

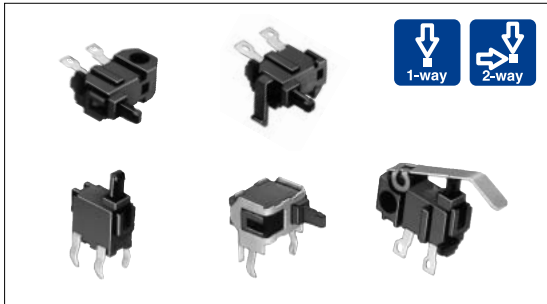
# Detector Switch General-purpose Type

SPPB Series



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

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



## Typical Specifications

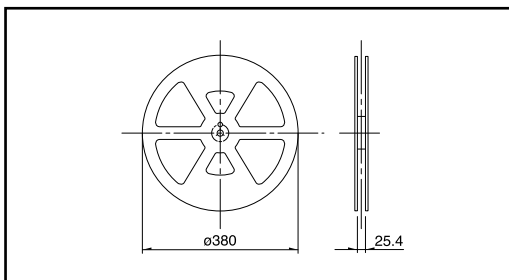
Items		Specifications
Rating (max. ) (min. ) ( Resistive load )		0.1A 30V DC/50 $\mu$ A 3V DC
Contact resistance ( Initial /After operating life )		1 max./2 max.
Operating force		0.35N max.
Operating life	Without load	50,000cycles
	With load	50,000cycles( 0.1A 30V DC )

## 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					
		Actuator A	Horizontal	Lead		Bulk	5,000	SPPB1A0100	3				
								SPPB1A0101	4				
								SPPB2A0100	5				
		Actuator C	Horizontal	Lead		Bulk	5,000	SPPB2A0101	6				
								Push	Vertical	For PC board ( Dip )	20,000	SPPB512300	9
									Horizontal			10,000	SPPB610400
		Actuator A	Vertical	For PC board ( Dip )	Bulk	5,000	SPPB620300	14					
			Horizontal				SPPB5A0100	10					
		Push	Horizontal	For PC board ( Reflow )	Taping	5,000	SPPB6A0100	15					
							SPPB6A0400	16					
							Vertical	6000	SPPB530701	11			
								2400	SPPB530601	12			
							Horizontal	5200	SPPB630101	17			
		SPPB640201	18										

## Taping Specifications (Taping Packaging)

Reel Size Unit:mm



Product No.	Number of packages( pcs. )			Tape width ( mm )
	1 reel	1 case /Japan	1 case /export packing	
SPPB530701	1,500	3,000	6,000	24
SPPB530601	600	1,200	2,400	
SPPB630601 SPPB640201	1,300	2,600	5,200	

## Note

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

**Detector**

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
 Package Type


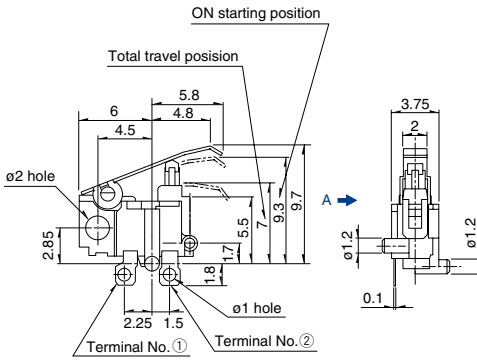
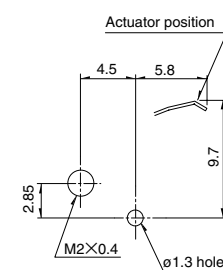
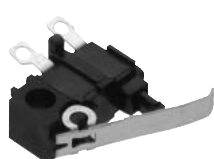
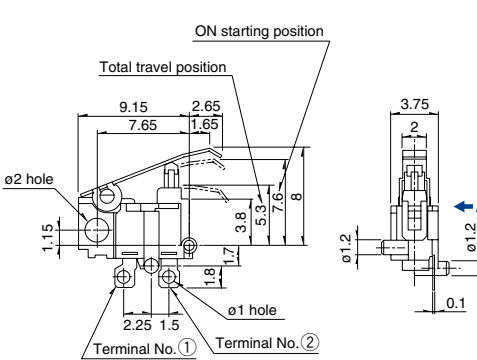
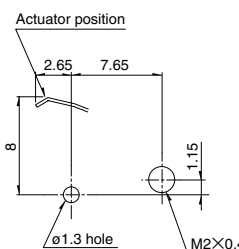

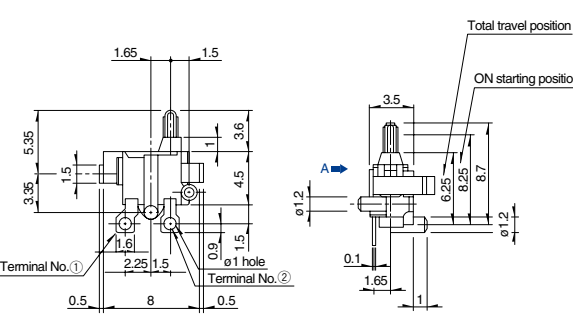
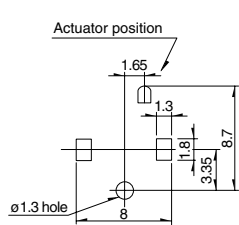

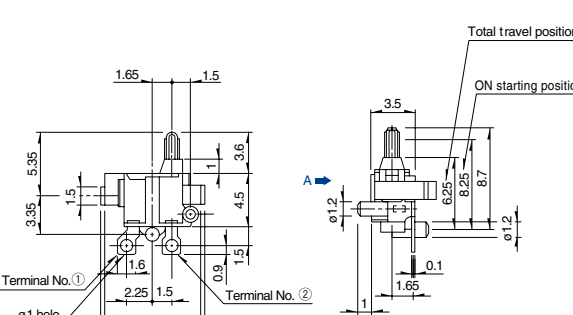
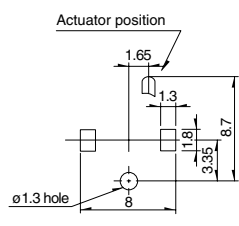
TACT Switch™

Custom-  
 Products

Dimensions		Unit:mm	
No.	Photo	Style	PC board mounting hole dimensions (Viewed from direction A)
1			
2			
3			
4			

Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from direction A)
5		 <p>ON starting position                  Total travel position                  ø2 hole                  2.85                  6                  4.5                  5.8                  4.8                  7                  5.5                  9.3                  9.7                  1.8                  1.7                  0.1                  ø1 hole                  Terminal No. ①                  Terminal No. ②</p>	 <p>Actuator position                  4.5                  5.8                  2                  2.85                  M2×0.4                  ø1.3 hole                  9.7</p>
6		 <p>ON starting position                  Total travel position                  ø2 hole                  1.15                  9.15                  7.65                  2.65                  1.65                  5.3                  3.8                  7.6                  8                  1.8                  1.7                  0.1                  ø1 hole                  Terminal No. ①                  Terminal No. ②</p>	 <p>Actuator position                  2.65                  7.65                  8                  ø1.3 hole                  M2×0.4                  1.15</p>
7		 <p>Total travel position                  ON starting position                  1.65                  1.5                  3.35                  5.35                  1.5                  1                  3.6                  4.5                  0.9                  1.5                  ø1 hole                  2.25                  1.5                  0.5                  8                  0.5                  0.1                  3.5                  6.25                  8.25                  8.7                  0.1                  1.65                  ø1.2</p>	 <p>Actuator position                  1.65                  1.3                  1.8                  3.35                  8.7                  ø1.3 hole                  8</p>
8		 <p>Total travel position                  ON starting position                  1.65                  1.5                  3.35                  5.35                  1.5                  1                  3.6                  4.5                  0.9                  1.5                  ø1 hole                  2.25                  1.5                  0.5                  8                  0.5                  0.1                  3.5                  6.25                  8.25                  8.7                  0.1                  1.65                  ø1.2</p>	 <p>Actuator position                  1.65                  1.3                  1.8                  3.35                  8.7                  ø1.3 hole                  8</p>

Detector

Push

Slide

Rotary

Encoders

Power


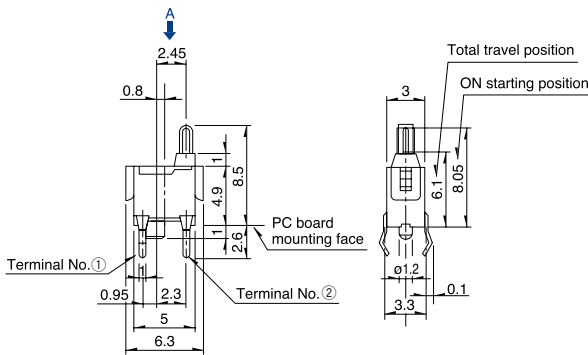
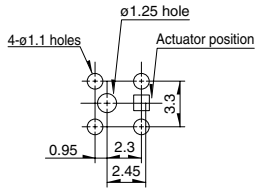
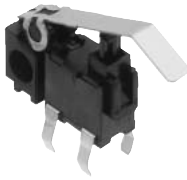
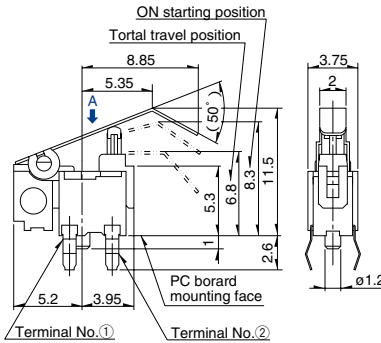
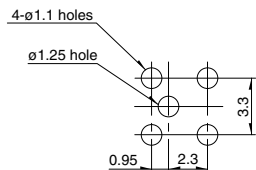

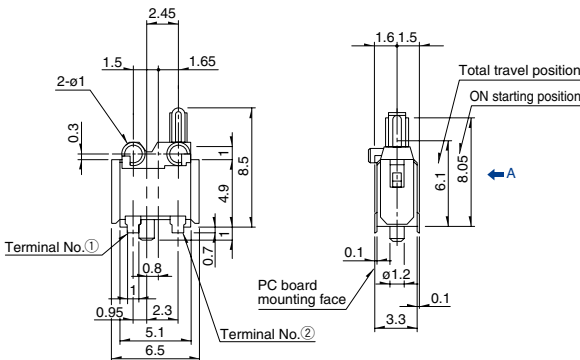
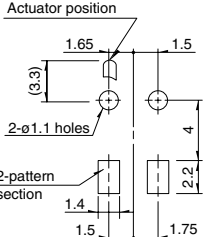

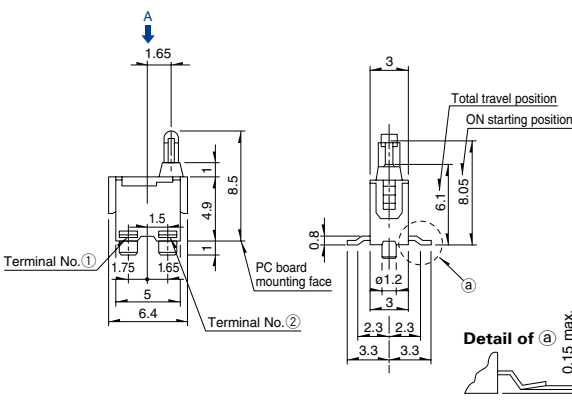
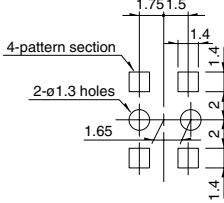
Dual-in-line  
Package Type

TACT Switch™

Custom-  
Products

Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole and land dimensions (Viewed from direction A)
9		 <p>Terminal No.① Terminal No.②</p> <p>PC board mounting face</p> <p>Total travel position ON starting position</p>	 <p>4-<math>\phi</math>1.1 holes <math>\phi</math>1.25 hole Actuator position</p>
10		 <p>ON starting position Total travel position</p> <p>Terminal No.① Terminal No.②</p> <p>PC board mounting face</p>	 <p>4-<math>\phi</math>1.1 holes <math>\phi</math>1.25 hole</p>
11		 <p>Terminal No.① Terminal No.②</p> <p>PC board mounting face</p> <p>Total travel position ON starting position</p>	 <p>Actuator position</p> <p>2-<math>\phi</math>1.1 holes 2-pattern section</p>
12		 <p>Terminal No.① Terminal No.②</p> <p>PC board mounting face</p> <p>Total travel position ON starting position</p> <p>Detail of (a) 0.15 max. 0.3 max.</p>	 <p>4-pattern section 2-<math>\phi</math>1.3 holes</p>

# Detector Switch

## General-purpose Type | SPPB Series

### Dimensions

Unit:mm

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package Type

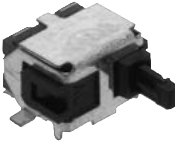
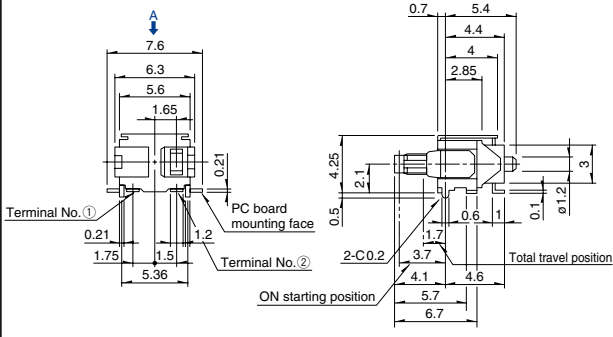
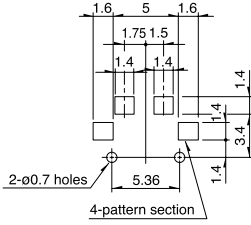

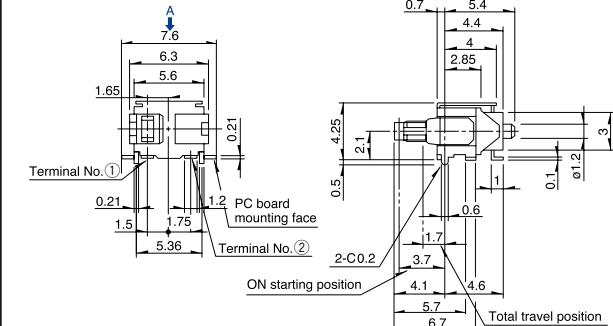
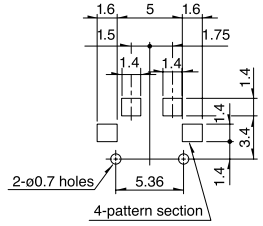
TACT Switch™

Custom-  
Products

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			
18			

**Detector**

Push

Slide

Rotary

Encoders

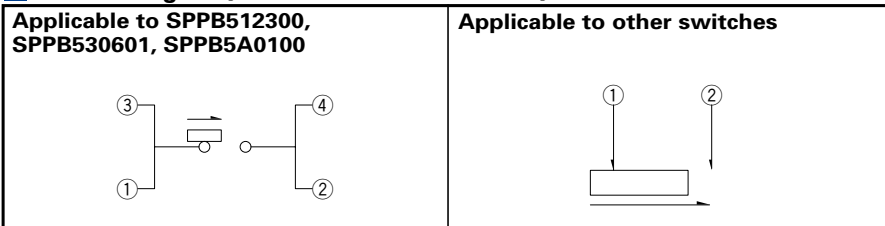
Power

Dual-in-line  
Package Type

TACT Switch™

Custom-  
Products

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



## List of Varieties ( General-purpose Type )

Series	General-purpose Type								
	SPPB	SPVE	SPPW8	SPVM	SPVR	SPVF	SSCU	SSCT	
Photo									
Operation type	 								
Operating temperature range	-40 to +85		-10 to +60		-40 to +85		-40 to +85		
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	1 max.	500m max.	1 max.	2 max.	3 max.	500m max.	70m max. 20m max.	
	Insulation resistance	100M min. 100V DC						100M 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 30s	3N for 1 minute	
	Actuator strength	10N	5N	10N	5N	2N	1N	5N 10N	
Durability	Operating life without Load	50,000cycles 2 max.	50,000cycles 1 max.	100,000cycles 2 max.	50,000cycles 5 max.		100,000cycles 1 max.	10,000cycles 100m max. 40m max.	
	Operating life with Load	(0.1A 30V DC) 50,000cycles 2 max.	(0.1A 30V DC) 50,000cycles 1 max.	(0.1A 30V DC) 100,000cycles 2 max.	(1mA 5V DC) 50,000cycles 5 max.		(1mA 5V DC) 100,000cycles 1 max.	(0.1A 12V DC) 10,000cycles 150m max. 60m max.	
Environmental performance	Cold	-20 ± 2 for 96h					-40 ± 2 for 96h	-20 ± 2 for 96h	
	Dry heat	85 ± 2 for 96h							
	Damp heat	40 ± 2 , 90 to 95%RH for 96h							
Dimensions (mm)	W	6.3	3.4	5	2.8	3.6	9	11 12.5	
	D	3		4	3.5	4.2	3.5	5.8 5	
	H	4.9	2.3		1.5	1.2	4.5	7 11.5	
Soldering	Manual soldering	300 ± 5 , 5s max.		350 ± 5 , 3s max.			300 ± 10 , 3 ± 1s 350 ± 5 , 3s max.		
	Dip soldering	260 ± 5 , 5 ± 1s		255 ± 5 , 5 ± 1s		245 ± 5 , 5 ± 1s		260 ± 5 , 5 ± 1s	
	Reflow soldering	Please see P.79							
Number of poles	1					1.2	1		
Operation force	0.35N max.	0.3N max.		0.4N max.	0.35N max.	0.3N max.	0.5N max.	0.7 ± 0.3N	
Page	28	34	36	38	40	41	44	45	

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line Package Type

TACT Switch™

Custom-Products

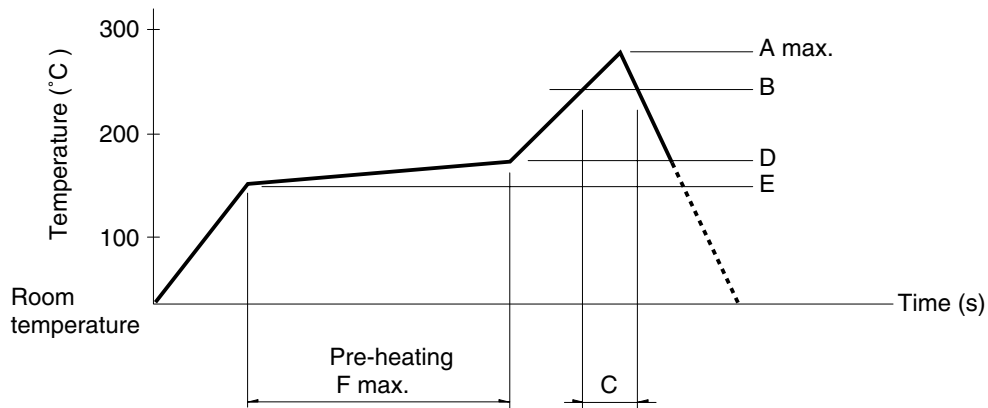
Detector Switches Soldering Conditions .....79

Detector Switches Cautions .....80

# 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



**Detector**

Push

Slide

Rotary

Encoders

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Dual-in-line  
Package Type

TACT Switch™

Custom-  
Products

Series( Reflow type )	A( ) 3s max.	B( )	C(s)	D( )	E( )	F(s)
SPPB	250	230	40			
SPPW8		200	20			
SPVE	260	230	40	180	150	120
SPVG						
SPVL						
SPVM						
SPVN						
SPVP						
SPVR						
SPVS						
SSCM						
SPPY5						

**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.



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Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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