

RKJXT1F




■ Typical Specifications (Stick Switches)

Items		Specifications
Ratings (max.)(Resistive load)		10mA 5V DC
Contact resistance	4-direction	1 Ω max.
	Center-push	
Operating angle (4-direction)		Each direction 9° max.
Travel (Center push)		0.3±0.2mm
Operating life	Total with 4-direction	50,000 cycles
	Center-push	50,000 cycles

■ Typical Specifications (Encoders)

Items	Specifications
Ratings (max.) (Resistive load)	10mA 5V DC
Operating life	15,000 cycles

Product Line

Product No.	Stick Switches			Encoder			Minimum order unit (pcs.)	
	Maximum resolution	Operating force						
		Direction (mN·m)	Center-push (N)	Detent torque	Number of detent	Number of pulse	Japan	Export
RKJXT1F42001	4	40±25	5±2	15±8mN·m	30	15	1,320	2,640

■ Packing Specifications

Tray

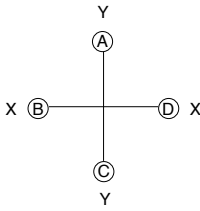
Number of packages (pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
1,320	2,640	555×375×333

■ Dimensions

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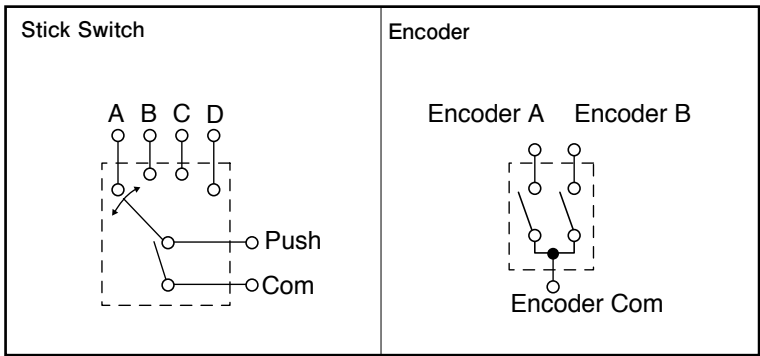
■ Output Relation Chart Between Lever Position and ON Position.

Terminal	Operating Direction				
	A	B	C	D	Center push
Push-A	ON				
Push-B		ON			
Push-C			ON		
Push-D				ON	
Push-Com	ON	ON	ON	ON	ON

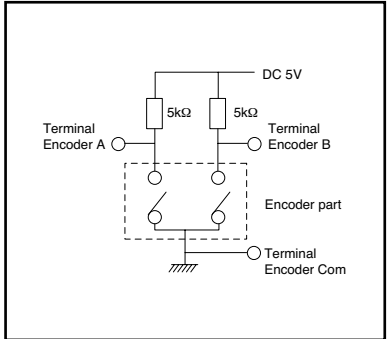


Operating direction of lever.

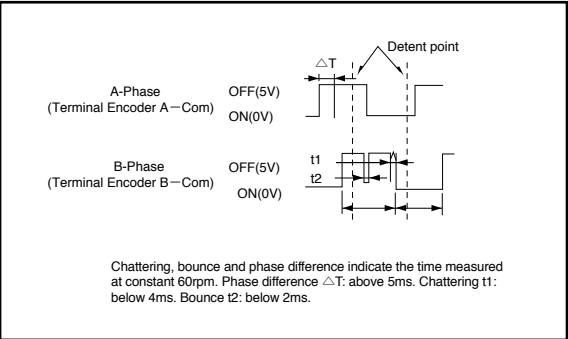
■ Circuit Diagram


















■ Test Circuit (Encoder)



■ Output Signal (Encoder)



Type		Switch type				
Series		RKJXT1F	RKJXM		RKJXW	
			RKJXM1	RKJXM2	RKJXW1	RKJXW2
Photo						
Dimensions (typical value) (mm)	W	17	11	19.5	36	61
	D				48.5	75.5
	H				26.5	17
Number of operating shafts		Single-shaft		Dual-shaft	Single-shaft	Dual-shaft
Shaft material		Metal		The inner shaft : Metal The outer shaft : Resin	Metal	Resin
Directional resolution		4-direction	8-direction			
Directional operating feeling (tactile feeling)		With				
Lever return mechanism		With				
Center-push switch		With				
Encoder		With	Without	With		
Operating temperature range		-40℃ to +85℃				
Operating life	Directional operation	total with 4-direction 50,000 cycles	total with 8-direction 100,000 cycles		30,000 cycles for each direction	
	Center-push				30,000 cycles	100,000 cycles
	Encoder	15,000 cycles	—	15,000 cycles	30,000 cycles	
Automotive use						
Life cycle (availability)						
Rating (max.) (Resistive load)		10mA 5V DC				
Electrical performance	Output voltage	—	—	—	—	—
	Encoder resolution	15pulses/360°	—	15pulses/360°		
	Insulation resistance	100MΩ min. 250V DC				10MΩ min. 50V DC
	Voltage proof	250V AC for 1min.			360V AC for 2s	60V AC for 2s
Mechanical performance	Directional operating force	40±25mN·m	Direction A, B, C, D 30±20mN·m		2.5±1.5N	3.5±2N
			Direction AB, BC, CD, DA 25±20mN·m			
	Push operating force	5±2N	3±1.5N			
	Encoder detent torque	15±8mN·m	—	12±8mN·m	30±20mN·m	40±16mN·m
	Terminal strength	5N for 1min.				—
Actuator strength	Push / pull directions Operating direction	100N (Push/Pull)	100N (Push), 50N (Pull)		100N (Push)	
		0.4N·m	0.3N·m		50N	100N
Environmental performance	Cold	-40℃ 500h				
	Dry heat	85℃ 500h				
	Damp heat	60℃, 90 to 95%RH 500h				40℃, 90 to 95%RH 500h
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Note

- Indicates applicability to all products in the series.

Switch Type / Soldering Conditions

Reference for Manual Soldering

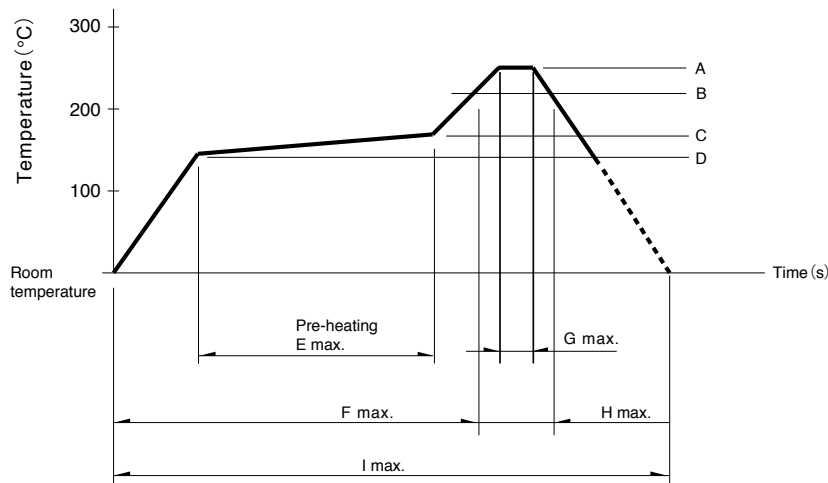
Series	Tip temperature	Soldering time	No. of solders
RKJXT1F, RKJXM, RKJXL, SLLB, SLLB5, SRBE, SKRH	350±5℃	3s max.	1 time
RKJXS	350±10℃	3 ⁺¹ ₋₀ s	2 time max.

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

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple $\phi 0.1$ 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	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
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.