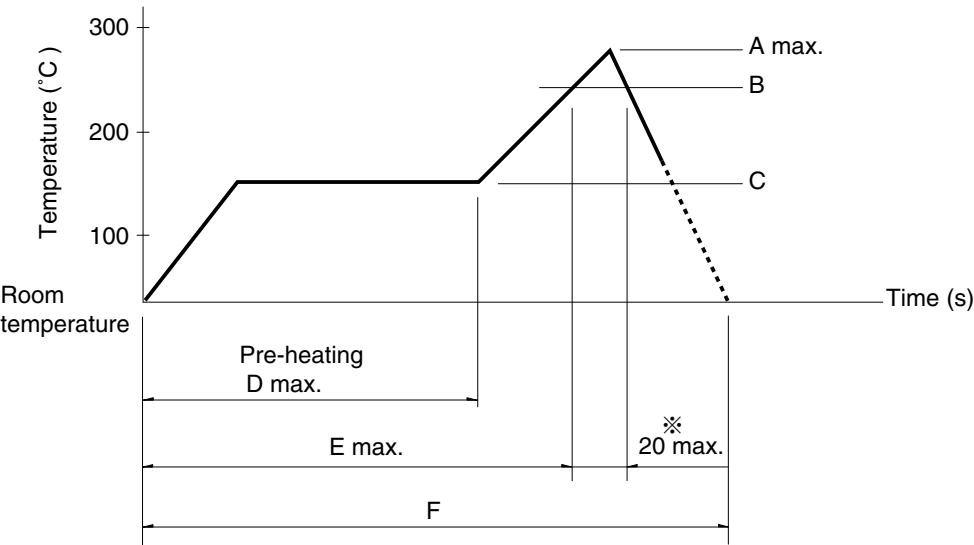
※2. Operating life for SSSS213202 is 100 cycles

3. ○marks in "Available for automotive use" indicate that some of the series products can work at the operating temperature range from -40°C to +85°C.

Soldering Conditions

Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple 0.1 to 0.2 ϕ 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 (°C)	D (s)	E (s)	F (s)			
SSSS2	Vertical	1-pole, 3-positions	250	200	150	120	————	————			
	Horizontal	1-pole, 2-positions									
	Vertical	1-pole, 2-positions	240								
	Horizontal	1-pole, 3-positions 2-poles, 3-positions									
SSSS7			250								
SSAH, SSAG, SSAJ			260	230							
SSSS8	Horizontal	1-pole, 2-positions 1-pole, 3-positions (1.5mm)	255	200							
	Vertical		240	220							

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.
3. ※SSAH and SSAG only 40's.