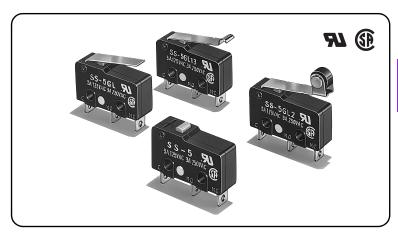
# **Subminiature Basic Switch**

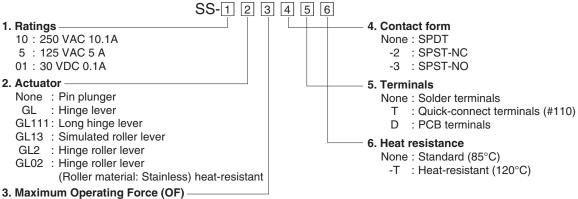
# **Subminiature Basic Switch** Offers High Reliability and Security

- The OMRON's best-selling micro switches of a wide variety from 0.1A to 10.1A.
- A variety of models are available, with operating force ranging from low to high.
- Two split springs ensure a high stability and durability of 30,000,000 operations.
- 1 mm MIN Contact Gap Models available for Interlock applications

**RoHS Compliant** 

# **Model Number Legend**





None: 1.47 N {150 gf}

Note. These values are for the pin plunger models. -F : 0.49 N {50 gf} (0.1 A, 5 A)

-E : 0.25 N {25 gf} (0.1 A)

#### List of Models

#### Standard Models

			Ratings	10.1 A	5 A	0.1 A
Actuator	Terminals	Contact Form	Maximum Operating Force (OF)	10.1 A	37	0.1 A
		SPDT		SS-10	SS-5	SS-01
	Solder terminals	SPST-NC		SS-10-2	SS-5-2	SS-01-2
		SPST-NO		SS-10-3	SS-5-3	SS-01-3
	Quick-connect	SPDT		SS-10T	SS-5T	SS-01T
	terminals (#110)	SPST-NC	1.47 N {150 gf}	SS-10-2T	SS-5-2T	SS-01-2T
	terrilliais (#110)	SPST-NO		SS-10-3T	SS-5-3T	SS-01-3T
		SPDT		SS-10D	SS-5D	SS-01D
	PCB terminals	SPST-NC		SS-10-2D	SS-5-2D	SS-01-2D
		SPST-NO		SS-10-3D	SS-5-3D	SS-01-3D
		SPDT		-	SS-5-F	SS-01-F
	Solder terminals	SPST-NC	0.49 N {50 gf}	-	SS-5-F-2	SS-01-F-2
		SPST-NO		-	SS-5-F-3	SS-01-F-3
Pin plunger	Quick-connect	SPDT		-	SS-5-FT	SS-01-FT
	terminals (#110)	SPST-NC		-	SS-5-F-2T	SS-01-F-2T
	terrilliais (#110)	SPST-NO		-	SS-5-F-3T	SS-01-F-3T
		SPDT		-	SS-5-FD	SS-01-FD
	PCB terminals	SPST-NC		-	SS-5-F-2D	SS-01-F-2D
		SPST-NO		-	SS-5-F-3D	SS-01-F-3D
		SPDT		-	-	SS-01-E
	Solder terminals	SPST-NC		-	-	SS-01-E-2
		SPST-NO		-	-	SS-01-E-3
	Outals some+	SPDT		-	-	SS-01-ET
	Quick-connect	SPST-NC	0.25 N {25 gf}	-	-	SS-01-E-2T
	terminals (#110)	SPST-NO	, ,,	-	-	SS-01-E-3T
		SPDT		-	-	SS-01-ED
	PCB terminals	SPST-NC		-	-	SS-01-E-2D
		SPST-NO		-	-	SS-01-E-3D

Separator (Sold Separately), Terminal Connector (Sold Separately) → Refer to "Basic Switch Common Accessories"

Actuator	Torminala	Contact C-	Ratings Maximum Operating Force (OF)	10.1 A	5 A	0.1 A
Actuator	Terminals	Contact Form SPDT	Maximum Operating Force (OF)	SS-10GL	SS-5GL	SS-01GL
	Solder terminals	SPST-NC		SS-10GL-2	SS-5GL-2	SS-01GL-2
		SPST-NO		SS-10GL-3	SS-5GL-3	SS-01GL-3
	Quick-connect	SPDT		SS-10GLT	SS-5GLT	SS-01GLT
	terminals (#110)	SPST-NC	0.49 N {50 gf}	SS-10GL-2T	SS-5GL-2T	SS-01GL-2T
	terrimais (#110)	SPST-NO		SS-10GL-3T	SS-5GL-3T	SS-01GL-3T
	DOD	SPDT	_	SS-10GLD	SS-5GLD	SS-01GLD
	PCB terminals	SPST-NC SPST-NO		SS-10GL-2D SS-10GL-3D	SS-5GL-2D SS-5GL-3D	SS-01GL-2D SS-01GL-3D
		SPDT		55-10GL-3D	SS-5GL-3D SS-5GL-F	SS-01GL-3D
	Solder terminals	SPST-NC		-	SS-5GL-F-2	SS-01GL-F-2
	Gordon tommidio	SPST-NO	-	-	SS-5GL-F-3	SS-01GL-F-3
Hinge lever	Outists assumed	SPDT		-	SS-5GL-FT	SS-01GL-FT
	Quick-connect terminals (#110)	SPST-NC	0.16 N {16 gf}	-	SS-5GL-F-2T	SS-01GL-F-2T
<u>~</u>	terrimais (#110)	SPST-NO		-	SS-5GL-F-3T	SS-01GL-F-3T
		SPDT		•	SS-5GL-FD	SS-01GL-FD
	PCB terminals	SPST-NC		-	SS-5GL-F-2D	SS-01GL-F-2D
		SPST-NO SPDT		-	SS-5GL-F-3D	SS-01GL-F-3D SS-01GL-E
	Solder terminals	SPST-NC	_	-	-	SS-01GL-E SS-01GL-E-2
	Solder terrilinais	SPST-NO	-	-	-	SS-01GL-E-3
		SPDT		-	-	SS-01GL-ET
	Quick-connect	SPST-NC	0.08 N {8 gf}	-	-	SS-01GL-E-2T
	terminals (#110)	SPST-NO	(* 3 )	•	-	SS-01GL-E-3T
		SPDT		•	•	SS-01GL-ED
	PCB terminals	SPST-NC		-	-	SS-01GL-E-2D
		SPST-NO		-	-	SS-01GL-E-3D
		SPDT		SS-10GL111	SS-5GL111	SS-01GL111
	Solder terminals	SPST-NC		SS-10GL111-2	SS-5GL111-2	SS-01GL111-2
		SPST-NO SPDT		SS-10GL111-3 SS-10GL111T	SS-5GL111-3 SS-5GL111T	SS-01GL111-3 SS-01GL111T
	Quick-connect	SPST-NC	0.39 N {40 gf}	SS-10GL1111-2T	SS-5GL111-2T	SS-01GL1111-2T
	terminals (#110)	SPST-NO	0.59 N (40 gi)	SS-10GL111-21	SS-5GL111-3T	SS-01GL111-3T
		SPDT		SS-10GL111D	SS-5GL111D	SS-01GL111D
	PCB terminals	SPST-NC		SS-10GL111-2D	SS-5GL111-2D	SS-01GL111-2D
		SPST-NO		SS-10GL111-3D	SS-5GL111-3D	SS-01GL111-3D
		SPDT		•	SS-5GL111-F	SS-01GL111-F
	Quick-connect terminals (#110)	SPST-NC		-	SS-5GL111-F-2	SS-01GL111-F-2
Long hinge lever		SPST-NO		-	SS-5GL111-F-3	SS-01GL111-F-3
		SPDT	0.40 N (40f)	-	SS-5GL111-FT	SS-01GL111-FT
		SPST-NC	PST-NC 0.12 N {12 gf}	-	SS-5GL111-F-2T SS-5GL111-F-3T	SS-01GL111-F-2T SS-01GL111-F-3T
<u>~</u>		SPDT	-	SS-5GL111-F-31	SS-01GL111-F-31	
		SPST-NC	-	-	SS-5GL111-F-2D	SS-01GL1111-F-2D
		SPST-NO		-	SS-5GL111-F-3D	SS-01GL111-F-3D
		SPDT		-	-	SS-01GL111-E
	Solder terminals	SPST-NC		-	-	SS-01GL111-E-2
		SPST-NO		•	•	SS-01GL111-E-3
	Quick-connect	SPDT		-	-	SS-01GL111-ET
	terminals (#110)	SPST-NC	0.06 N {6 gf}	-	-	SS-01GL111-E-2T
	101111111111111111111111111111111111111	SPST-NO		-	-	SS-01GL111-E-3T
	PCB terminals	SPDT SPST-NC	_	-	-	SS-01GL111-ED SS-01GL111-E-2D
	POB terminais	SPST-NO		-	-	SS-01GL111-E-2D
		SPDT		SS-10GL13	SS-5GL13	SS-01GL13
	Solder terminals	SPST-NC		SS-10GL13-2	SS-5GL13-2	SS-01GL13-2
		SPST-NO		SS-10GL13-3	SS-5GL13-3	SS-01GL13-3
	Quick-connect	SPDT		SS-10GL13T	SS-5GL13T	SS-01GL13T
	terminals (#110)	SPST-NC	0.49 N {50 gf}	SS-10GL13-2T	SS-5GL13-2T	SS-01GL13-2T
	ισπιπαισ (#110)	SPST-NO		SS-10GL13-3T	SS-5GL13-3T	SS-01GL13-3T
	DCD to me ! !-	SPDT SPST NC		SS-10GL13D	SS-5GL13D	SS-01GL13D
	PCB terminals	SPST-NC SPST-NO		SS-10GL13-2D SS-10GL13-3D	SS-5GL13-2D SS-5GL13-3D	SS-01GL13-2D SS-01GL13-3D
		SPDT			SS-5GL13-3D SS-5GL13-F	SS-01GL13-3D SS-01GL13-F
	Solder terminals	SPST-NC		-	SS-5GL13-F-2	SS-01GL13-F-2
<b>0</b>	Joseph Committee	SPST-NO		-	SS-5GL13-F-3	SS-01GL13-F-3
Simulated roller lever	Oui-la	SPDT		-	SS-5GL13-FT	SS-01GL13-FT
<u>^</u>	Quick-connect terminals (#110)	SPST-NC	0.16 N {16 gf}	•	SS-5GL13-F-2T	SS-01GL13-F-2T
<u>~</u>	terrimais (#110)	SPST-NO		-	SS-5GL13-F-3T	SS-01GL13-F-3T
	DOD :	SPDT		•	SS-5GL13-FD	SS-01GL13-FD
	PCB terminals	SPST-NC		-	SS-5GL13-F-2D	SS-01GL13-F-2D
		SPST-NO		-	SS-5GL13-F-3D	SS-01GL13-F-3D
	Solder terminals	SPDT SPST-NC		-	-	SS-01GL13-E SS-01GL13-E-2
	Soluer terminals	SPST-NC SPST-NO		-	-	SS-01GL13-E-2 SS-01GL13-E-3
		SPDT		-	-	SS-01GL13-E-3
	Quick-connect	SPST-NC	0.08 N {8 gf}	-	-	SS-01GL13-E1
	terminals (#110)	SPST-NO		=	-	SS-01GL13-E-3T
	, ,	SPDT		-	-	SS-01GL13-ED
	PCB terminals	SPST-NC SPST-NO		•	•	SS-01GL13-E-2D

Separator (Sold Separately), Terminal Connector (Sold Separately) → Refer to "Basic Switch Common Accessories"

			Ratings	10.1 A	F A	0.1 A
Actuator	Terminals	Contact Form	Maximum Operating Force (OF)	10.1 A	5 A	0.1 A
		SPDT		SS-10GL2	SS-5GL2	SS-01GL2
	Solder terminals	SPST-NC		SS-10GL2-2	SS-5GL2-2	SS-01GL2-2
		SPST-NO		SS-10GL2-3	SS-5GL2-3	SS-01GL2-3
	Quick-connect	SPDT		SS-10GL2T	SS-5GL2T	SS-01GL2T
	terminals (#110)	SPST-NC	0.49 N {50 gf}	SS-10GL2-2T	SS-5GL2-2T	SS-01GL2-2T
	terminais (#110)	SPST-NO		SS-10GL2-3T	SS-5GL2-3T	SS-01GL2-3T
		SPDT		SS-10GL2D	SS-5GL2D	SS-01GL2D
	PCB terminals	SPST-NC		SS-10GL2-2D	SS-5GL2-2D	SS-01GL2-2D
		SPST-NO		SS-10GL2-3D	SS-5GL2-3D	SS-01GL2-3D
		SPDT		-	SS-5GL2-F	SS-01GL2-F
	Solder terminals	SPST-NC	0.16 N {16 gf}	-	SS-5GL2-F-2	SS-01GL2-F-2
Hinge roller lever		SPST-NO		-	SS-5GL2-F-3	SS-01GL2-F-3
9	Quick-connect terminals (#110)	SPDT		-	SS-5GL2-FT	SS-01GL2-FT
Q		SPST-NC		-	SS-5GL2-F-2T	SS-01GL2-F-2T
	terrimais (#110)	SPST-NO		-	SS-5GL2-F-3T	SS-01GL2-F-3T
		SPDT		-	SS-5GL2-FD	SS-01GL2-FD
	PCB terminals	SPST-NC		-	SS-5GL2-F-2D	SS-01GL2-F-2D
		SPST-NO		-	SS-5GL2-F-3D	SS-01GL2-F-3D
		SPDT		-	-	SS-01GL2-E
	Solder terminals	SPST-NC		-	-	SS-01GL2-E-2
		SPST-NO		-	-	SS-01GL2-E-3
	Quick-connect	SPDT		-	-	SS-01GL2-ET
	terminals (#110)	SPST-NC	0.08 N {8 gf}	-	-	SS-01GL2-E-2T
	terminais (#110)	SPST-NO	( 3 )	-	-	SS-01GL2-E-3T
		SPDT		-	-	SS-01GL2-ED
	PCB terminals	SPST-NC		-	-	SS-01GL2-E-2D
		SPST-NO		-	-	SS-01GL2-E-3D

#### ●Heat Resistant Models

Actuator	Terminals	Contact Form	Ratings Maximum Operating Force (OF)	10.1 A	5 A	0.1 A
	Solder terminals			SS-10-T	SS-5-T	SS-01-T
Pin plunger	Quick-connect terminals (#110)		1.47 N {150 gf}	SS-10T-T	SS-5T-T	SS-01T-T
	PCB terminals			SS-10D-T	SS-5D-T	SS-01D-T
	Solder terminals			SS-10GL-T	SS-5GL-T	SS-01GL-T
Hinge lever	Quick-connect terminals (#110)		0.49 N {50 gf}	SS-10GLT-T	SS-5GLT-T	SS-01GLT-T
	PCB terminals			SS-10GLD-T	SS-5GLD-T	SS-01GLD-T
	Solder terminals			SS-10GL111-T	SS-5GL111-T	SS-01GL111-T
Long hinge lever	Quick-connect terminals (#110)	SPDT	0.39 N {40 gf}	SS-10GL111T-T	SS-5GL111T-T	SS-01GL111T-T
	PCB terminals			SS-10GL111D-T	SS-5GL111D-T	SS-01GL111D-T
	Solder terminals			SS-10GL13-T	SS-5GL13-T	SS-01GL13-T
Simulated roller lever	Quick-connect terminals (#110)		0.49 N {50 gf}	SS-10GL13T-T	SS-5GL13T-T	SS-01GL13T-T
	PCB terminals			SS-10GL13D-T	SS-5GL13D-T	SS-01GL13D-T
I Barra wallow lavors	Solder terminals			SS-10GL02-T	SS-5GL02-T	SS-01GL02-T
Hinge roller lever (Roller material: stainless steel)	Quick-connect terminals (#110)		0.49 N {50 gf}	SS-10GL02T-T	SS-5GL02T-T	SS-01GL02T-T
Stalliless steel)	PCB terminals			SS-10GL02D-T	SS-5GL02D-T	SS-01GL02D-T

# ●1 mm MIN Contact Gap Models

Actuator	Terminals	Contact Form	Ratings Maximum Operating Force (OF)	10.1 A	5 A	0.1 A
	Solder terminals			•	SS-5FL111-3	-
Long hinge lever	Quick-connect terminals (#110)	SPST-NO	0.54 N {55 gf}	-	SS-5FL111-3T	-

# **Contact Form**

# ●SPDT ●SPST-NC ●SPST-NO COM NO NC COM NC COM NO

# **Contact Specifications**

Item	Model	Model SS-10 SS-5 models models		SS-01 models	SS-5F models
	Specification	Ri	vet	Crossbar	Rivet
Contact	Material	Silveralloy	Silver	Gold alloy	Silver
2011.001	Gap (standard value)		0.5 mm		1mm min.
Inrush	NC	20 A	max.	1 A max.	•
current	NO	15 A max.	10 A max.	1 A max.	10 A max.
Minimum applicable load (reference value)*		5 VDC	160 mA	5 VDC 1 mA	5 VDC 160 mA

Please refer to "Ousing Micro Loads" in "Precautions" for more information on the minimum applicable load.

Separator (Sold Separately), Terminal Connector (Sold Separately) → Refer to "Basic Switch Common Accessories"

#### Ratings

	Item	Resistive load
Model	Rated voltage	riesistive load
SS-10 models	250 VAC	10.1 A
SS-5 models	125 VAC	5 A
33-3 models	250 VAC	3 A
SS-01 models	125 VAC	0.1 A
55-01 models	30 VDC	0.1 A
SS-5F models	250 VAC	3 A
33-31 Illoueis	30 VDC	5 A

Note. The above rating values apply under the following test conditions.

- (1) Ambient temperature: 20±2°C
- (2) Ambient humidity: 65±5%
- (3) Operating frequency: 30 operations/min

## **Approved Safety Standards**

Models shown in the "**List of Models**" are UL and CSA approved models.

Note. Note that heat resistant models are not standard approved models.

#### UL (UL1054)/CSA (CSA C22.2 No.55)

Model Rated voltage	SS-10	SS-5	SS-01	SS-5F
125 VAC 250 VAC	- 10.1 A	5 A 3 A	0.1 A -	- 3 A
30 VDC	-	-	0.1 A	5 A

Consult your OMRON sales representative for specific models with VDE standard approvals. VDE (EN61058-1)

Model Rated voltage	SS-10	SS-5	SS-5F
250 VAC	10 A	5 A	3 A

Testing conditions: 5E4 (50,000 operations) T85 (0°C to 85°C)

#### **Characteristics**

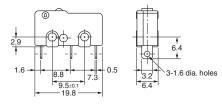
Item		Model	SS-10 models SS-5 models SS-01 models SS-5F models			
Permissible	operating spe	ed	0.1 mm to 1 m/s (for pin plunger models)			
Permissible operating	Mechanical		400 operations/min			
frequency	Electrical			60 operation	ons/min	
Insulation re	esistance		100 MΩ mir	n. (at 500 VDC	with insulatio	n tester)
0	-!-4	OF 1.47 N models	30 m $\Omega$ ma	x.	50 m $Ω$ max.	30 m $\Omega$ max.
Contact re-		OF 0.49 N models	-	50 m $Ω$ max.	$100\text{m}\Omega\text{max}.$	-
(IIIIIai vaia	<b>C</b> )	OF 0.25 N models	•		$150\text{m}\Omega\text{max}.$	<u>-</u>
	Between te same polari	rminals of the ity	1,000 VAC 50/60 H	z for 1 min	600 VAC 50/60 Hz for 1 min	1,000 VAC 50/60 Hz for 1 min
Dielectric strength *1		rrent-carrying and ground	1,	500 VAC 50/60	) Hz for 1 min	
		ch terminals and carrying metal	1,	500 VAC 50/60	) Hz for 1 min	
Vibration resistance *2 Malfunction			10 to 55 Hz, 1.5 mm double amplitude			
	OF 1.47 N models 1,000 m/s² {approx. 100G} max.					
	Durability	urability OF 0.49 N models 500 m/s² {approx. 50G} m				-
Shock		OF 0.25 N models	500 m/s <sup>2</sup> {a	pprox. 50G} ma	-	
resistance	Malfunction	OF 1.47 N models	300 m/s <sup>2</sup> {approx. 30G} max.			
	*2	OF 0.49 N models	200 m/s <sup>2</sup> {a	pprox. 20G} ma	ax.	-
	_	OF 0.25 N models	200 m/s <sup>2</sup> {a	pprox. 20G} ma	ax.	-
Durability	Mechanical		10,000,000 operations min. (60 operations/min)		perations min. ations/min)	100,000 operations min. (60 operations/min)
*3	Electrical		50,000 operations min. (30 operations/min)		erations min. ations/min)	100,000 operations min. (30 operations/min)
Degree of protection				IEC IP	240	
Degree of p	rotection agair	nst electric shock		Class		
Proof track	ing index (P	ΓΙ)	_	175	i	
Ambient op	perating temp	perature	-25°C to +85°C (at ambient humidity of 60% max.) (with no icing or condensation)			
Ambient or	perating hum	idity	85% max. (for +5°C to +35°C)			
Weight			Approx. 1.6g (pin plunger models)			

Note. The data given above are initial values.

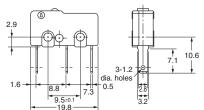
- The values for dielectric strength shown are for models with a Separator (refer to "Micro Switch Common Accessories").
- \*2. The values are at Free Position and Total Travel Position values for pin plunger, and Total Travel Position value for lever. Close or open circuit of the contact is 1ms max.
  - 3. For testing conditions, consult your OMRON sales representative.

#### Terminals/Appearances (Unit: mm)

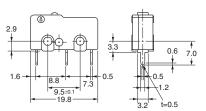
#### ●Solder terminals



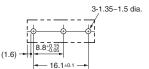
#### ●Quick connect terminals (#110)



#### ●PCB terminals



#### <PCB Mounting Dimensions (Reference)>



Note. SPST-NO terminal models do not have NC terminal.

#### Mounting Holes (Unit: mm)



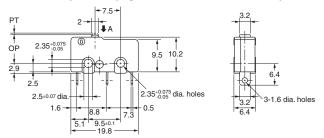
# Dimensions (Unit: mm) and Operating Characteristics

The illustrations and drawings are for solder terminals models.

Refer to "Terminals/Appearances" of the previous page for details on models with quick connect terminals (#110) or PCB terminals.

●Pin plunger SS-10 SS-5 (-F) SS-01 (-E, -F)

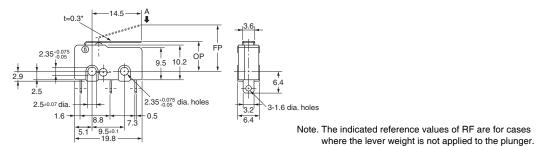




Operating Characterist	tics	Model	SS-10	SS-5 SS-01	SS-5-F SS-01-F	SS-01-E
Operating Force	OF	Max.	1.47 N {150 gf}	1.47 N {150 gf}	0.49 N {50 gf}	0.25 N {25 gf}
Releasing Force	RF	Min.	0.25 N {25 gf}	0.25 N {25 gf}	0.04 N {4 gf}	0.02 N {2 gf}
Pretravel	PT	Max.	0.6 mm	0.5 mm	0.5 mm	0.5 mm
Overtravel	OT	Min.	0.4 mm	0.5 mm	0.5 mm	0.5 mm
Movement Differential	MD	Max.	0.12 mm	0.1 mm	0.1 mm	0.1 mm
Operating Position	OP			8.4±0.	5 mm	

●Hinge lever SS-10GL SS-5GL (-F) SS-01GL (-E, -F)



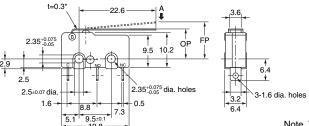


\* Stainless-steel lever

Operating Characteris	tics	Model	SS-10GL	SS-5GL SS-01GL	SS-5GL-F SS-01GL-F	SS-01GL-E	
Operating Force	OF	Max.	0.49 N {50 gf}	0.49 N {50 gf}	0.16 N {16 gf}	0.08 N {8 gf}	
Releasing Force	RF	Min.	0.06 N {6 gf}	0.06 N {6 gf}	0.02 N {2 gf}	0.01 N {1 gf}	
						(reference value)	
Overtravel	ОТ	Min.	1.0 mm	1.2 mm	1.2 mm	1.2 mm	
Movement Differential	MD	Max.	1.0 mm	0.8 mm	0.8 mm	0.8 mm	
Free Position Operating Position	FP OP	Max.	13.6 mm 8.8±0.8 mm				

●Long hinge lever SS-10GL111 SS-5GL111 (-F) SS-01GL111 (-E, -F) SS-5FL111-3





\* Stainless-steel level

Note. The indicated reference values of RF are for cases where the lever weight is not applied to the plunger.

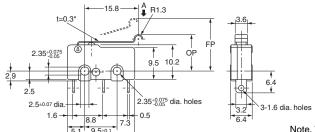
Operating Characterist	ics	Model	SS-10GL111	SS-5GL111 SS-01GL111	SS-5FL111-3	SS-5GL111-F SS-01GL111-F	SS-01GL111-E
Operating Force	OF	Max.	0.39 N {40 gf}	0.39 N {40 gf}	0.54 N {55 gf}	0.12 N {12 gf}	0.06 N {6 gf}
Releasing Force	RF	Min.	0.03 N {3 gf}	0.03 N {3 gf}	0.01 N {1 gf}	0.02 N {2 gf}	0.003 N {0.3 gf}
						(reference value)	(reference value)
Overtravel	ОТ	Min.	1.2 mm	1.2 mm	1.0 mm	1.2 mm	1.2 mm
Movement Differential	MD	Max.	1.2 mm	1.2 mm	3.0 mm	1.2 mm	1.2 mm
Free Position	FP	Max.	16.8 mm				
Operating Position	OP		8.8±1.5 mm 8.8±2 mm				

Note 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

Note 2. The operating characteristics are for operation in the A direction (  $\P$  ).

#### ●Simulated roller lever SS-10GL13 SS-5GL13 (-F) SS-01GL13 (-E, -F)



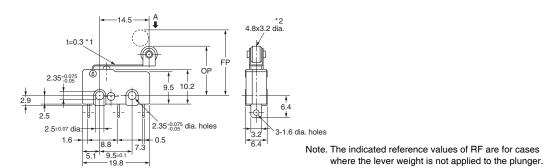


Note. The indicated reference values of RF are for cases where the lever weight is not applied to the plunger.

Model Operating Characteristics			SS-10GL13	SS-5GL13 SS-01GL13	SS-5GL13-F SS-01GL13-F	SS-01GL13-E	
Operating Force Releasing Force	OF RF	Max. Min.	0.49 N {50 gf} 0.06 N {6 gf}	0.49 N {50 gf} 0.06 N {6 gf}	0.16 N {16 gf} 0.02 N {2 gf}	0.08 N {8 gf} 0.01 N {1 gf} (reference value)	
Overtravel	OT	Min.	1.0 mm	1.2 mm	1.2 mm	1.2 mm	
Movement Differential	MD	Max.	1.0 mm	0.8 mm	0.8 mm	0.8 mm	
Free Position	FP	Max.	15.5 mm				
Operating Position	OP		10.7±0.8 mm				

#### ●Hinge roller lever SS-10GL2 SS-5GL2 (-F) SS-01GL2 (-E, -F)





\*1. Stainless-steel lever \*2. Polyacetal resin roller

\* Stainless-steel lever

Model Operating Characteristics			SS-10GL2	SS-5GL2 SS-01GL2	SS-5GL2-F SS-01GL2-F	SS-01GL2-E	
Operating Force Releasing Force	OF RF	Max. Min.	0.49 N {50 gf} 0.06 N {6 gf}	0.49 N {50 gf} 0.06 N {6 gf}	0.16 N {16 gf} 0.02 N {2 gf}	0.08 N {8 gf} 0.01 N {1 gf} (reference value)	
Overtravel Movement Differential	OT MD	Min. Max.	1.0 mm 1.0 mm	1.2 mm 0.8 mm	1.2 mm 0.8 mm	1.2 mm 0.8 mm	
Free Position Operating Position	FP OP	Max.	19.3mm 14.5±0.8mm				

Note 1. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

Note 2. The operating characteristics are for operation in the A direction ( $\P$ ).

#### **Precautions**

**★Please refer to "Common Precautions" for correct use.** 

#### **Cautions**

#### Soldering

- Complete the soldering at the iron tip temperature below 350°C within 5 seconds, and do not apply any external force for 1 minute after soldering. Soldering at an excessively high temperature or soldering for more than 5 seconds may deteriorate the characteristics of the Switch.
- Be sure to apply only the minimum required amount of flux.
   Switch may have contact failures if flux intrudes into the interior of the Switch.
- If the PCB terminal models are soldered in the solder bath, flux will permeate inside the Switch and cause contact failure.
   Therefore, manually solder the PCB terminal.

#### **Correct Use**

#### Mounting

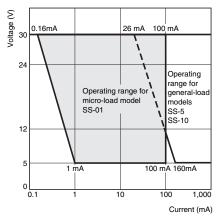
- Use M2.3 mounting screw with plane washers or spring washers to securely mount the Switch. Tighten the screws to a torque of 0.23 to 0.26 N·m {2.3 to 2.7 kgf·cm}.
- Mount the Switch onto a flat surface. Mounting on an uneven surface may cause deformation of the Switch, resulting in faulty operation or breakage in the housing.

#### Using Micro Loads

Using a model for ordinary loads to open or close the contact of a micro load circuit may result in faulty contact. Use models that operate in the following range. However, even when using micro load models within the following operating range, if inrush current occurs when the contact is opened or closed, it may increase the contact wear and so decrease durability. Therefore, insert a contact protection circuit where necessary. The N-level reference value applies for the minimum applicable load. This value indicates the malfunction reference level for the reliability level of 60% ( $\lambda$ 60).

(JIS C5003)

The equation,  $\lambda_{60}=0.5\times10^{-6}$ /operation indicates that the estimated malfunction rate is less than  $\frac{1}{2,000,000}$  operations with a reliability level of 60%.



Note: Do not use this document to operate the Unit.

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