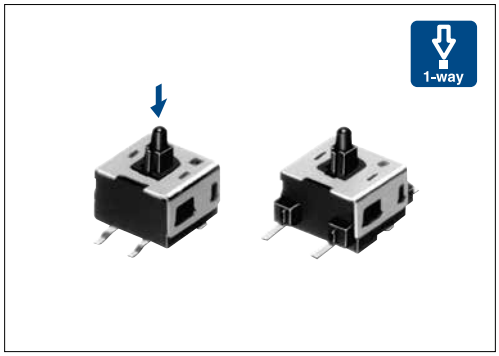
SPVE Compact One-way Operation Type

Applicable for use in compact digital devices. One of the smallest detector switches in the industry with a size of 3.4×3.0mm



Typical Specifications

Items		Specifications
Rating (max.)/(min.) (Resistive load)		0.1A 30V DC / 50μA 3V DC
Contact resistance (Initial / After operating life)		500mΩ max. / 1Ω max.
Operating force		0.3N max.
Operating life	Without load	50,000cycles
	With load	50,000cycles (0.1A 30V DC)

Product Line

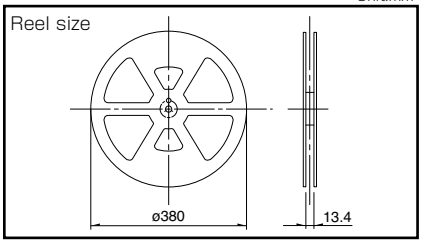
Poles	Positions	Terminal type	Slider height (mm)	ON start position (mm)	Total travel position (mm)	Style	Location lug	Minimumorder unit (pcs) Japan	Minimumorder unit (pcs) Export	Product No.	Drawing No.
1	1	For PC board (Reflow)	h=3.8	h_1=3.5	h_2=2.5	Standard	Without	2,800	22,400	**SPVE110100**	1
							With			**SPVE110600**	
			h=4.1	h_1=3.8	h_2=2.9		Without			**SPVE110401**	
							With			**SPVE110801**	
			h=4.8	h_1=4.5	h_2=3.6		Without	2,200	17,600	**SPVE110200**	
							With			**SPVE110900**	
			h=5.2	h_1=4.9	h_2=4.0			2,000	16,000	**SPVE111300**	
			h=5.5	h_1=5.2	h_2=4.3					**SPVE111200**	
			3.3	3.0	2.0	Low-profile	—	2,800	22,400	**SPVE210100**	2

Packing Specifications

Taping

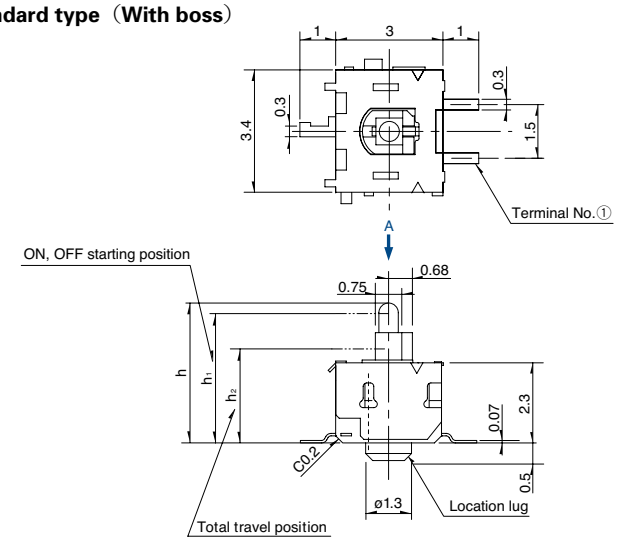
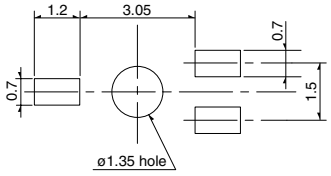
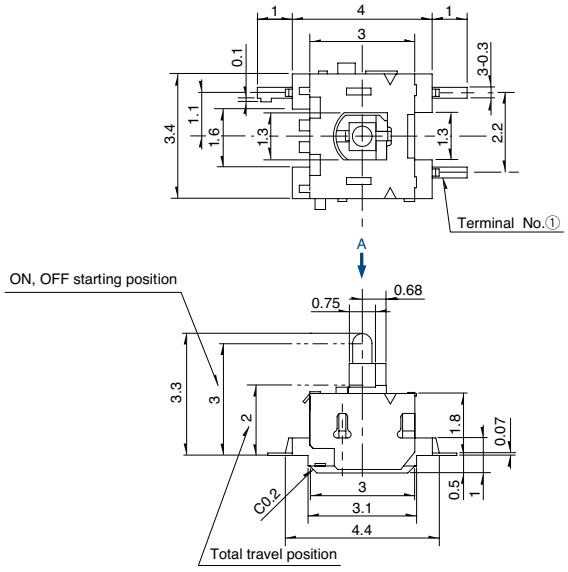
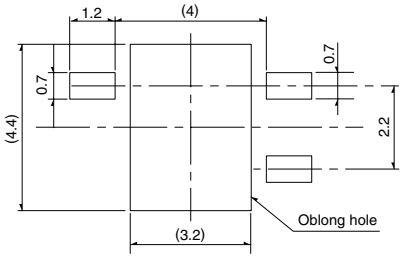
Product No.	Number of packages (pcs.) 1 reel	1 case /Japan	1 case /export packing	Tape width (mm)	Export package measurements (mm)
SPVE110100 SPVE110600 SPVE110401 SPVE110801	2,800	5,600	22,400	12	406×406×190
SPVE110200 SPVE110900	2,200	4,400	17,600		
SPVE111300 SPVE111200	2,000	4,000	16,000		
SPVE210100	2,800	5,600	22,400		

Unit:mm



Dimensions

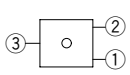
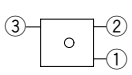
Unit:mm

No.	Style	PC board mounting hole and land dimensions (Viewed from direction A)
1	**Standard type（With boss）** 	**Reflow patterm** 
2	**Low-profile type** 	

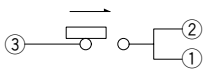
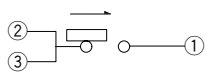
Note

Dimensions drawing is for type with location lugs.

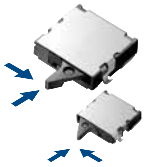
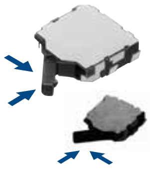
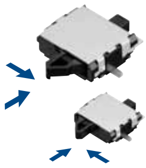
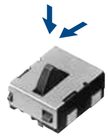
Terminal Layout (Viewed from Direction A)

Standard type	Low-profile type
	

Circuit Diagram

Standard type	Low-profile type
	

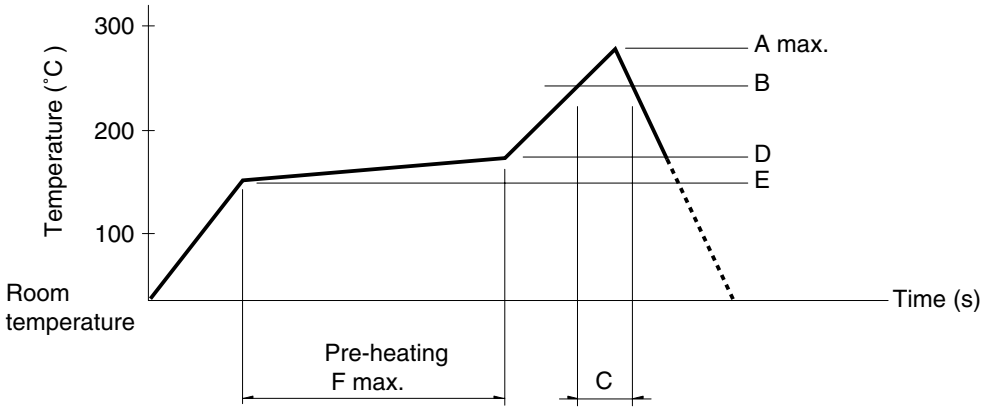
List of Varieties

Series		General-purpose Type					
		SPVS	SPVN	SPVT	SPVM	SPVR	SPVE
Photo							
Operation type		Two-way					One-way
Dimensions (mm)	W	3.5	3.8	5.6	2.8	3.6	3.4
	D	3.3	3.6	4.7	3.5	4.2	3
	H	1		1.9	1.5	1.2	2.3
Operating temperature range		−40℃ to +85℃					−10℃ to +60℃
Automotive use		●	●	●	●	●	—
Life cycle (availability)							
Poles / Positions		1/1					
Rating (max.) (Resistive load)		1mA 5V DC		50mA 20V DC	1mA 5V DC		0.1A 30V DC
Rating (min.) (Resistive load)		50μA 3V DC		100μA 3V DC	50μA 3V DC	100μA 3V DC	50μA 3V DC
Durability	Operating life without load	50,000cycles 5Ω max.		100,000cycles 1Ω max.	50,000cycles 5Ω max.		50,000cycles 1Ω max.
	Operating life with load Rating (max.) (Resistive load)	50,000cycles 5Ω max.		100,000cycles 1Ω max.	50,000cycles 5Ω max.		50,000cycles 1Ω max.
Electrical performance	Initial contact resistance	2Ω max.		500mΩ max.	2Ω max.	3Ω max.	500mΩ max.
	Insulation resistance	100MΩ min. 100V DC					
	Voltage proof	100V AC for 1 minute					
Mechanical performance	Terminal strength	0.5N for 1minute			1N for 1minute	0.5N for 1minute	
	Actuator strength	5N		10N	5N	2N	5N
Environmental performance	Cold	−40℃ 96h					−20℃ 96h
	Dry heat	85℃ 96h					
	Damp heat	40℃, 90 to 95%RH 96h					
Operation force		0.35N max.		0.4N max.		0.35N max.	0.3N max.
Page		16	19	21	24	26	27

Note
● Indicates applicability to all products in the series.

Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple φ0.1 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 (s)	D (℃)	E (℃)	F (s)
SPPB	250	230	40	180	150	120
SPVE	260		40			
SPVL						
SPVM						
SPVN						
SPVR						
SPVS						
SPVT						
SSCM						
SSCQ						
SPVQC	250					

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.

Reference for Hand Soldering

Series	Soldering temperature	Soldering time
SPVS, SPVN, SPVT, SPVM, SPVR, SPVE, SSCQ, SSCM, SPVL, SSCT, SPVQC	350±5℃	3s max.
SPVQ1, SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SSCN, SPVQA	300±10℃	3 +1 / 0s
SPPB (Reflow)	300±5℃	5s max.
SSCF, SPPB (For Lead, Dip)	350±10℃	3 +1 / 0s

Reference for Dip Soldering

(For PC board terminal types)

Series	Items		Dip soldering	
	Preheating temperature	Preheating time	Soldering temperature	Duration of immersion
SSCT, SPVQ1, SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SPVQA	100±10℃	60s max.	260±5℃	5±1s
SPPW8, SPPB	100 ℃ max.	60s max.	255±5℃	5±1s
SSCF	—		260±5℃	5±1s

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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
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- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

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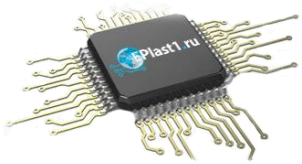
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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