

Detector Switch

General-purpose Type

SPPB Series



A wide variety of detector switches available for various digital AV devices.

Detector

Push

Slide

Rotary

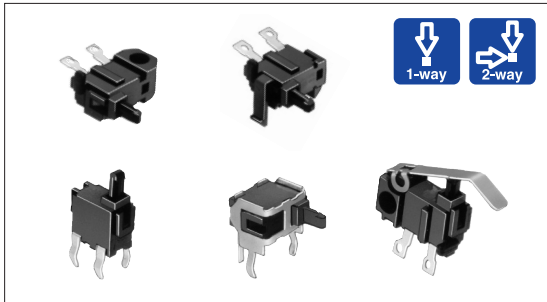
Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products



Typical Specifications

Items		Specifications
Rating (max.) / (min.) (Resistive load)		0.1A 30V DC/50μA 3V DC
Contact resistance (Initial /After operating life)		1Ω max./2Ω max.
Operating force		0.35N max.
Operating life	Without load	50,000cycles
	With load	50,000cycles (0.1A 30V DC)

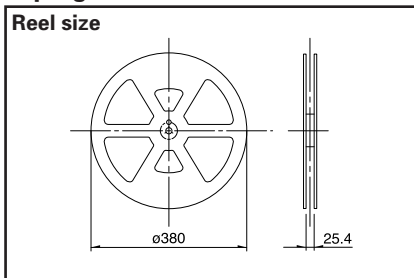
Product Line

Poles	Positions	Operating part shape	Operating direction	Terminal type	Packaging style	Minimum order unit (pcs)	Product No.	Drawing No.			
1	1	Push	Horizontal	Lead	Bulk	10,000	SPPB110300	1			
							SPPB120200	2			
							SPPB310400	7			
							SPPB320100	8			
		Actuator A				5,000	SPPB1A0100	3			
							SPPB1A0101	4			
							SPPB2A0100	5			
							SPPB2A0101	6			
		Actuator C	20,000	SPPB512300		9					
				Push		Vertical	For PC board (Dip)	10,000	SPPB610400	13	
									SPPB620300	14	
						Actuator A		Vertical	5,000	SPPB5A0100	10
		SPPB6A0100	15								
		Push	Horizontal	For PC board (Reflow)	Taping			6000		SPPB6A0400	16
										SPPB530701	11
			Push			Vertical		2400	SPPB530601	12	
									Horizontal	5200	SPPB630101
		SPPB640201		18							

Packing Specifications

Taping

Unit:mm



Product No.	Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case /Japan	1 case /export packing		
SPPB530701	1,500	3,000	6,000	24	406 × 406 × 160
SPPB530601	600	1,200	2,400		
SPPB630101 SPPB640201	1,300	2,600	5,200		

Bulk

Product No.	Number of packages (pcs.)		Export package measurements (mm)
	1 case /Japan	1 case/export packing	
SPPB512300	4,000	20,000	400 × 270 × 290
SPPB1A0100, SPPB1A0101, SPPB2A0100, SPPB2A0101, SPPB5A0100, SPPB6A0100, SPPB6A0400	1,000	5,000	
SPPB310400, SPPB320100, SPPB610400, SPPB620300, SPPB110300, SPPB120200	2,000	10,000	

Note

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

Refer to P.97 for soldering conditions.

ALPS



Automotive
Use

Unit:mm

[illegible]

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Automotive Use

Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from direction A)
5			
6			
7			
8			

Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole and land dimensions (Viewed from direction A)
9	Push		
10	Actuator A		
11	Push		
12	Push		

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Automotive
Use

Dimensions

Unit:mm

Detector

Push

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Encoders

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Automotive
Use

No.	Photo	Style	PC board mounting hole and land dimensions (Viewed from direction A)
13			
14			
15			
16			

Dimensions			Unit:mm
No.	Photo	Style	PC board mounting hole and land dimensions (Viewed from direction A)
17	Push		
18	Push		

Circuit Diagram (Viewed from Direction A)	
Applicable to SPPB512300, SPPB530601, SPPB5A0100	Applicable to other switches

Detector

Push

Slide

Rotary

Encoders

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Automotive
Use

List of Varieties (General-purpose Type)

Series		General-purpose Type						
		SPPB	SPVE	SPPW8	SPVM	SPVR	SSCU	
Photo								
Operation type		 						
Operating temperature range		-40℃ to +85℃	-10℃ to +60℃		-40℃ to +85℃			
Automotive use		●	—	—	●	●	●	
Rating (max.) (Resistive load)		0.1A 30V DC			1mA 5V DC		0.1A 12V DC	
Rating (min.) (Resistive load)		50μA 3V DC		100μA 3V DC	50μA 3V DC	100μA 3V DC	50μA 3V DC	
Electrical performance	Initial contact resistance	1Ω max.	500mΩ max.	1Ω max.	2Ω max.	3Ω max.	70mΩ max.	
	Insulation resistance	100MΩ min. 100V DC					100MΩ min. 250V DC	
	Voltage proof	100V AC for 1 minute					250V AC for 1 minute	
Mechanical performance	Terminal strength	3N for 1 minute	0.5N for 1 minute	3N for 1 minute	1N for 1 minute	0.5N for 1 minute	3N for 1 minute	
	Actuator strength	10N	5N	10N	5N	2N	5N	
Durability	Operating life without Load	50,000cycles 2Ω max.	50,000cycles 1Ω max.	100,000cycles 2Ω max.	50,000cycles 5Ω max.		10,000cycles 100mΩ max.	
	Operating life with Load	(0.1A 30V DC) 50,000cycles 2Ω max.	(0.1A 30V DC) 50,000cycles 1Ω max.	(0.1A 30V DC) 100,000cycles 2Ω max.	(1mA 5V DC) 50,000cycles 5Ω max.		(0.1A 12V DC) 10,000cycles 100mΩ max.	
Environmental performance	Cold	-40±2℃ for 500h	-20±2℃ for 96h		-40±2℃ for 500h			
	Dry heat	85±2℃ for 500h	85±2℃ for 96h		85±2℃ for 500h			
	Damp heat	60±2℃, 90 to 95%RH for 500h	40±2℃, 90 to 95%RH for 96h		60±2℃, 90 to 95%RH for 500h			
Dimensions (mm)		W	6.3	3.4	5	2.8	3.6	11
		D	3		4	3.5	4.2	5.8
		H	4.9	2.3		1.5	1.2	7
Soldering	Manual soldering	300±5℃, 5s max.	350±5℃, 3s max.					
	Dip soldering	255±5℃, 5±1s	—	255±5℃, 5±1s	—			
	Reflow soldering	Please see P.97					—	
Number of poles		1						
Operation force		0.35N max.	0.3N max.		0.4N max.	0.35N max.	0.5N max.	
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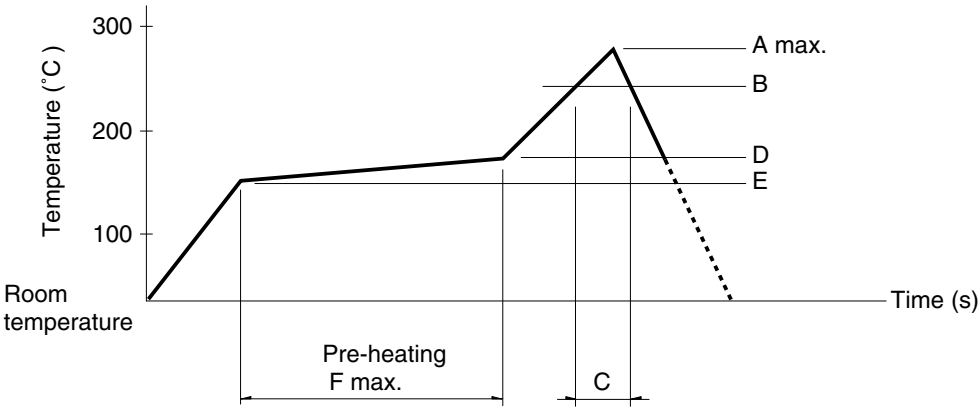
Note

●marks in "Available for automotive use" indicate that all 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 (s)	D (°C)	E (°C)	F (s)
SPPB	250	230	40			
SPPW8		200	20			
SPVE	260	230	40	180	150	120
SPVG						
SPVL						
SPVM						
SPVN						
SPVP						
SPVR						
SPVS						
SPVT						
SSCM						
SPPY5	240		20	150	Room temperature	180

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, surface 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.