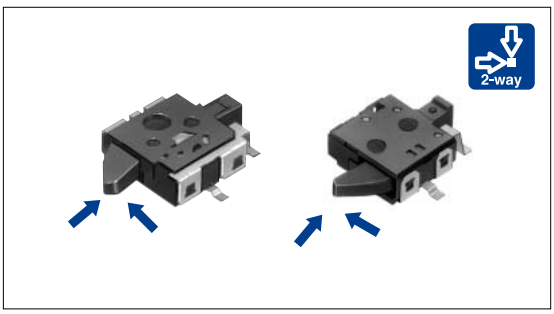
2mm-thick Two-way Operation Type

SPVG Series

Car Use RoHS compliant

A surface mountable two-way operation detector switch with 2mm height.



Typical Specifications

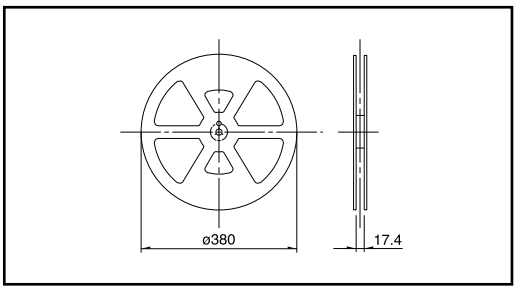
Items		Specifications
Rating (max.)/(min.) (Resistive load)		50mA 20V DC/100μA 3V DC
Contact resistance (Initial /After operating life)		500mΩ max./1Ω max.
Operating force		0.4N max.
Operating life	Without load	100,000cycles
	With load	100,000cycles (50mA 20V DC)

Product Line

Poles	Positions	Terminal type	Lever length	Operating direction	Location lug	Side terminal	Minimum order unit (pcs)	Product No.	Drawing No.
1	1	For PC board (Reflow)	Standard	Right	With	With both sides.	10,000	SPVG110301	1
						With a right side.		SPVG111500	2
						With a left side.		SPVG111400	3
						Without		SPVG120302	4
					Without	With both sides.		SPVG130200	1
				Left	With	With both sides.		SPVG210302	5
						With a right side.		SPVG211200	6
						With a left side.		SPVG211300	7
						Without		SPVG220300	8
					Without	With both sides.		SPVG230200	5
			Short	Right	With	With both sides.		SPVG310300	9
						Without		SPVG320200	10
					Without	With both sides.		SPVG330200	9
				Left	With	With both sides.		SPVG410300	11
						Without		SPVG420200	12
					Without	With both sides.		SPVG430200	11

Taping Specifications (Taping Packaging)

Reel Size Unit:mm



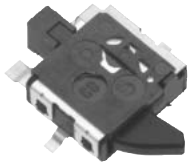
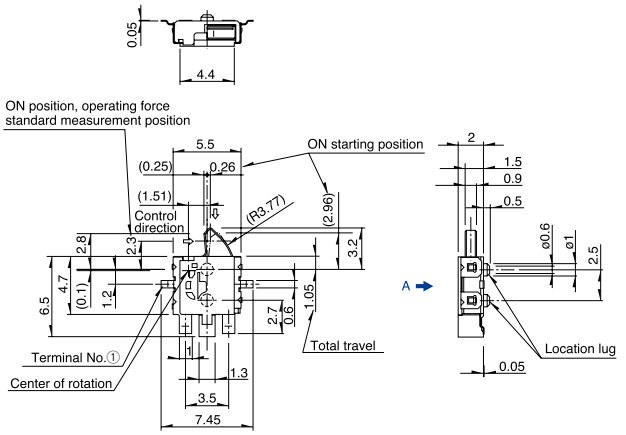
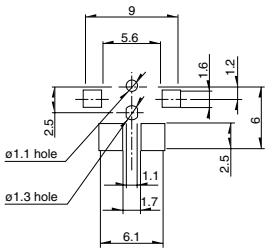
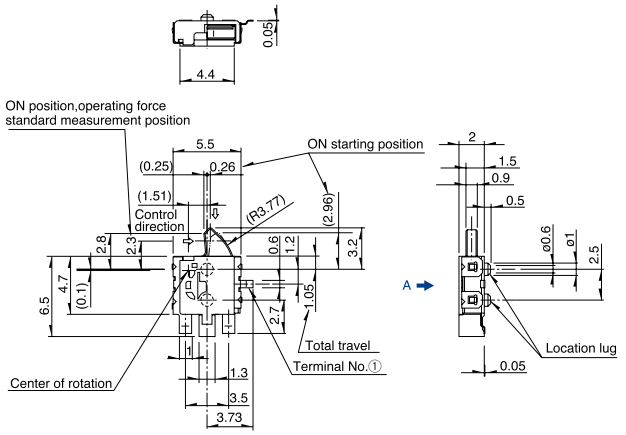
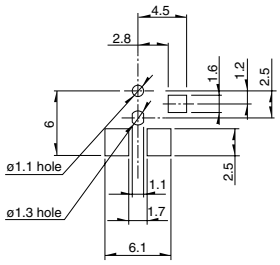
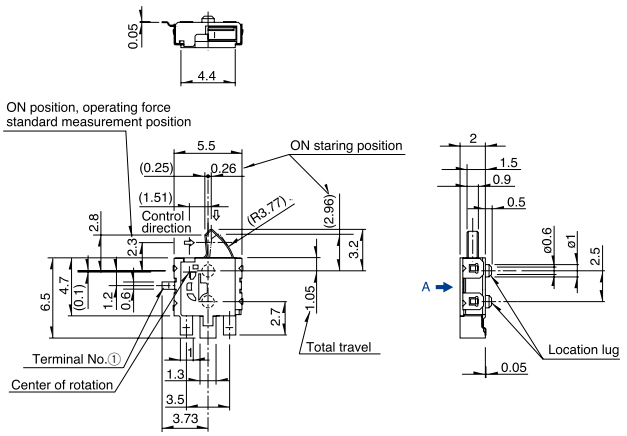
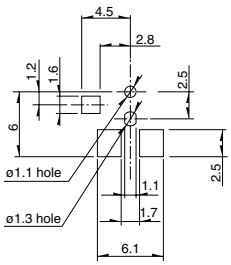
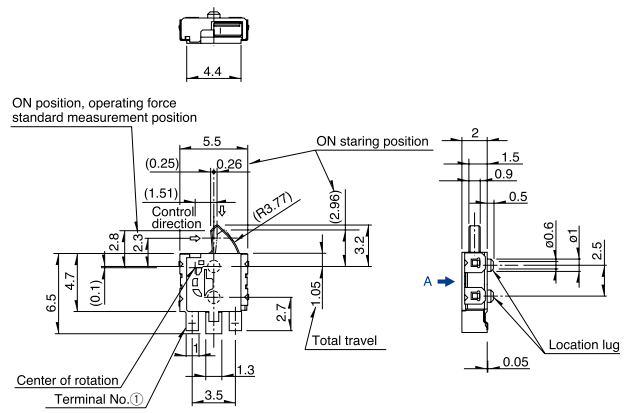
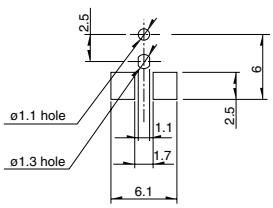
Number of packages (pcs.)			Tape width (mm)
1 reel	1 case /Japan	1 case /export packing	
2,500	5,000	10,000	16

Note

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

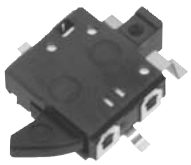
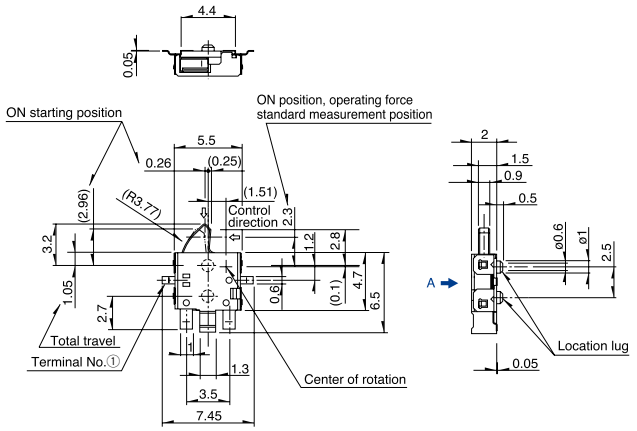
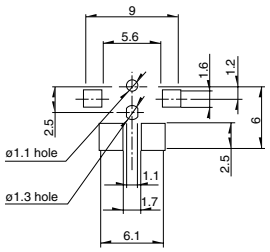
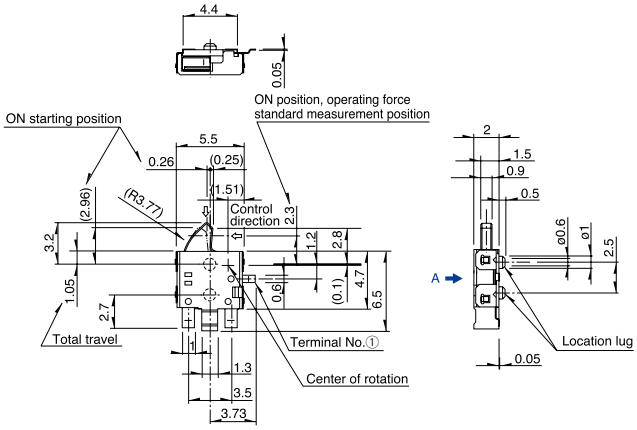
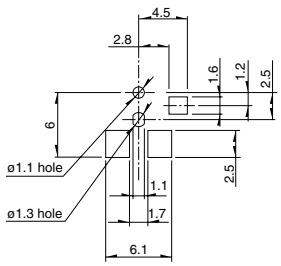
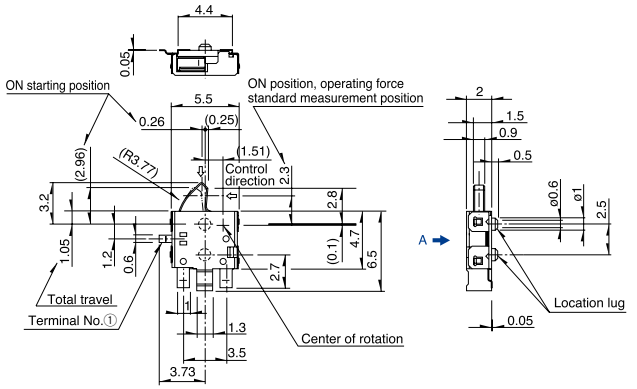
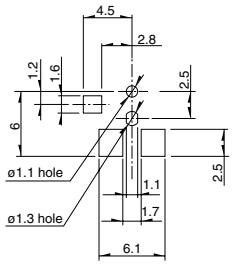
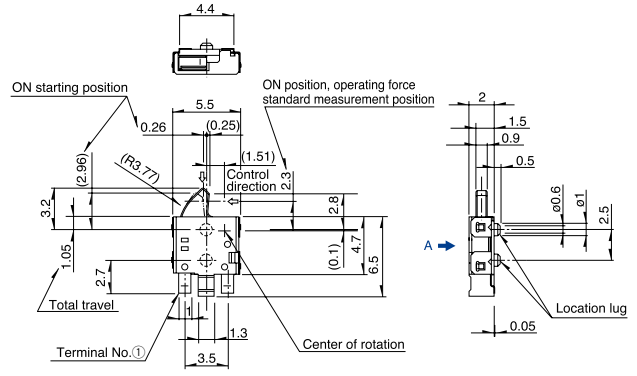
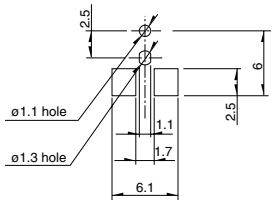
Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole and land dimensions (Viewed from direction A)
1	Right operation type 		
2	Right operation type 		
3	Right operation type 		
4	Right operation type 		

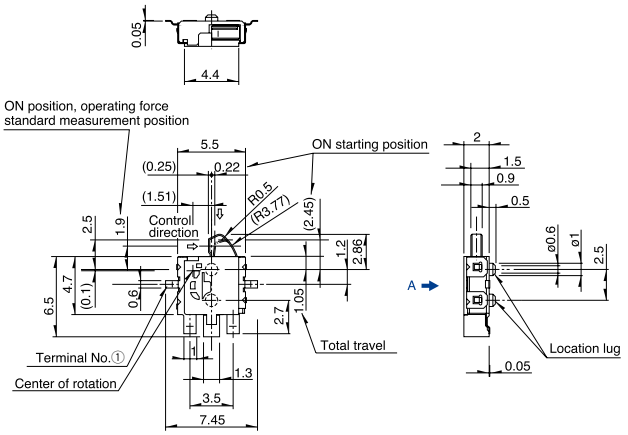
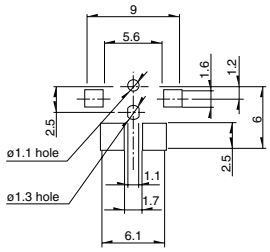
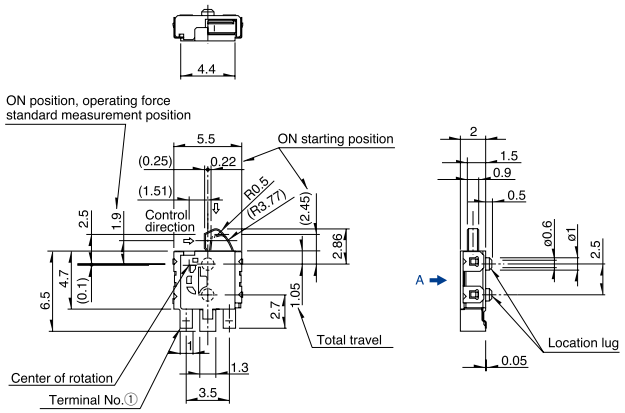
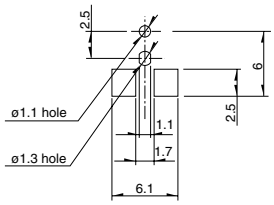
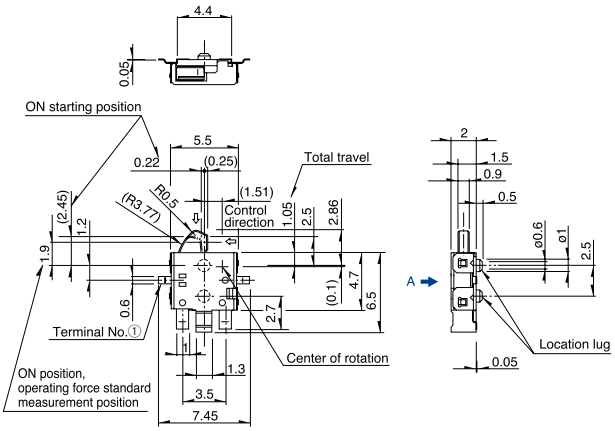
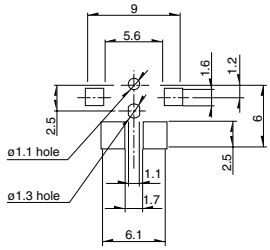
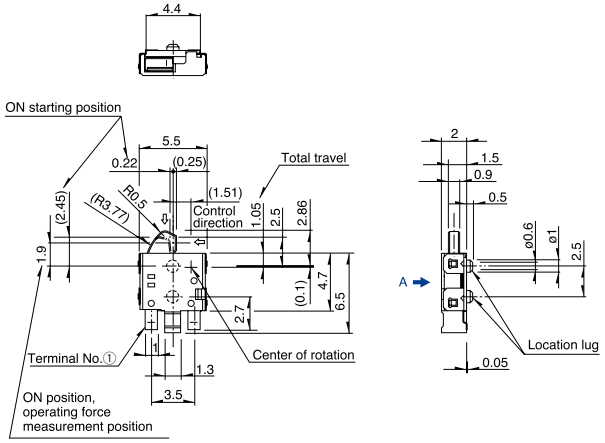
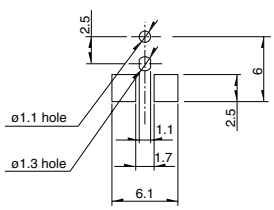
Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole and land dimensions (Viewed from direction A)
5	Left operation type 		
6	Left operation type 		
7	Left operation type 		
8	Left operation type 		

Dimensions

Unit:mm

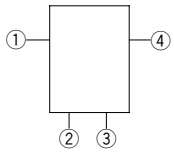
No.	Photo	Style	PC board mounting hole and land dimensions (Viewed from direction A)
9	Right operation type 		
10	Right operation type 		
11	Left operation type 		
12	Left operation type 		

Note

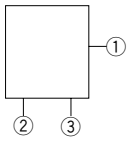
Above dimensions indicate "with location lug" versions.

Terminal Layout (Viewed from Direction A)

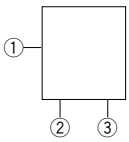
Drawing No. : 1, 5, 9, 11



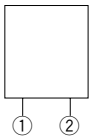
Drawing No. : 2, 6



Drawing No. : 3, 7

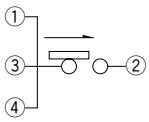


Drawing No. : 4, 8, 10, 12

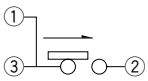


Circuit Diagram

Drawing No. : 1, 5, 9, 11



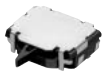
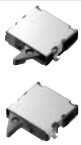
Drawing No. : 2, 3, 6, 7



Drawing No. : 4, 8, 10, 12



List of Varieties (General-purpose Type)

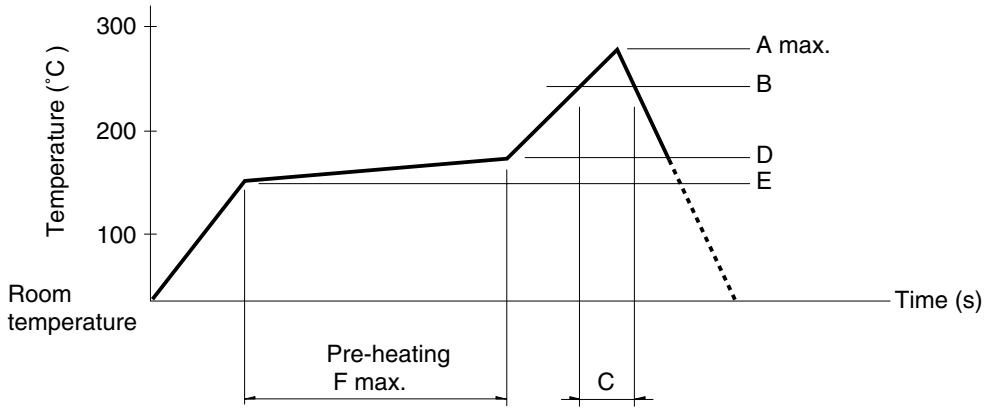
Series			General-purpose Type							
			SSCF	SSCM	SPVP	SPVC1	SPVN	SPVS	SPVG	SPVL
Photo										
Operation type			2-way	2-way	1-way	1-way	2-way	2-way	2-way	3-way
Operating temperature range			-40℃ to +85℃	-10℃ to +60℃	-40℃ to +85℃					
Rating (max.) (Resistive load)			0.1A 12V DC	1mA 5V DC		10mA 16V DC	1mA 5V DC		50mA 20V DC	1mA 5V 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		100mΩ max.	2Ω max.	5Ω max.	1Ω max.	2Ω max.		500mΩ max.	2Ω max.
	Insulation resistance		100MΩ min. 100V DC							
	Voltage proof		100V AC for 1 minute							
Mechanical performance	Terminal strength		5N for 1 minute	0.5N for 1 minute		3N for 1 minute	0.5N for 1 minute			1N for 1 minute
	Actuator strength		10N	0.5N	5N	10N	5N		10N	5N
Durability	Operating life without Load		50,000cycles 200mΩ max.	50,000cycles 5Ω max.	50,000cycles 10Ω max.	25,000cycles 2Ω max.	50,000cycles 5Ω max.		100,000cycles 1Ω max.	50,000cycles 5Ω max.
	Operating life with Load		(0.1A 12V DC) 50,000cycles 300mΩ max.	(1mA 5V DC) 50,000cycles 5Ω max.	(1mA 5V DC) 50,000cycles 10Ω max.	(10mA 16V DC) 25,000cycles 2Ω max.	(1mA 5V DC) 50,000cycles 5Ω max.		(50mA 20V DC) 100,000cycles 1Ω max.	(1mA 5V DC) 50,000cycles 5Ω 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	11	5	3.5	6.3	3.8	3.5	5.5	5.55
		D	5.8	4	5.65	7.4	3.6	3.3	6.5	6.6
		H	12.4	1.5	1.2	2.8	1		2	1
Soldering	Manual soldering		350±10℃, 3 +1 0 s	350±5℃, 3s max.		350 ±10℃, 3 +1 0 s	350±5℃, 3s max.			
	Dip soldering		260±5℃, 5±1s	—		260±5℃, 3s max.	—			
	Reflow soldering		—	Please see P.79		—	Please see P.79			
Number of poles			1							
Operation force			0.7N max.	0.35N max.	0.55N max.	0.85N max.	0.35N max.		0.4N max.	0.35N max.
Page			46	48	49	50	51	53	55	60

● 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 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	180	150	120
SPPW8		200	20			
SPVE	260	230	40			
SPVG						
SPVL						
SPVM						
SPVN						
SPVP						
SPVR						
SPVS						
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, 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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- Индивидуальный подход
- Гибкое ценообразование
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Email: n@nsistems.ru

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ОГРН: 1167746717709