



Typical Specifications



Items	Specifications
Rating (max.)	50mA 12V DC
Rating (min.)	10μA 1V DC

Product Line

Product No.	Operating force		Travel (mm)		Operating life (5mA 5V DC)	Initial contact resistance	Stem color	Guide bosses	Minimum order unit (pcs.)	
	4-direction	Center-push	4-direction	Center-push					Japan	Export
SKRHAAE010	1.23N	2.35N	0.25	0.15	200,000 cycles for each direction	500mΩ max.	Black	Without	1,300	1,300
SKRHABE010								With		
SKRHACE010	1.2N				1,000,000 cycles for each direction	100mΩ max.	Natural	Without		
SKRHADE010								With		

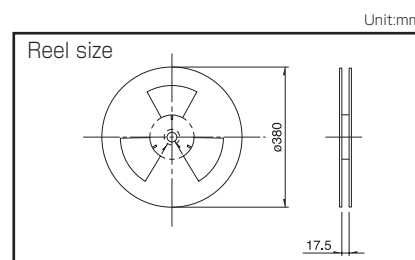
Note

4-directional operating force and travel are measured at 4.3mm height from the bottom of the switch.

Packing Specifications

Taping

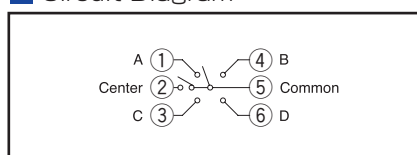
Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
1,300	10,400	10,400	16	401×401×214

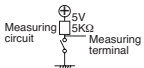


Dimensions

Style	PC board mounting hole and land dimensions (Viewed from mounting face)				
	x	h	a	b	c
SKRHAAE010	7.35	1.8	2.14	1	8.6
SKRHABE010	7.35	1.8	2.14	1	8.6
SKRHACE010	7.45	1.85	2.17	1.6	8.7
SKRHADE010	7.45	1.85	2.17	1.6	8.7

Circuit Diagram



Type		Switch type				
Series		RKJXL	RKJXS	SKRV	SKRH	
					SKRHAA/AB	SKRHAC/AD
Photo						
Dimensions (typical value) (mm)	W	13	11.7	6.45	7.35/7.45	
	D			6.4	7.5	
	H	6.4	2.3	4	5	
Number of operating shafts		Single-shaft				
Shaft material		Metal	Resin			
Directional resolution		8-direction			4-direction	
Directional operating feeling (tactile feeling)		Without	With			
Lever return mechanism		With				
Center-push switch		With				
Encoder		Without				
Operating temperature range		−30℃ to +70℃	−20℃ to +70℃			−40℃ to +85℃
Operating life	Directional operation	total with 8-direction 100,000 cycles	500,000 cycles for each direction	200,000 cycles for each direction	200,000 cycles for each direction	1,000,000 cycles for each direction
	Center-push	100,000 cycles	500,000 cycles	200,000 cycles	200,000 cycles	1,000,000 cycles
	Encoder	—	—	—	—	
Automotive use			—	—	—	
Life cycle (availability)						
Rating (max.) (Resistive load)		10mA 5V DC			50mA 12V DC	
Electrical performance	Output voltage	—	 1V max. at 1mA 5V DC (Resistive load)	—	—	
	Encoder resolution	—	—	—	—	
	Insulation resistance	100MΩ min. 250V DC	50MΩ min. 50V DC	100MΩ min. 100V DC		
	Voltage proof	300V AC for 1min. or 360V AC for 2s	50V AC for 1min. or 60V AC for 2s	100V AC for 1min.		
Mechanical performance	Directional operating force	10±7mN·m	0.8±0.5N	1.2±0.6N	1.23±0.69N	1.2±0.69N
	Push operating force	4.5±1N	2.5±1.5N	2.4±0.69N	2.35±0.69N	
	Encoder detent torque	—	—	—	—	
	Terminal strength	—	—	—	—	
	Actuator strength	Push / pull directions Operating direction 100N (Push), 50N (Pull)	30N (Push), 10N (Pull)	—	—	
Environmental performance	Cold	−40℃ 500h	−40℃ 96h	−30℃ 96h	−40℃ 96h	
	Dry heat	85℃ 500h	85℃ 96h	80℃ 96h	90℃ 96h	
	Damp heat	60℃, 90 to 95%RH 500h	60℃, 90 to 95%RH 96h			
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Note ● Indicates applicability to all products in the series.

Switch Type / Soldering Conditions

Reference for Manual Soldering

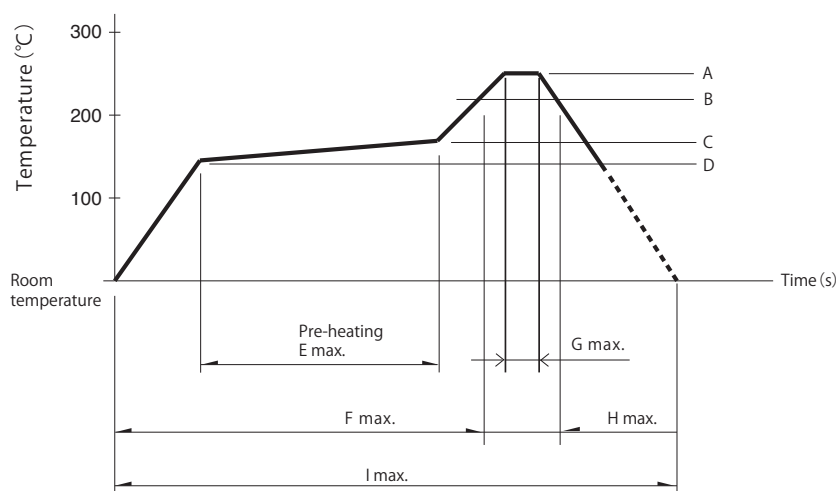
Series	Tip temperature	Soldering time	No. of solders
RKJXT1F, RKJXM, RKJXL, SLLB, SLLB5, SRBE, SKRV, SKRH	350±5℃	3s max.	1 time
RKJXS	350±10℃	3 ⁺¹ ₋₀ s	2 time max.

Reference for Dip Soldering

Series	Preheating		Dip soldering		No. of solders
	Soldering surface temperature	Heating time	Soldering temperature	Soldering time	
RKJXT1F, RKJXM	100℃ max.	2 min. max.	260±5℃	5±1s	2 time max.
RKJXL	120℃ max.	70s max.	260℃ max.	6s max.	2 time max.

Example of Reflow Soldering Condition

Temperature profile



Series	A	B	C	D	E	F	G	H	I	No. of reflows
RKJXS	260℃	230℃	150℃	150℃	2 min.	—	10s	40s	4 min.	1 time
SLLB5	250℃	230℃	150℃	150℃	—	2 min.	—	30s	—	1 time
SKRV, SKRH, SLLB, SRBE	260℃	230℃	180℃	150℃	2 min.	—	—	40s	—	1 time

Notes

1. The above temperature shall be measured 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 material, size thickness of PC boards and others. 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.