

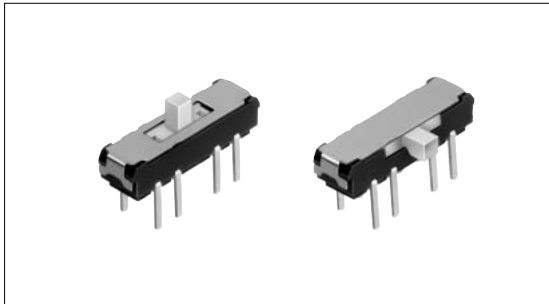
# Slide Switch 3.5(H)mm, 2mm-travel Type

SSSS2 Series



Excellent application for designing compact and high density portable devices.

- Detector
- Push
- Slide**
- Rotary
- Encoders
- Power



## Typical Specifications

Items		Specifications
Rating (max.)/(min.) (Resistive load)		0.3A 6V DC/50μA 3V DC
Contact resistance (Initial performance/After lifetime)		70m max./130m 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

Dual-in-line  
Package Type

TACT Switch™

Custom-  
Products

Small size  
General Use type

Big size  
General Use type

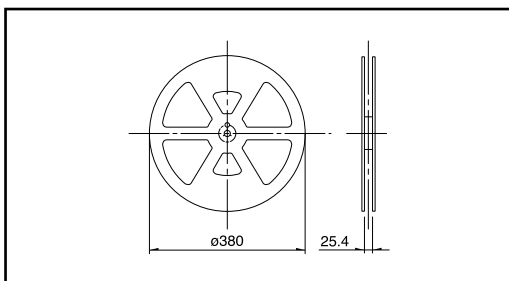
Other Use type

## 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			
			Horizontal	1				2	Reflow	4.800	SSSS213202	5
								3		4,000	SSSS212901	6
	4					10.000	SSSS213100	7				
	2			2			SSSS212200	8				
				3			SSSS212400	9				
				4			SSSS223200	10				
	1			2			Reflow	5.600	SSSS223900	11		
				2					SSSS224100	12		
						3			SSSS211603	13		
	2		3	SSSS212301		14						
	SSSS224001		15									

## Taping Specification (Taping Packaging)

Reel Size Unit:mm



Series		Number of packages (pcs.)			Tape width (mm)
		1 reel	1 case /Japan	1 case /export packing	
Vertical	1-pole, 2-positions	1,200	2,400	4,800	24
	1-pole, 3-positions	1,000	2,000	4,000	
Horizontal		1,400	2,800	5,600	

## Notes

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

**Dimensions**

**Vertical Actuator Type**

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from the direction A)
1		<p>Operating force with detent : 1.5N</p>	
2		<p>Operating force with detent : a → b } 1.5N c → b } b → a } 2.5N b → c }</p>	
3		<p>Operating force with detent : 1.5N</p>	
4		<p>Operating force with detent : a → b } 1.5N c → b } b → a } 2.5N b → c }</p>	
5		<p>Operating force with detent: 3N</p>	
6		<p>Terminal pitch : 2mm</p> <p>Operating force with detent : a → b } 1.5N c → b } b → a } 2.5N b → c }</p>	

Detector

Push

**Slide**

Rotary

Encoders

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## Dimensions

Horizontal Actuator Type

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from the direction A)
7			
8			
9			
10			
11			
12			

**Dimensions**

Horizontal Actuator Type, Reflow Type

Unit:mm

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

Detector

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**Slide**

Rotary

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Custom-  
Products

Small size  
General Use type










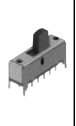
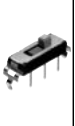


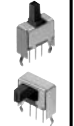
Big size  
General Use type

Other Use type

**Circuit Diagram (Viewed from Direction A)**

<p>1-pole, 2-positions</p>	<p>1-pole, 3-positions</p>	<p>2-poles, 2-positions</p>	<p>2-poles, 3-positions</p>
<p>1-pole, 2-positions</p>	<p>1-pole, 3-positions</p>	<p>1-pole, 4-positions</p>	
<p>2-poles, 2-positions</p>	<p>2-poles, 3-positions</p>	<p>2-poles, 4-positions</p>	
<p>1-pole, 2-positions</p>	<p>1-pole, 3-positions</p>	<p>2-poles, 3-positions</p>	

# List of Varieties

Series		SSAG	SSAH	SSAD	SSSS8	SSSS7	SSSS2	SSSS9	SSSF	SSSU	SSSB	SSST	SSAA	SSAC	SSAB		
Photo																	
Outline specifications	Travel (mm)	1.5			1.5 2		2		3		4		2	1.5	1.9 2		
	Actuator direction	Horizontal			Vertical Horizontal	Horizontal	Vertical Horizontal			Vertical		Horizontal		Vertical Horizontal			
	Number of poles	1			1 2		1 2 4		2 4	1	1 2	2	1				
Dimensions (mm)	W	9.05	9.5	6.7	11.2	8.8	13	14	16.5	24.5	29	13	12.4	9.5	9		
	D	3		3.2	2.6	3	3.5	4.7	7		9	4.3	6	5.5	4.2		
	H	1.15	0.9	0.7	1.4	2		5	8.5		12	3.5	5	5.2	8.5		
Operating temperature range		-10 to +60			-40 to +85		-10 to +60										
Rating (max. )( min. ) (Resistive load)		10mA 5V DC	1mA 5V DC		0.3A 4V DC		0.3A 6V DC	0.1A 12V DC	0.1A 30V DC		0.3A 30V DC	0.1A 12V DC	0.1A 30V DC	1mA 5V DC	0.1A 12V DC		
		50μA 3V DC															
Electrical performance	Initial contact resistance	200m max.		100m max.	70m max.			30m max.	25m max.		20m max.	70m max.	25m max.	100m max.	30m max.		
	Insulation resistance	100M min. 100V DC				100M min. 500V DC										100M min. 100V DC	100M min. 500V DC
	Voltage proof	100V AC for 1minute				500V AC for 1minute								100V AC for 1minute	500V AC for 1minute		
Mechanical performance	Robustness of terminal	3N for 1minute					5N for 1minute			3N for 1minute	5N for 1minute						
	Robustness of actuator	Operating direction	10N		5N	10N	20N	30N		50N	20N	10N	5N	30N			
		Pulling direction	10N		10N Static force			10N	30N Static force		10N	10N	5N	40N			
Durability	Operating life without load	10,000cycles	10,000cycles	10,000cycles 100m max. 2			10,000cycles 60m max.	10,000cycles 45m max.		10,000cycles 40m max.	10,000cycles 100m max.	10,000cycles 45m max.	10,000cycles 200m max.	1,000cycles 60m max.			
	Operating life without load Load as rating	500m max.	300m max.	10,000cycles 200m max.	10,000cycles 130m max. 2			10,000cycles 80m max.	10,000cycles 65m max.		5,000cycles 60m max.	10,000cycles 130m max.	10,000cycles 65m max.	10,000cycles 80m max.			
Environmental performance	Cold	-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.		260 ± 5 3s max.	350 ± 10 4s max.	300 ± 10 5s max.	350 ± 10 5s max.	350 ± 10 3 ± 1s		350 ± 10 3s max.	300 ± 10 3 ± 1s	300 ± 10 2s	350 ± 10 3 ± 1s		
	Dip soldering						260 ± 5 3 ± 1s	260 ± 5 5 ± 1s		260 ± 5 10 ± 1s		260 ± 5 5 ± 1s	260 ± 10 10 ± 1s	260 ± 10 5 ± 1s	260 ± 5 10 ± 1s		
	Reflow soldering	Please see P.154															
Poles-positions	1-2	—	—								—			—			
	1-3			—											—		
	1-4	—				—					—						
	2-2	—				—									—		
	2-3	—				—									—		
	2-4	—									—						
	4-2	—											—				
Page	112	115	117	119	123	126	130	135	139	143	146	147	150	152			

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Slide Switches Soldering Conditions ..... 154  
 Slide Switches Cautions ..... 155

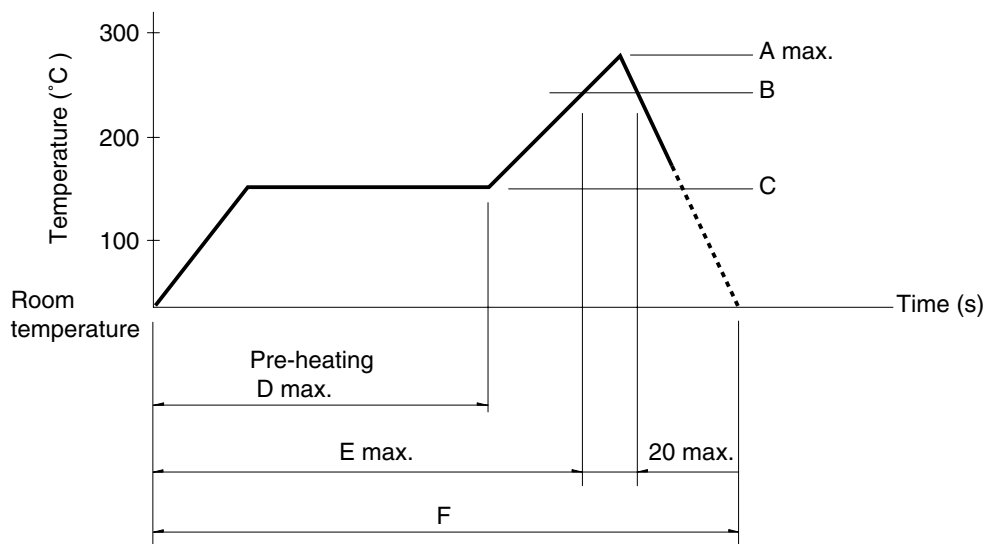
**Note**

The operating temperature range for automotive applications can be raised upon request. Please contact us for requirements of this kind.

## 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 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( )	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			260	230	150	120	—	—
SSAD			240	220				
SSSS8	Horizontal	1-pole, 2-positions 1-pole, 3-positions( 1.5mm )	255	200				
		1-pole, 3-positions( 2mm ) 1-pole, 4-positions 2-poles, 2-positions	240	220				
	Vertical							

### 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.

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