

Subminiature Basic Switch

SSG

Subminiature Basic Switch Conforming to EN61058-1 (IEC1058-1), UL1054, and CSA C22.2 No.54

- A wide operating temperature range of -25°C to 125°C is available for at high-temperature use.
- A wide variety of terminals:
Solder, Tab (#110), and PCB Terminal Models.
- PCB Terminal Models are resistant to flux.



Ordering Information

Actuator	Rating	OF max.	Solder (see note)	Tab (#110)	PCB (see note)
Pin plunger 	0.1 A	1.50 N	SSG-01H	SSG-01T	SSG-01P
		0.50 N	SSG-01H-5	SSG-01T-5	SSG-01P-5
	5 A	1.50 N	SSG-5H	SSG-5T	SSG-5P
		0.50 N	SSG-5H-5	SSG-5T-5	SSG-5P-5
Hinge lever 	0.1 A	0.60 N	SSG-01L1H	SSG-01L1T	SSG-01L1P
		0.20 N	SSG-01L1H-5	SSG-01L1T-5	SSG-01L1P-5
	5 A	0.60 N	SSG-5L1H	SSG-5L1T	SSG-5L1P
		0.20 N	SSG-5L1H-5	SSG-5L1T-5	SSG-5L1P-5
Simulated hinge lever 	0.1 A	0.60 N	SSG-01L3H	SSG-01L3T	SSG-01L3P
		0.20 N	SSG-01L3H-5	SSG-01L3T-5	SSG-01L3P-5
	5 A	0.60 N	SSG-5L3H	SSG-5L3T	SSG-5L3P
		0.20 N	SSG-5L3H-5	SSG-5L3T-5	SSG-5L3P-5
Hinge roller lever 	0.1 A	0.60 N	SSG-01L2H	SSG-01L2T	SSG-01L2P
		0.20 N	SSG-01L2H-5	SSG-01L2T-5	SSG-01L2P-5
	5 A	0.60 N	SSG-5L2H	SSG-5L2T	SSG-5L2P
		0.20 N	SSG-5L2H-5	SSG-5L2T-5	SSG-5L2P-5

Note: EN61058-1 (IEC1058-1) approved by TÜV Rheinland.

Specifications

■ Ratings

1. General Ratings

Rated voltage	Non-inductive load				Inductive load			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	5 (0.1) A (see note 1)		1.5 A	0.7 A	3 A		2.5 A	1.3 A
250 VAC	3 A		1 A	0.5 A	2 A		1.5 A	0.8 A
8 VDC	5 A		2 A		5 A		3 A	
14 VDC	5 A		2 A		4 A		3 A	
30 VDC	4 (0.1) A (see note 1)		2 A		3 A		3 A	
125 VDC	0.4 A		0.05 A		0.4 A		0.05 A	
250 VDC	0.2 A		0.03 A		0.2 A		0.05 A	

- Note:**
1. The values in the parentheses are for the SSG-01.
 2. The above current ratings are the values of the steady-state current.
 3. Inductive load has a power factor of 0.7 min. (AC) and a time constant of 7 ms max. (DC).
 4. Lamp load has an inrush current of 10 times the steady-state current.
 5. Motor load has an inrush current of 6 times the steady-state current.
 6. If the switch is used in a DC circuit and is subjected to a surge current, connect a surge suppressor across the switch.

2. TÜV Rheinland Approved Rating (EN61058-1/IEC1058-1)

SSG-5 series: 5 A at 250 VAC (T125, 50,000 operations)

SSG-01 series: 0.1 A at 30 VDC (T125, 50,000 operations)

3. UL, CSA Approved Rating

SSG-5 series: 5 A at 125 VAC, 3 A at 250 VAC (6,000 operations)

SSG-01 series: 0.1 A at 125 VAC, 0.1 A at 30 VDC (6,000 operations)

■ Characteristics

Operating speed	0.1 mm to 1 m/s (at pin plunger)
Operating frequency	Mechanical: 400 operations/min Electrical: 60 operations/min
Insulation resistance	100 MΩ min.
Contact resistance	OF 1.50 N: SSG-5 series: 30 mΩ max. SSG-01 series: 50 mΩ max. OF 0.50 N: SSG-5 series: 50 mΩ max. SSG-01 series: 100 mΩ max.
Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between contacts of the same polarity (600 VAC for SSG-01H and SSG-01T series) 1,500 VAC, 50/60 Hz for 1 min between each terminal and ground 1,500 VAC, 50/60 Hz for 1 min between each terminal and non-current-carrying metal part
Inrush current	SSG-5: NO: 20 A max. NC: 10 A max. SSG-01: NO: 1 A max. NC: 1 A max.
Vibration resistance	Malfunction: 10 to 2,000 Hz, 196 m/s ² (20G) (Contact open: 10 μs max., lever position: at TTP)
Shock resistance	Malfunction: 490 m/s ² (approx. 50G) (Contact open: 10 μs max., lever position: at TTP)
Life expectancy	Mechanical: 10,000,000 operations min. (OT: rated value) Electrical: 200,000 operations min. (5 A at 125 VAC for SSG-5, 0.1 A at 125 VAC for SSG-01, resistive OT: full)
Degree of protection (IP code)	IP00 (IEC1058-1)
Degree of protection against electrical shock	Class I (IEC1058-1)
Proof tracking index	175 V (IEC1058-1)
Switch category (IEC335-1)	D (IEC1058-1)

■ Contact

Item	SSG-5	SSG-01
Specification	Rivet	Crossbar
Material	Silver	PGS alloy

■ Safety Standards

Certification body	Standard	File no.
TÜV Rheinland	EN61058-1 (IEC1058-1)	T9451449
UL	UL1054	E32667
CSA	C22.2 No.54	LR21642

■ Operating Characteristics

Solder/Tab Terminal

Type	Pin plunger		Hinge lever		Simulated hinge lever		Hinge roller lever	
	SSG-01□ SSG-5□	SSG-01□-5 SSG-5□-5	SSG-01L1□ SSG-5L1□	SSG-01L1□-5 SSG-5L1□-5	SSG-01L3□ SSG-5L3□	SSG-01L3□-5 SSG-5L3□-5	SSG-01L2□ SSG-5L2□	SSG-01L2□-5 SSG-5L2□-5
OF max.	1.50 N (153 gf)	0.50 N (51 gf)	0.60 N (61 gf)	0.20 N (20 gf)	0.60 N (61 gf)	0.20 N (20 gf)	0.60 N (61 gf)	0.20 N (20 gf)
RF min.	0.25 N (25 gf)	0.04 N (4 gf)	0.06 N (6 gf)	0.02 N (2 gf)	0.06 N (6 gf)	0.02 N (2 gf)	0.06 N (6 gf)	0.02 N (2 gf)
PT max.	0.6 mm		1.0 mm		1.0 mm		1.0 mm	
OT min.	0.4 mm		0.8 mm		0.8 mm		0.8 mm	
MD max.	0.1 mm		---		---		---	
FP max.	---		13.6 mm		15.5 mm		19.0 mm	
OP	8.4±0.3 mm		8.8 ^{+1.0} / _{-0.6} mm		10.7 ^{+1.0} / _{-0.6} mm		14.5 ^{+1.0} / _{-0.6} mm	

PCB Terminal

Type	Pin plunger		Hinge lever		Simulated hinge lever		Hinge roller lever	
	SSG-01P SSG-5P	SSG-01P-5 SSG-5P-5	SSG-01L1P SSG-5L1P	SSG-01L1P-5 SSG-5L1P-5	SSG-01L3P SSG-5L3P	SSG-01L3P-5 SSG-5L3P-5	SSG-01L2P SSG-5L2P	SSG-01L2P-5 SSG-5L2P-5
OF max.	1.50 N (153 gf)	0.50 N (51 gf)	0.60 N (61 gf)	0.20 N (20 gf)	0.60 N (61 gf)	0.20 N (20 gf)	0.60 N (61 gf)	0.20 N (20 gf)
RF min.	0.25 N (25 gf)	0.04 N (4 gf)	0.06 N (6 gf)	0.02 N (2 gf)	0.06 N (6 gf)	0.02 N (2 gf)	0.06 N (6 gf)	0.02 N (2 gf)
PT max.	0.6 mm		1.0 mm		1.0 mm		1.0 mm	
OT min.	0.4 mm		0.8 mm		0.8 mm		0.8 mm	
MD max.	0.1 mm		---		---		---	
FP max.	---		17.0 mm		18.9 mm		22.4 mm	
OP	11.8±0.4 mm		12.2 ^{+1.1} / _{-0.7} mm		14.4 ^{+1.1} / _{-0.7} mm		17.9 ^{+1.1} / _{-0.7} mm	

Dimensions

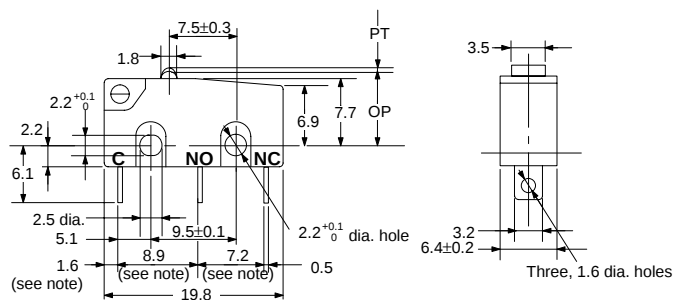
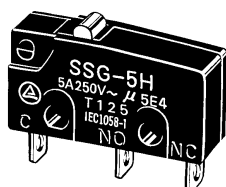
- Note:**
1. All units are in millimeters unless otherwise indicated.
 2. Every actual model number includes the code instead of □ for the kind of terminals incorporated by the model.
 3. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

■ Terminal Model

Solder/Tab Terminal

Pin Plunger

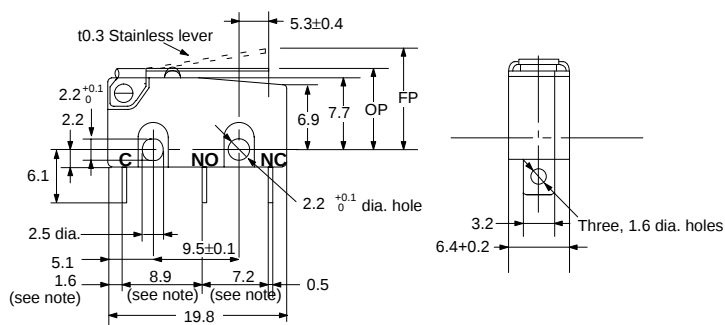
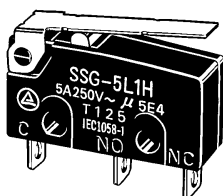
SSG-01□
SSG-5□
SSG-01□-5
SSG-5□-5



Note: At switch bottom

Hinge Lever

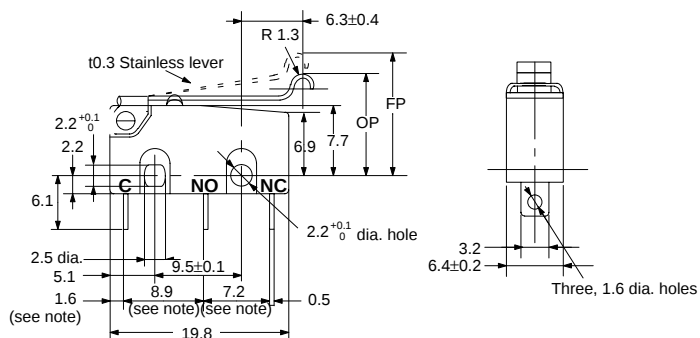
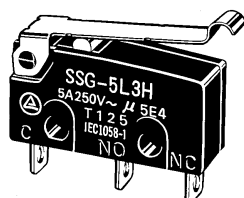
SSG-01L1□
SSG-5L1□
SSG-01L1□-5
SSG-5L1□-5



Note: At switch bottom

Simulated Hinge Lever

SSG-01L3□
SSG-5L3□
SSG-01L3□-5
SSG-5L3□-5



Note: At switch bottom

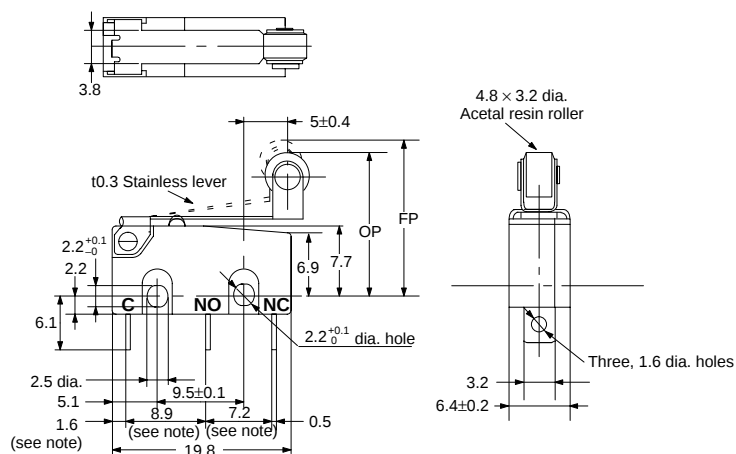
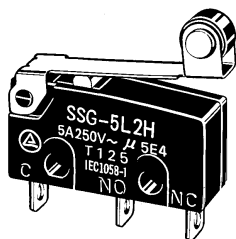
Hinge Roller Lever

SSG-01L2□

SSG-5L2□

SSG-01L2□-5

SSG-5L2□-5



Note: At switch bottom

PCB Terminal

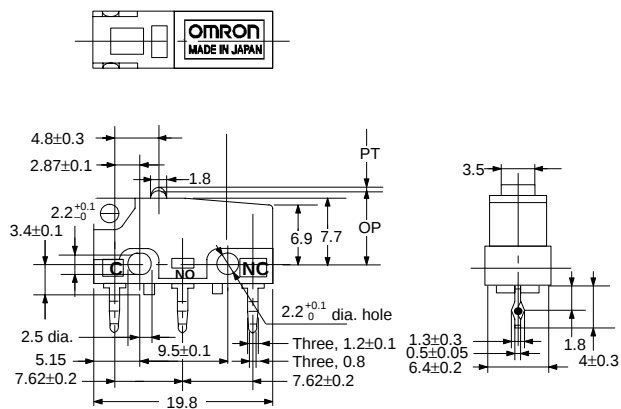
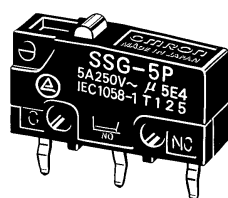
Pin Plunger

SSG-01P

SSG-5P

SSG-01P-5

SSG-5P-5



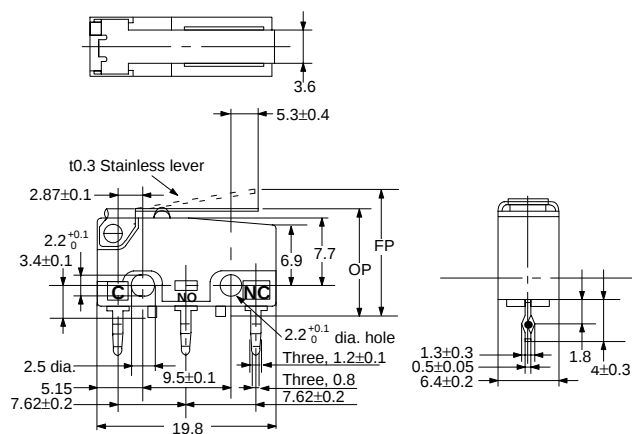
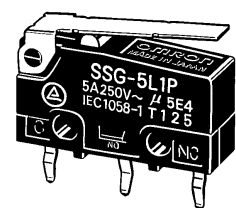
Hinge Lever

SSG-01L1P

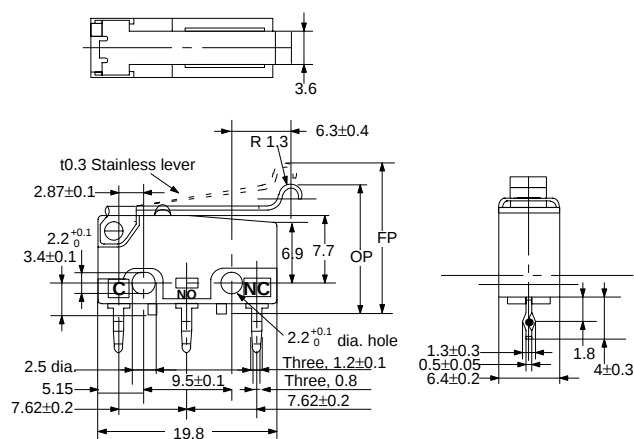
SSG-5L1P

SSG-01L1P-5

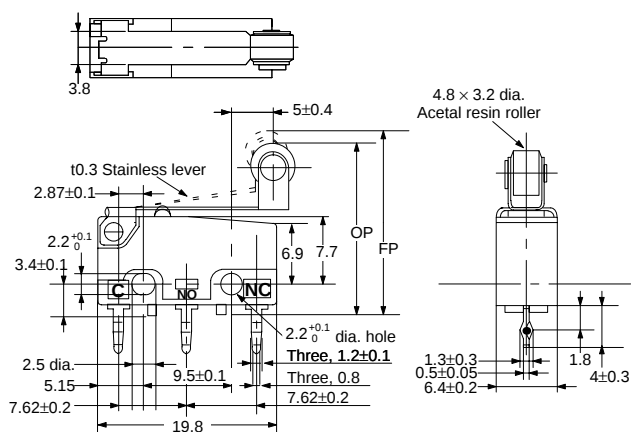
SSG-5L1P-5



SSG-51L3P-5

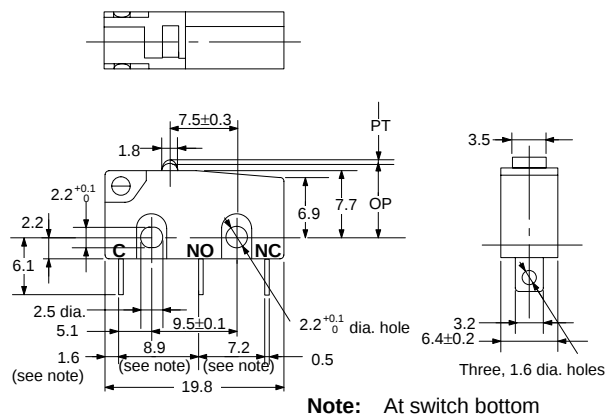


SSG-5L2P-5

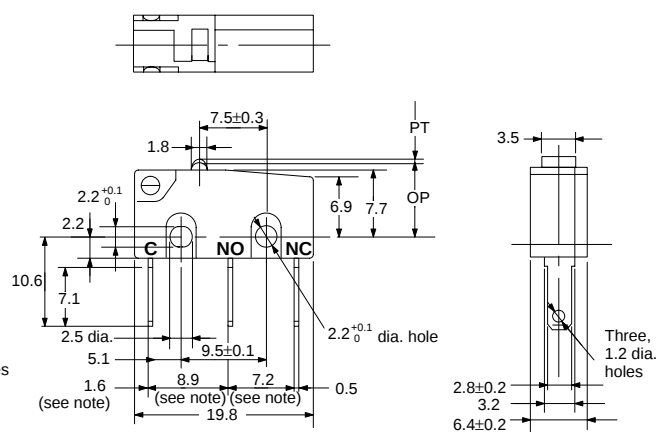


■ Kind of Terminals

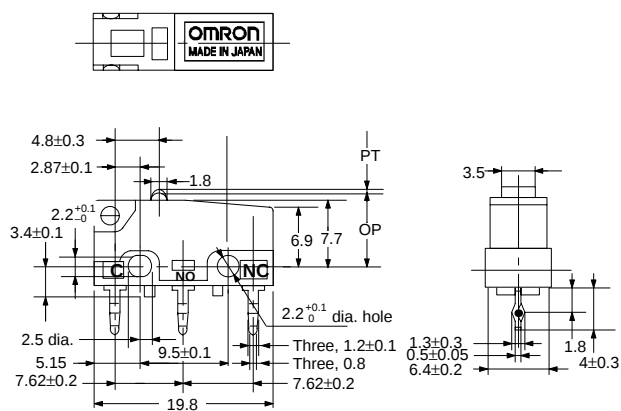
Solder Terminals



Tab Terminals (#110)



PCB Terminals



PCB Mounting

