

Index for Function

Series		SPPB	SPVE	SPPW8	SPVM	SPVF	SSCU	SSCT	SPVP	SPVC1	SPVN	SPVG	SPVL	SSCF	SPVQ	SPVD		
Photo																		
Power																		
Push																		
Slide		●	●	●	—											●	—	
Rotary		●	—		●	●	●	●	—							●	—	
Encoders		—													●	—		
Jog Shuttle		—																
Telephone-hook		—																
Detector	Operation type		●	—						●	●	—					●	—
			●	—								●	●	—		●	●	
			—													●	—	
			—													●	—	
Dimensions (mm)	W	6.3	3.4	5	2.8	9	11	12.5	3.5	6.3	3.8	5.5	5.55	11	18.3	18.6		
	D	3		4	3.5		5.8	5	5.65	7.4	3.6	4.7	6.6	5.8		7		
	H	4.9	2.3	4	1.5	4.5	7	11.5	1.2	2.8	1	2	1	12.4	12	15.8		
Soldering	Manual /Dip soldering	●	—	●	—	●	—	●	—	●	—			●	●	—		
	Reflow soldering	●	●	●	●	—			●	—	●	●	●	—				
Number of poles		1																
Operation force		0.35N max.	0.3N max.		0.4N max.	0.3N max.	0.5N max.	0.7±0.3N	0.55N max.	0.85N max.	0.35N max.	0.4N max.	0.35N max.	0.7N max.	5.9N max.	5.9N max.		
Lead-free※1		●	●	●	●	●	●	●	●	●	●	●	●	●	○	○		
Minimum packing unit ※2※3		100 ※4	※4	100 ※4	※4	1,000	100		※4	100	※4	※4	※4	100	150	100		
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Notes

1. ※1. ● mark : This product series do not contain any lead in all materials and parts.
○ mark : This series meet Pb-free restrictions ELV and RoHS directives.
ELV : End-of-Life Vehicle
RoHS : Restriction of the use of certain Hazardous Substances in electrical and electronic equipment
2. ※2. Place your purchase order in N minimum package units (N: integer).
3. ※3. Ask us for the export packaging unit.
4. ※4. For specifications for the taping package, see P.285.

Products Specifications

Series		Items									
		SPPB	SPVE	SPPW8	SPVM	SPVF	SSCU	SSCT	SPVP		
Power	Operating temperature range	-10°C to +60°C									
Push	Rating (max.) (Resistive load)	0.1A 30V DC	0.1A 12V DC	0.1A 30V DC	1mA 5V DC		0.1A 12V DC		1mA 5V DC		
Slide	Electrical performance	Initial contact resistance	1Ω max.	500mΩ max.	1Ω max.	2Ω max.	500mΩ max.	70mΩ max.	20mΩ max.	5Ω max.	
Rotary		Insulation resistance	100MΩ min. 100V DC				100MΩ min. 250V DC		100MΩ min. 100V DC		
Encoders		Voltage proof	100V AC for 1 min.				250V AC for 1 min.		100V AC for 1 min.		
Jog Shuttle	Mechanical performance	Robustness of terminal	3N for 1 min.	0.5N for 1 min.	3N for 1 min.	1N for 1 min.	3Nfor 30s	3Nfor 1min.		0.5N for 1 min.	
Telephone-hook		Robustness of actuator	10N	5N	10N	5N	1N	10N		5N	
Detector		Vibration	10 to 55 to 10Hz/min., the amplitude is 1.5mm for all the frequencies, in the 3 direction of X, Y and Z for 2 hours respectively								
Vibration/Tilt Sensors	Resistance to soldering heat	Solderability	230±5°C, 3±0.5s								
Dual-in-line Package Type		Manual soldering	300±10°C, 3 ⁺¹ ₀ s	350±5°C, 3s max.	300±10°C, 3 ⁺¹ ₀ s	350±5°C, 3s max.	300±10°C, 3 ⁺¹ ₀ s	350±10°C, 3 ⁺¹ ₀ s		350±5°C, 3s max.	
Multi Control Devices			Dip soldering	260±5°C, 5±1s	—	255±5°C, 5±1s	—	260±5°C, 5±1s	—	260±5°C, 5±1s	—
TACT	Durability	Reflow soldering	Please see P.284				—		Please see P.284		
		Operating life without load	50,000 cycles 2Ω max.	50,000 cycles 1Ω max.	100,000 cycles 2Ω max.	50,000 cycles 5Ω max.	100,000 cycles 1Ω max.	10,000 cycles 100mΩ max.	10,000 cycles 40mΩ max.	50,000 cycles 10Ω max.	
		Operating life with load	(0.1A 30V DC) 50,000 cycles 2Ω max.	(0.1A 12V DC) 50,000 cycles 1Ω max.	(0.1A 30V DC) 100,000 cycles 2Ω max.	(1mA 5V DC) 50,000 cycles 5Ω max.	(1mA 5V DC) 100,000 cycles 1Ω max.	(0.1A 12V DC) 10,000 cycles 150mΩ max.	(0.1A 12V DC) 10,000 cycles 60mΩ max.	(1mA 5V DC) 50,000 cycles 10Ω max.	
Environmental performance	Cold	-20±2°C for 96h	-25±2°C for 96h	-20±2°C for 96h		-40±2°C for 96h	-20±2°C for 96h				
	Dry heat	85±2°C for 96h									
	Damp heat	40±2°C, 90 to 95%RH for 96h									

Products Specifications

Series		SPVC1	SPVN	SPVG	SPVL	SSCF	SPVQ	SPVD		
Items										
Operating temperature range		-10°C to +60°C					-40°C to +85°C	-30°C to +80°C		
Rating (max.) (Resistive load)		10mA 16V DC	1mA 5V DC	50mA 20V DC	1mA 5V DC	0.1A 12V DC				
Electrical performance	Initial contact resistance	1Ω max.	2Ω max.	500mΩ max.	2Ω max.	100mΩ max.	500mΩ max.	300mΩ max.		
	Insulation resistance	100MΩ min. 100V DC					100MΩ min. 500V DC	100MΩ min. 250V DC		
	Voltage proof	100V AC for 1 min.					500V AC for 1 min.	250V AC for 1 min.		
Mechanical performance	Robustness of terminal	3N for 1 min.	0.5N for 1 min.		1N for 1 min.	5N for 1 min.	3N for 1 min.	—		
	Robustness of actuator	10N	5N	2N	1N	10N	20N			
	Vibration	10 to 55 to 10Hz/min., the amplitude is 1.5mm for all the frequencies, in the 3 direction of X, Y and Z for 2 hours respectively								
	Solderability	230±5°C, 3±0.5s							—	
	Resistance to soldering heat	Manual soldering	300±10°C, 3 ⁺¹ ₀ s	350±5°C, 3s max.			300±10°C, 3 ⁺¹ ₀ s	350±10°C, 3 ⁺¹ ₀ s	—	
		Dip soldering	260±5°C, 5±1s	—			260±5°C, 5±1s		—	
Reflow soldering		—	Please see P.284			—				
Durability	Operating life without load	25,000 cycles 2Ω max.	50,000 cycles 5Ω max.	100,000 cycles 1Ω max.	50,000 cycles 5Ω max.	50,000 cycles 200mΩ max.	30,000 cycles 1Ω max.	100,000 cycles 5Ω max.		
	Operating life with load	(10mA 16V DC) 25,000 cycles 2Ω max.	(1mA 5V DC) 50,000 cycles 5Ω max.	(50mA 20V DC) 100,000 cycles 1Ω max.	(1mA 5V DC) 50,000 cycles 5Ω max.	(0.1A 12V DC) 50,000 cycles 300mΩ max.	(0.1A 12V DC) 300,000 cycles 1Ω max.	(0.1A 12V DC) 100,000 cycles 5Ω max.		
Environmental performance	Cold	-20±2°C for 96h		-40±2°C for 96h	-20±2°C for 96h		-40±2°C for 500h	-40±2°C for 96h		
	Dry heat	85±2°C for 96h					85±2°C for 500h	85±2°C for 96h		
	Damp heat	40±2°C, 90 to 95%RH for 96h					60±2°C, 90 to 95%RH for 500h	40±2°C, 90 to 95%RH for 96h		

Power

Push

Slide

Rotary

Encoders

Jog Shuttle

Telephone-hook

Detector

Vibration/Tilt Sensors

Dual-in-line Package Type

Multi Control Devices

TACT