

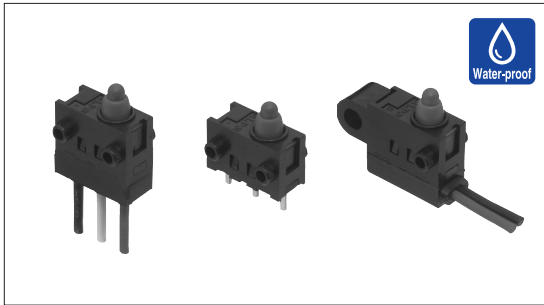
Detector Switch

Water-proof Type

SPVQ3 Series



Long travel type applicable to oblique pressing without an actuator.



Typical Specifications

Items		Specifications	
Rating (max.) / (min.) (Resistive load)		0.1A 12V DC 50μA 5V DC	0.3A 16V DC 1mA 5V DC
Contact resistance (Initial/After operating life)		500mΩ/1Ω max.	
Operating force		Push type	Actuator type
		1±0.5N	3N max.
Operating life		Normal type	Long life type
		Without load	300,000cycles 1,200,000cycles
		With load	300,000cycles (0.1A 12V DC) 1,200,000cycles (0.1A 16V DC)

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products

Product Line

Operating life	Poles	Positions	Change over timing	Operating part shape	Terminal type	Main body form	Minimum order unit (pcs)	Packing specification type	Product No.	Drawing No.
300,000 cycles	1	2	Non shorting	Push	For PC board	Normal	5,200	A	SPVQ380400	1
						Boss - right side			SPVQ380300	
						Boss - left side			SPVQ380201	
						Boss - both sides			SPVQ380100	
					Solder terminal	Boss - right side			SPVQ380700	2
						Boss - left side			SPVQ380600	
						Boss - both sides			SPVQ380500	
					Right angle	Boss - right side			SPVQ380900	3
					Left angle	Boss - left side			SPVQ380800	4
					With wire (Downwards)	With a screw hole			SPVQ361000※	5
						Boss - right side			SPVQ361100※	
						Boss - left side			SPVQ361200※	
		Boss - both sides				SPVQ361300※				
		With wire (Right side)			With a screw hole	SPVQ361400※	7			
					Boss - right side	SPVQ361500※				
					Boss - left side	SPVQ361600※		8		
					Boss - both sides	SPVQ361700※				
		With wire (Left side)			Boss - right side	SPVQ361800※	9			
					Boss - left side	SPVQ361900※				
					Boss - both sides	SPVQ362000※				
				1	For PC board	Normal		1,600	B	SPVQ370400
		Boss - right side				SPVQ370300				
		Boss - left side				SPVQ370200				
		Boss - both sides				SPVQ370100				
		Solder terminal			Boss - right side	SPVQ370700	2			
					Boss - left side	SPVQ370600				
					Boss - both sides	SPVQ370500				
		Right angle			Boss - right side	SPVQ370900	3			
		Left angle			Boss - left side	SPVQ370800	4			
		With wire (Downwards)			With a screw hole	SPVQ350100※	5			
					Boss - right side	SPVQ350200※				
					Boss - left side	SPVQ350300※				6
				Boss - both sides	SPVQ350400※					
		With wire (Right side)		With a screw hole	SPVQ350500※	7				
				Boss - right side	SPVQ350600※					
				Boss - left side	SPVQ350700※		8			
				Boss - both sides	SPVQ350800※					
		With wire (Left side)		Boss - right side	SPVQ350900※	9				
				Boss - left side	SPVQ351000※					
				Boss - both sides	SPVQ351100※					



Automotive
Use

Product Line

Product Line											
	Operating life	Poles	Positions	Change over timing	Operating part shape	Terminal type	Main body form	Minimum order unit (pcs)	Packing specification type	Product No.	Drawing No.
Detector	300,000 cycles		2	Non shorting	Actuator B	For PC board	Normal	5,200	A	SPVQ371300	1
							Boss - right side			SPVQ371200	
							Boss - left side			SPVQ371100	
							Boss - both sides			SPVQ371000	
						Solder terminal	Boss - right side			SPVQ371600	2
							Boss - left side			SPVQ371500	
							Boss - both sides			SPVQ371400	
							Right angle			Boss - right side	
						Left angle	Boss - left side			SPVQ371700	4
							With wire (Downwards)			With a screw hole	480
Boss - right side			SPVQ351300※								
Boss - left side			SPVQ351400※								
Boss - both sides			SPVQ351500※								
With wire (Right side)			With a screw hole		SPVQ351600※	7					
			Boss - right side		SPVQ351700※						
			Boss - left side		SPVQ351800※						
			Boss - both sides		SPVQ351900※						
With wire (Left side)			Boss - right side		SPVQ352000※	9					
			Boss - left side		SPVQ352100※						
			Boss - both sides		SPVQ352200※						
1,200,000 cycles			1		2	Push	For PC board	Normal	5,200	A	SPVQ340400
	Boss - right side	SPVQ340300									
	Boss - left side	SPVQ340200									
	Boss - both sides	SPVQ340100									
	Solder terminal	Boss - right side					SPVQ340700	2			
		Boss - left side					SPVQ340600				
		Boss - both sides					SPVQ340500				
		Right angle					Boss - right side				SPVQ340900
	Left angle	Boss - left side					SPVQ340800	4			
		With wire (Downwards)					With a screw hole	1,600			B
	Boss - right side				SPVQ320200※						
	Boss - left side				SPVQ320300※						
	Boss - both sides				SPVQ320400※						
	With wire (Right side)	With a screw hole			SPVQ320500※	7					
		Boss - right side			SPVQ320600※						
		Boss - left side			SPVQ320700※						
		Boss - both sides			SPVQ320800※						
	With wire (Left side)	Boss - right side			SPVQ320900※	9					
		Boss - left side			SPVQ321000※						
		Boss - both sides			SPVQ321100※						
	2	Actuator A			For PC board	Normal	5,200	A	SPVQ330400	1	
Boss - right side			SPVQ330300								
Boss - left side			SPVQ330200								
Boss - both sides			SPVQ330100								
Solder terminal			Boss - right side		SPVQ330700	2					
			Boss - left side		SPVQ330600						
			Boss - both sides		SPVQ330500						
			Right angle		Boss - right side				SPVQ330900	3	
Left angle			Boss - left side		SPVQ330800	4					
			With wire (Downwards)		With a screw hole	480			C	SPVQ310100※	5
Boss - right side	SPVQ310200※										
Boss - left side	SPVQ310300※										
Boss - both sides	SPVQ310400※										
With wire (Right side)	With a screw hole	SPVQ310500※	7								
	Boss - right side	SPVQ310600※									
	Boss - left side	SPVQ310700※									
	Boss - both sides	SPVQ310800※									
With wire (Left side)	Boss - right side	SPVQ310900※	9								
	Boss - left side	SPVQ311000※									
	Boss - both sides	SPVQ311100※									



Automotive Use



Product Line

Operating life	Poles	Positions	Change over timing	Operating part shape	Terminal type	Main body form	Minimum order unit (pcs)	Packing specification type	Product No.	Drawing No.
1,200,000 cycles	1	2	Non shorting	Actuator B	For PC board	Normal	5,200	A	SPVQ331300	1
						Boss - right side			SPVQ331200	
						Boss - left side			SPVQ331100	
						Boss - both sides			SPVQ331000	
					Solder terminal	Boss - right side			SPVQ331600	2
						Boss - left side			SPVQ331500	
						Boss - both sides			SPVQ331400	
					Right angle	Boss - right side			SPVQ331800	3
		Left angle			Boss - left side	SPVQ331700	4			
		1			With wire (Downwards)	With a screw hole	480	C	SPVQ311200※	5
						Boss - right side			SPVQ311300※	6
						Boss - left side			SPVQ311400※	
						Boss - both sides			SPVQ311500※	
					With wire (Right side)	With a screw hole			SPVQ311600※	7
						Boss - right side			SPVQ311700※	8
						Boss - left side			SPVQ311800※	
						Boss - both sides			SPVQ311900※	
					With wire (Left side)	Boss - right side			SPVQ312000※	9
						Boss - left side			SPVQ312100※	
						Boss - both sides			SPVQ312200※	

Detector

Push

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Rotary

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Custom-
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Packing Specifications

Bulk

Packing specification type	Number of packages (pcs.)		Export package measurements (mm)
	1 case /Japan	1 case /export packing	
A	1,300	5,200	540 × 360 × 290
B	400	1,600	555 × 375 × 223
C	120	480	555 × 375 × 223

Notes

- 1.This unit cannot be used in water.
- 2.※Unless specified, the length of the lead wire is 250mm. Color is either red, black or yellow. Please consult us for length modification.
- 3.※Unless circuit is specified, wired (downward) types will apply three wires.
- 4.※Please specify circuits (N.O. or N.C.) for wired (side) types. Unless specified, the circuit will apply N.O.
- 5.Product with wire will be build-to-order.
- 6.Please place purchase orders per minimum order unit N (integer).



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Dimensions

Unit:mm

Detector

Push

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Automotive
Use

No.	Style
1	※Refer to page 83 "Actuator Configurations" for operating part shape. ※Refer to page 83 "Main Body Configurations" for boss positions.
2	※Refer to page 83 "Actuator Configurations" for operating part shape. ※Refer to page 83 "Main Body Configurations" for boss positions.
3	※Refer to page 83 "Actuator Configurations" for operating part shape.
4	※Refer to page 83 "Actuator Configurations" for operating part shape.

Dimensions

Unit:mm

No.	Style
5	※Refer to page 83 "Actuator Configurations" for operating part shape.
6	※Refer to page 83 "Actuator Configurations" for operating part shape. ※Refer to page 83 "Main Body Configurations" for boss positions.
7	※Refer to page 83 "Actuator Configurations" for operating part shape.
8	※Refer to page 83 "Actuator Configurations" for operating part shape. ※Refer to page 83 "Main Body Configurations" for boss positions.

Detector

Push

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Dual-in-line
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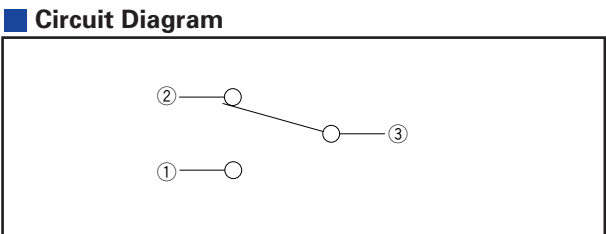
Automotive
Use

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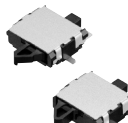
Dimensions		Unit:mm
No.	Style	
9	※Refer to below "Actuator Configurations" for operating part shape. ※Refer to below "Main Body Configurations" for boss positions.	

Actuator Configurations			Unit:mm
Push	Actuator A	Actuator B	

Main Body Configurations				Unit:mm
Normal	Boss - right side	Boss - left side	Boss - both sides	



List of Varieties (General-purpose Type / Water-proof Type)

Series		General-purpose Type				Water-proof Type			
		SPVT	SPVL	SSCW	SPVQ5	SPVQ1	SPVQ3	SPVQ4H	
Photo									
Operation type									
Operating temperature range		-40℃ to +85℃							
Automotive use									
Rating (max.) (Resistive load)		50mA 20V DC	1mA 5V DC	0.1A 12V DC					
Rating (min.) (Resistive load)		100μA 3V DC	50μA 3V DC	100μA 3V DC	50μA 3V DC		50μA 5V DC or 1mA 5V DC	1mA 5V DC	
Electrical performance	Initial contact resistance	500mΩ max.	2Ω max.	500mΩ max.					
	Insulation resistance	100MΩ min. 100V DC		100MΩ min. 250V DC	100MΩ min. 500V DC				
	Voltage proof	100V AC for 1 minute		250V AC for 1 minute	500V AC for 1 minute				
Mechanical performance	Terminal strength	0.5N for 1 minute	1N for 1 minute	3N for 1 minute Wire strength 30N for 1minute Applicable to product with wire			Wire strength 30N for 1minute		
	Actuator strength	10N	5N	20N					
Durability	Operating life without Load	100,000cycles 1Ω max.	50,000cycles 5Ω max.	100,000cycles 1Ω max.	300,000cycles 1Ω max.		300,000cycles or 1,200,000cycles 1Ω max.	300,000cycles 1Ω max.	
	Operating life with Load	(50mA 20V DC) 100,000cycles 1Ω max.	(1mA 5V DC) 50,000cycles 5Ω max.	(0.1A 12V DC) 100,000cycles 1Ω max.	(0.1A 12V DC) 300,000cycles 1Ω max.		(0.1A 12V DC) 300,000cycles or 1,200,000 cycles 1Ω max.	(0.1A 12V DC) 300,000cycles 1Ω max.	
Environmental performance	Cold	-40±2℃ for 500h							
	Dry heat	85±2℃ for 500h							
	Damp heat	40±2℃, 90 to 95%RH for 500h	60±2℃, 90 to 95%RH for 500h						
Dimensions (mm)		W	5.6	5.55	13.1	13.8	13.3	13	19
		D	6.5	6.6	11.35		5.8		6
		H	1.9	1	5.3	5.8	8	8.35	11.9
Soldering	Manual soldering	350±5℃, 3s max.				300±10℃, 3 ⁺¹ / ₋₀ s			
	Dip soldering					260±5℃, 5±1s			
	Reflow soldering	Please see P.97							
Number of poles		1							
Operation force		0.4N max.	0.35N max.	1N max.	2N max.	2N max. 5.9N max.	3N max.		
Page		68	71	72	73	74	78	84	

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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.