

# Slide Switch Recoil Type for Single Side and Both Sides

SSAG Series



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

- 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

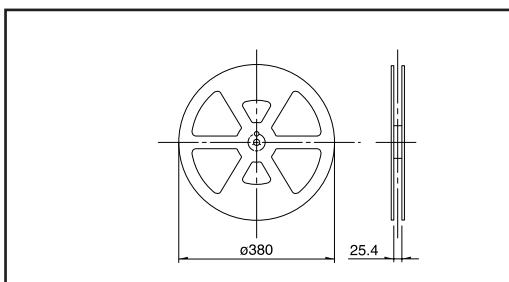
Items	Specifications
Rating (max.) / (min.) (Resistive load)	10mA 5V DC/50 $\mu$ A 3V DC
Contact resistance (Initial performance/After lifetime)	200m $\Omega$ max./500m $\Omega$ max.
Operating force	1N (Recoil side) ,1.5N (Lock side)
Operating life	100,000cycles (Recoil side) 30,000cycles (Lock side)

### Product Line

Travel (mm)	Operating section directions	Poles	Positions	Changeover timing	Soldering	Operating	Ground terminal	Location lug	Minimum order unit (pcs.)	Products No.	Drawing No.	
1.5	Horizontal	1	3	Not specified	Reflow	Lift-side recoil	For PC board insert	Without	16,000	SSAG130100	1	
								With				SSAG130200
							Flat	Without			SSAG130300	
								With				SSAG130400
							Right-side recoil	For PC board insert			Without	SSAG230100
											With	
						Flat	Without	SSAG230300				
							With		SSAG230400			
						Double-side recoil	For PC board insert	Without	SSAG330100			
								With			SSAG330200	
							Flat	Without	SSAG330300			
								With			SSAG330400	

### Taping Specification(Taping Packaging)

Reel Size Unit:mm



Number of packages (pcs.)			Tape width (mm)
1 reel	1 case /Japan	1 case /export packing	
4,000	8,000	16,000	24

### Note

Please place purchase orders per minimum order unit (integer).

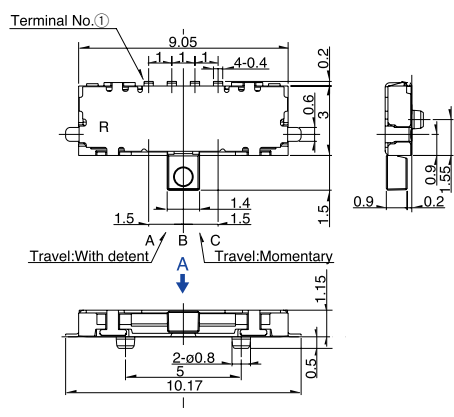
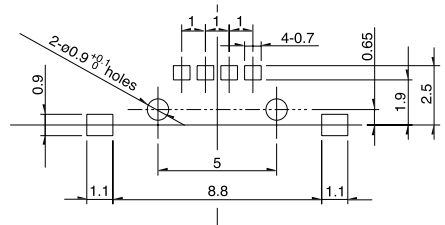
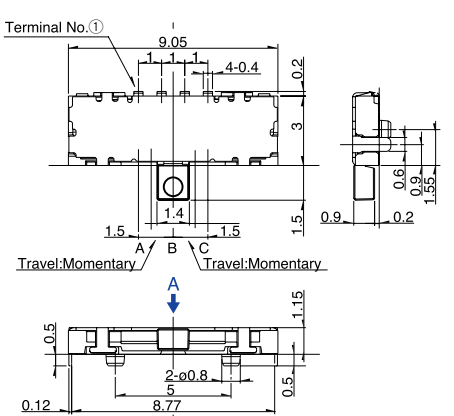
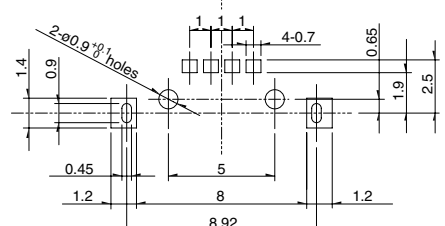
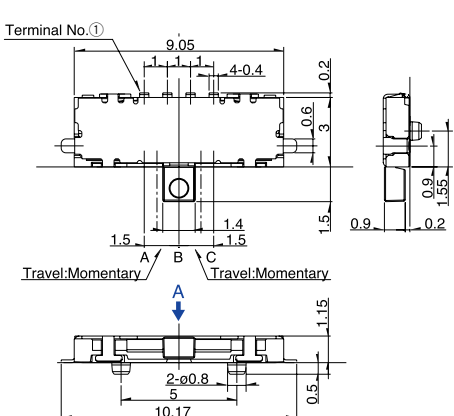
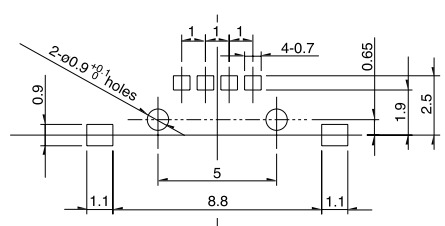
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Products

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General Use type
- Big size  
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No.	Style	PC board mounting hole and land dimensions (Viewed from the direction A)
1	<p>Terminal No. ①</p> <p>9.05 4-0.4 0.2 3 1.5 1.4 1.5 0.9 0.6 0.9 1.55 0.2 1.5 1.5 0.5 1.15 0.12 2-ø0.8 5 8.77 0.5</p> <p>Travel: Momentary / With detent</p> <p>OPERATING FORCE : B→C C→B 1.5N B→A 1N</p>	<p>2-ø0.9 <math>\frac{1}{8}</math> holes 4-0.7 0.65 1.9 2.5 0.45 5 8 1.2 8.92</p>
2	<p>Terminal No. ①</p> <p>9.05 4-0.4 0.2 3 1.5 1.4 1.5 0.9 0.6 0.9 1.55 0.2 1.5 1.5 0.5 1.15 10.17 0.5</p> <p>Travel: Momentary / With detent</p> <p>Operating force : B→C C→B 1.5N B→A 1N</p>	<p>2-ø0.9 <math>\frac{1}{8}</math> holes 4-0.7 0.65 1.9 2.5 1.1 5 8.8 1.1</p>
3	<p>Terminal No. ①</p> <p>9.05 4-0.4 0.2 3 1.5 1.4 1.5 0.9 0.6 0.9 1.55 0.2 1.5 1.5 0.5 1.15 0.12 2-ø0.8 5 8.77 0.5</p> <p>Travel: With detent / Momentary</p> <p>Operating force : B→A A→B 1.5N B→C 1N</p>	<p>2-ø0.9 <math>\frac{1}{8}</math> holes 4-0.7 0.65 1.9 2.5 0.45 5 8 1.2 8.92</p>

Dimensions

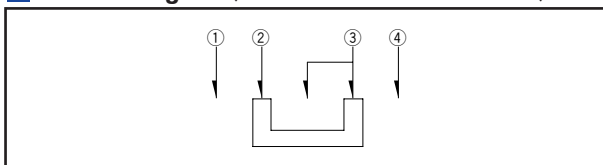
Unit:mm

No.	Style	PC board mounting hole and land dimensions (Viewed from the direction A)
4	 <p>Terminal No.①</p> <p>9.05 4-0.4 0.2 0.6 3 0.9 0.9 1.55 2</p> <p>1.5 1.4 1.5 1.5 1.15</p> <p>Travel:With detent A B C Travel:Momentary</p> <p>2-φ0.8 5 10.17 0.5</p> <p>Operating force : B→A A→B 1.5N B→C 1N</p>	 <p>2-φ0.9<sup>+0.1</sup> holes</p> <p>1 1 4-0.7 0.65 1.9 2.5</p> <p>0.9 1.1 5 8.8 1.1</p>
5	 <p>Terminal No.①</p> <p>9.05 4-0.4 0.2 0.6 3 0.9 0.6 1.55 0.2</p> <p>1.5 1.4 1.5 1.5 1.15</p> <p>Travel:Momentary A B C Travel:Momentary</p> <p>0.5 1.15 0.5 8.77 0.12</p> <p>Operating force : B→A B→C 1N</p>	 <p>2-φ0.9<sup>+0.1</sup> holes</p> <p>1.4 0.9 1 1 4-0.7 0.65 1.9 2.5</p> <p>0.45 1.2 5 8 1.2 8.92</p>
6	 <p>Terminal No.①</p> <p>9.05 4-0.4 0.2 0.6 3 0.9 0.9 1.55 0.2</p> <p>1.5 1.4 1.5 1.5 1.15</p> <p>Travel:Momentary A B C Travel:Momentary</p> <p>2-φ0.8 5 10.17 0.5</p> <p>Operating force : B→A B→C 1N</p>	 <p>2-φ0.9<sup>+0.1</sup> holes</p> <p>0.9 1 1 4-0.7 0.65 1.9 2.5</p> <p>1.1 5 8.8 1.1</p>










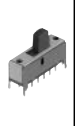
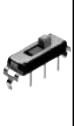


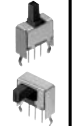
Note

Above dimensions indicate "with location lug" version.

Circuit Diagram (Viewed from Direction A)



# 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	—				—							—				
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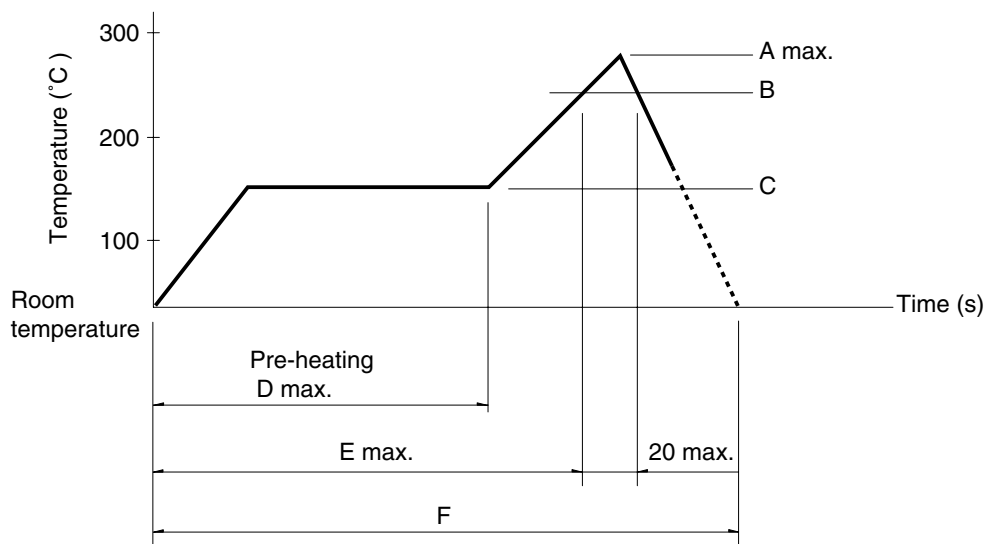
**Note**

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				
	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.