

MFS

Sub-miniature Switches

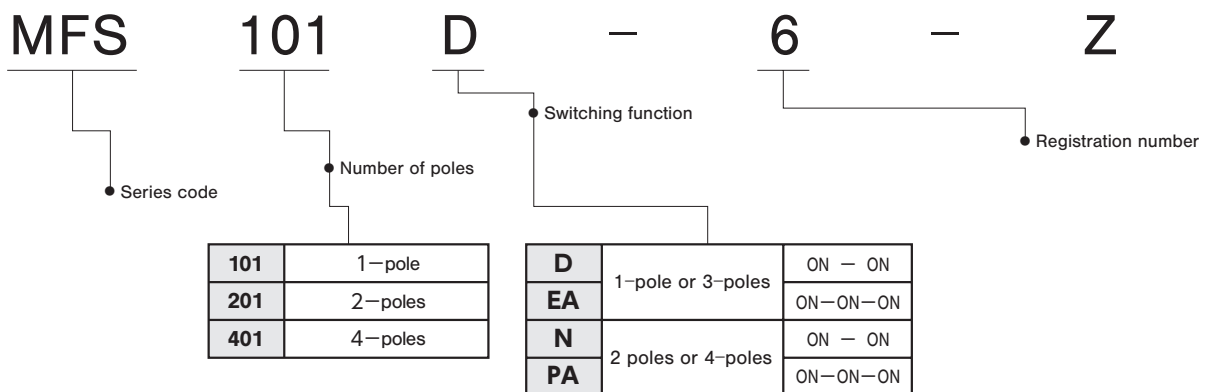
RoHS Compliant



Common Specifications

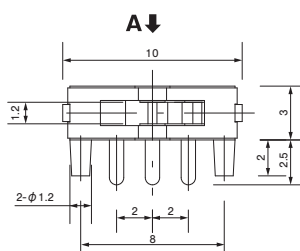
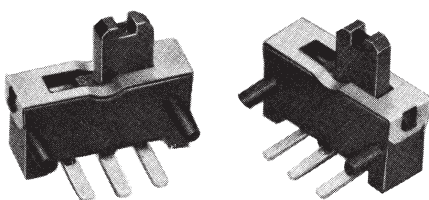
- **Initial contact resistance**
Measured at 1.5mA 200 μ VAC 1kHz
- **Dielectric strength**
Measurement at 500 VAC.
- **Insulation Resistance**
Measured at 500VDC
- **Operating temperature range**
 $-10^{\circ}\text{C} \sim +70^{\circ}\text{C}$

Part Numbering



MFS101D-6-Z

Non-shorting

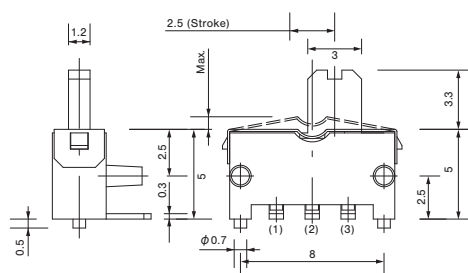
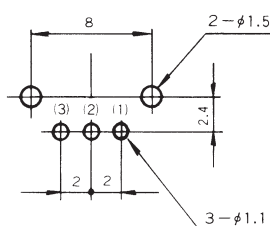


Specifications

Rating	Max.	DC10V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20m Ω Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100M Ω Min.	
Electrical life	5,000 cycles	
Operating force	0.98~2.94N	
Switch timing	Non-shorting	

PC Hole Layouts

(Top view)

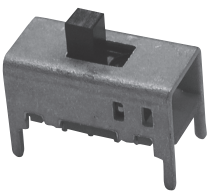


Switching function (Viewed from A)	Circuit diagram	No. of terminals
ON		3
2-3		

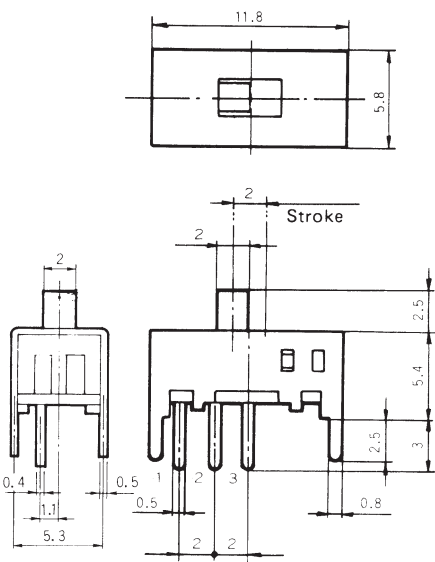
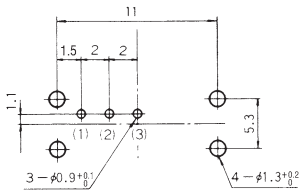
Terminal numbers are not shown on the switch.

MFS101D-8-Z

shorting



PC Hole Layouts (Top view)



Terminal numbers are not shown on the switch.

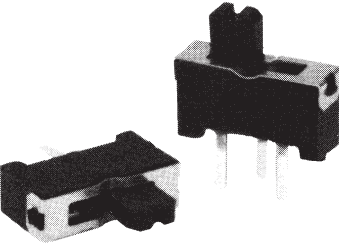
Specifications

Rating	Max.	DC30V 0.3A AC30V 2A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles at DC30V 0.3A 100cycles at AC30V 2A	
Operating force	2.45±0.98 N	
Switch timing	Shorting	

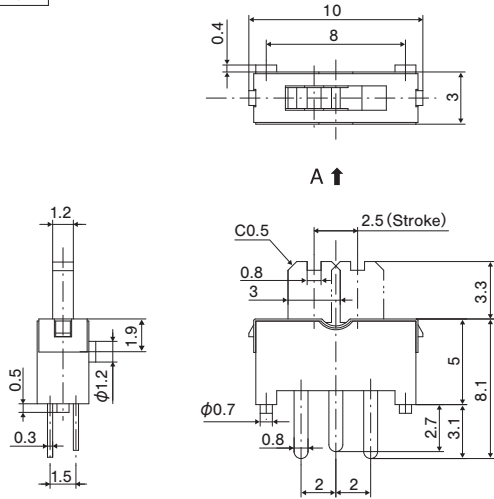
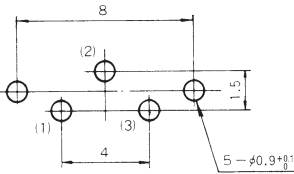
Switching function (Viewed from A)		Circuit diagram	No. of terminals
			3
ON	ON		
2-1	2-3		

MFS101D-9-Z

Non-shorting



PC Hole Layouts (Top view)



Terminal numbers are not shown on the switch.

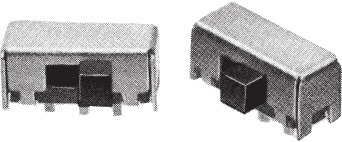
Specifications

Rating	Max.	DC12V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles	
Operating force	0.98±2.94N	
Switch timing	Non-shorting	

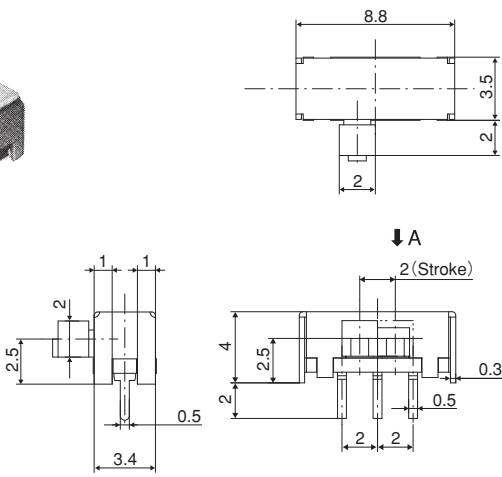
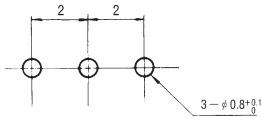
Switching function (Viewed from A)		Circuit diagram	No. of terminals
			3
ON	ON		
2-1	2-3		

☆ MFS101D-10-Z

Non-shorting



PC Hole Layouts (Top view)



Terminal numbers are not shown on the switch.

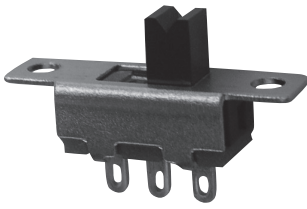
Specifications

Rating	Max.	DC30V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles	
Operating force	2.94±1.96N	
Switch timing	Non-shorting	

Switching function (Viewed from A)		Circuit diagram	No. of terminals
			3
ON	ON		
2-3	2-1		

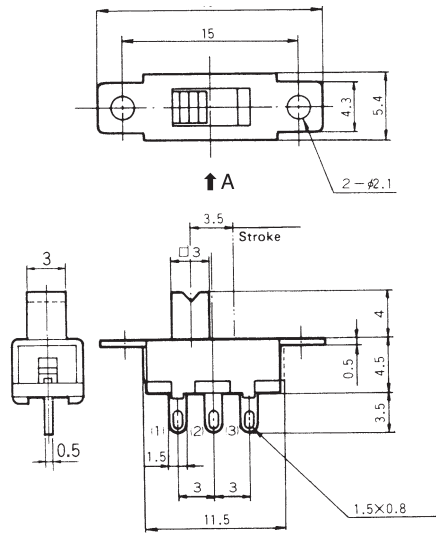
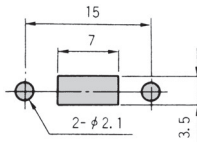
MFS101D-14-Z

Non-shorting



■ Panel Cut-Out Dimensions

(Top view)



Terminal numbers are not shown on the switch.

■ Specifications

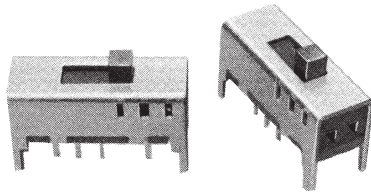
Rating	Max.	DC30V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles	
Operating force	1.96±0.98N	
Switch timing	Non-shorting	

Switching function (Viewed from A)		Circuit diagram	No. of terminals
			3
ON	ON		
2-1	2-3		

MFS

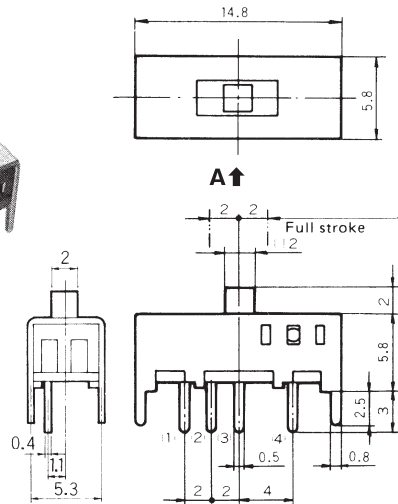
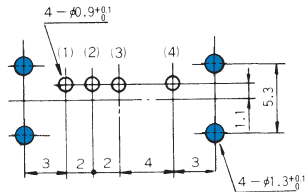
☆MFS101EA-Z

※[Note] See below.



PC Hole Layouts

(Top view)



Terminal numbers are not shown on the switch.

Specifications

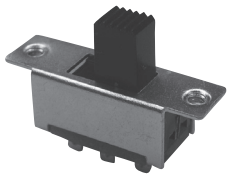
Rating	Max.	DC30V 0.3A AC30V 2A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles at DC30V 0.3A 100cycles at AC30V 2A	
Operating force	2.45±0.98N 1.47±0.98N	
Switch timing	Undefined	

Switching function (Viewed from A)			Circuit diagram	No. of terminals
				4
ON	ON	ON		
3-1	3-2	3-4		

↔ : Operating force from the center to the outer side (right or left).
→← : Operating force from the outer side (right or left) to the center.

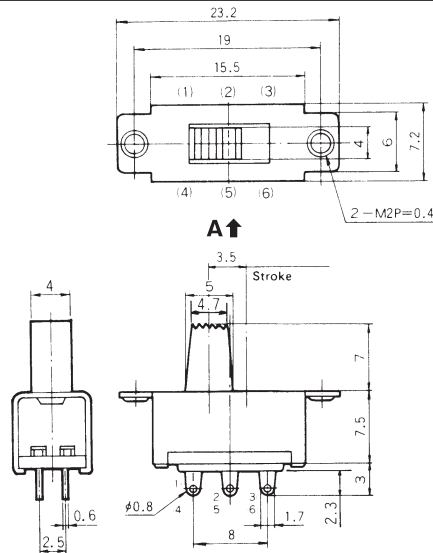
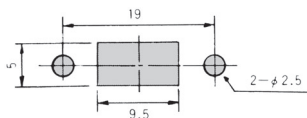
MFS201N-Z

Non-shorting



Panel Cut-Out Dimensions

(Top view)



Terminal numbers are not shown on the switch.

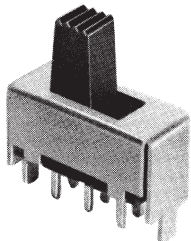
Specifications

Rating	Max.	AC125V 1A • DC30V 1A
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	30mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	300MΩ Min.	
Electrical life	5,000 cycles	
Operating force	0.98~4.9N	
Switch timing	Non-shorting	

Switching function (Viewed from A)		Circuit diagram	No. of terminals
			6
ON	ON		
2-1	2-3		
5-4	5-6		

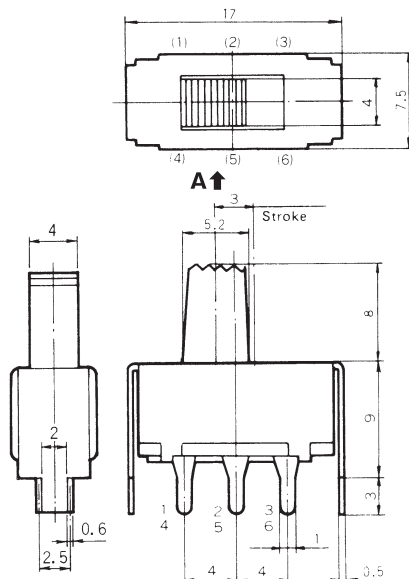
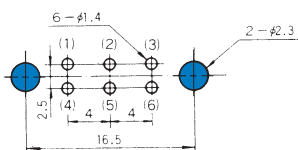
MFS201N-4-Z

Non-shorting



PC Hole Layouts

(Top view)



Terminal numbers are not shown on the switch.

Specifications

Rating	Max.	AC125V 1A • DC30V 1A
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	300MΩ Min.	
Electrical life	5,000 cycles	
Operating force	1.47~4.41N	
Switch timing	Non-shorting	

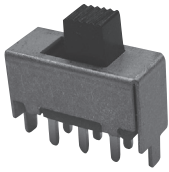
Switching function (Viewed from A)		Circuit diagram	No. of terminals
			6
ON	ON		
2-1	2-3		
5-4	5-6		

☆ : Semi-standard products.

※ : Please note that MFS101EA-Z can be either Shorting or Non-shorting.

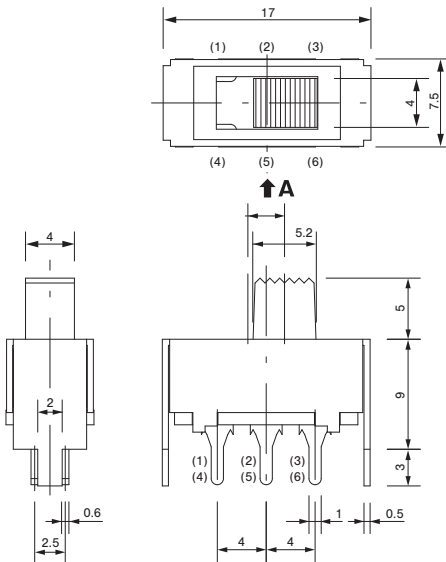
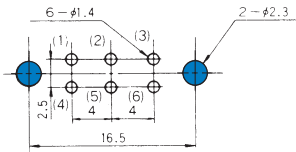
MFS201N-9-Z

Non-shorting



PC Hole Layouts

(Top view)



Terminal numbers are not shown on the switch.

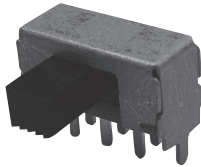
Specifications

Rating	Max.	AC125V 1A • DC30V 1A
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	300MΩ Min.	
Electrical life	5,000 cycles	
Operating force	1.47~4.41N	
Switch timing	Non-shorting	

Switching function (Viewed from A)		Circuit diagram	No. of terminals
			6
ON	ON		
2-1 5-4	2-3 5-6		

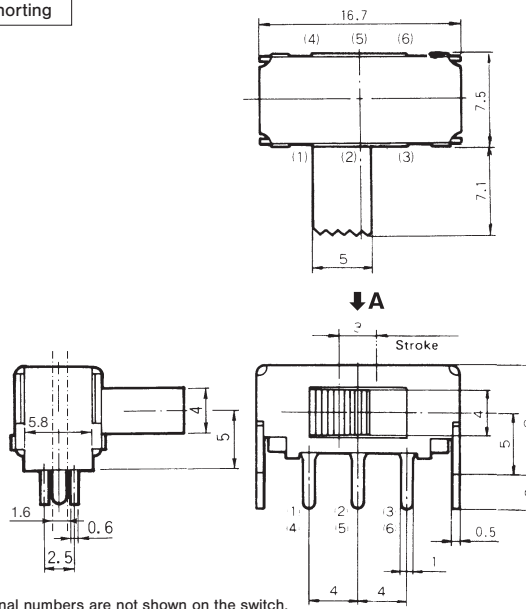
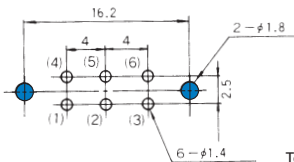
MFS201N-16-Z

Non-shorting



PC Hole Layouts

(Top view)



Terminal numbers are not shown on the switch.

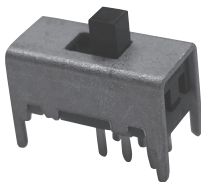
Specifications

Rating	Max.	AC125V 1A • DC30V 1A
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles	
Operating force	2.94±1.47N	
Switch timing	Non-shorting	

Switching function (Viewed from A)		Circuit diagram	No. of terminals
			6
ON	ON		
2-3 5-6	2-1 5-4		

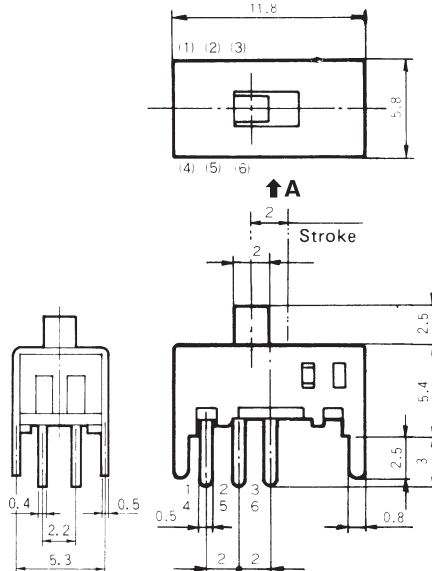
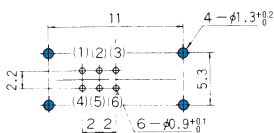
MFS201N-19-Z

Shorting



PC Hole Layouts

(Top view)



Terminal numbers are not shown on the switch.

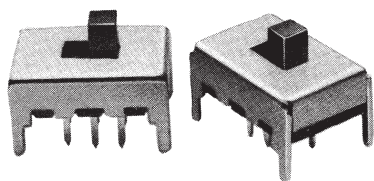
Specifications

Rating	Max.	DC30V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles	
Operating force	2.45±0.98N	
Switch timing	Shorting	

Switching function (Viewed from A)		Circuit diagram	No. of terminals
			6
ON	ON		
2-1 5-4	2-3 5-6		

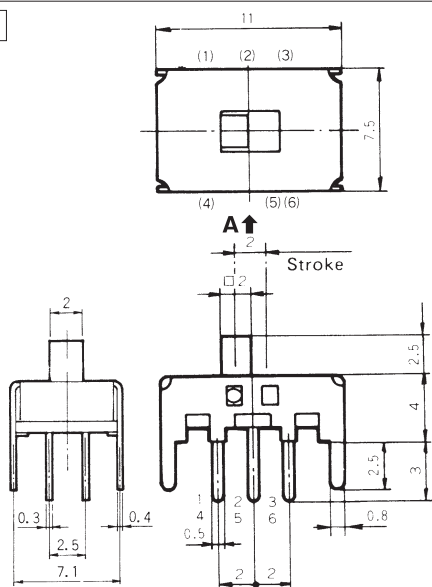
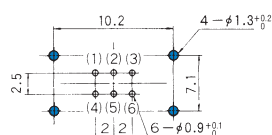
★ MFS201N-20-Z

Shorting



■ PC Hole Layouts

(Top view)



Terminal numbers are not shown on the switch.

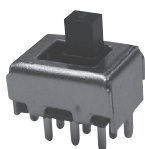
■ Specifications

Rating	Max.	DC30V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance		20mΩ Max.
Dielectric strength		AC500V 1 minute
Insulation resistance		100MΩ Min.
Electrical life		5,000 cycles
Operating force		4.41 ± 1.47N
Switch timing		Shorting

Switching function (Viewed from A)		Circuit diagram	No. of terminals
			6
ON	ON		
2-1 5-4	2-3 5-6		

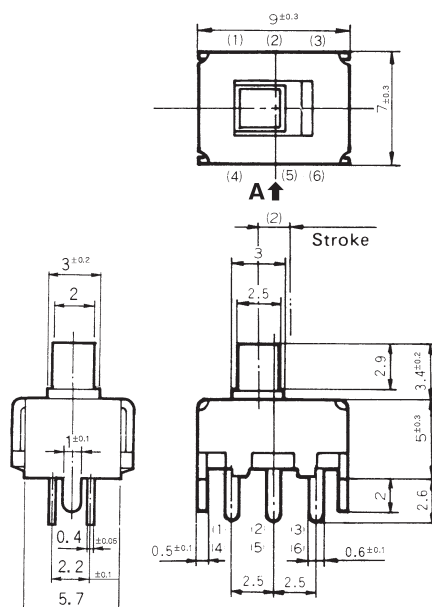
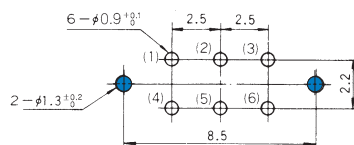
MFS201N-21-Z

Non-shorting



■ PC Hole Layouts

(Top view)



Terminal numbers are not shown on the switch.

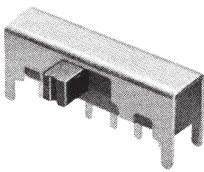
■ Specifications

Rating	Max.	DC30V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance		20mΩ Max.
Dielectric strength		AC500V 1 minute
Insulation resistance		100MΩ Min.
Electrical life		5,000 cycles
Operating force		2.45±0.98N
Switch timing		Non-shorting

Switching function (Viewed from A)		Circuit diagram	No. of terminals
			6
ON	ON		
2-1 5-4	2-3 5-6		

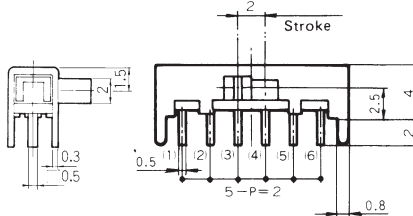
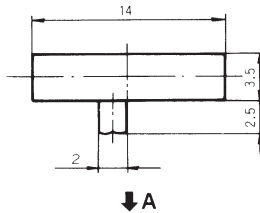
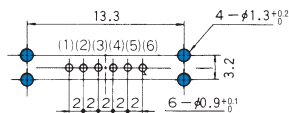
MFS201N-23-Z

Non-shorting



PC Hole Layouts

(Top view)



Terminal numbers are not shown on the switch.

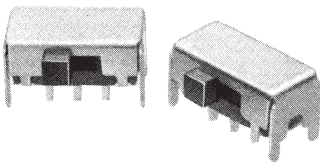
Specifications

Rating	Max.	DC30V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles	
Operating force	3.92±2.45N	
Switch timing	Non-shorting	

Switching function (Viewed from A)		Circuit diagram	No. of terminals
			6
ON	ON		
2-3 5-6	2-1 5-4		

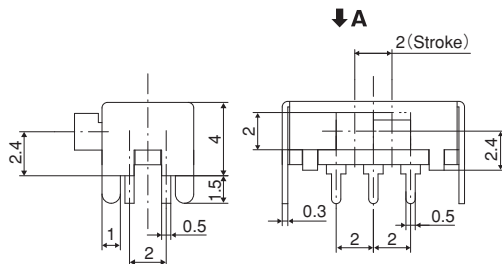
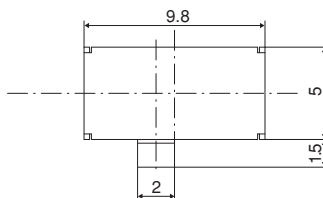
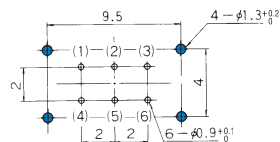
MFS201N-24-Z

Non-shorting



PC Hole Layouts

(Top view)



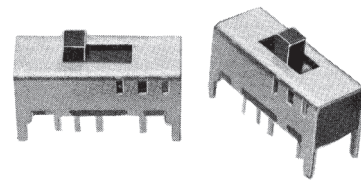
Terminal numbers are not shown on the switch.

Specifications

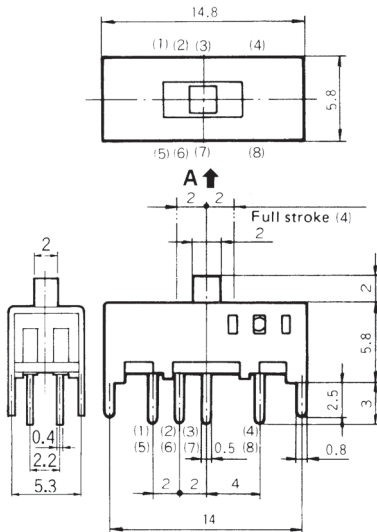
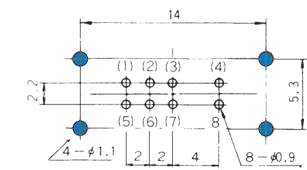
Rating	Max.	DC30V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles	
Operating force	1.96±0.98N	
Switch timing	Non-shorting	

Switching function (Viewed from A)		Circuit diagram	No. of terminals
			6
ON	ON		
2-3 5-6	2-1 5-4		

★MFS201PA-4-Z
※[Note] See below.



■PC Hole Layouts
(Top view)



Terminal numbers are not shown on the switch.

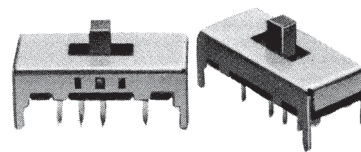
■ Specifications

Rating	Max.	DC30V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles	
Operating force	2.45±0.98N 1.47±0.98N	
Switch timing	Undefined	

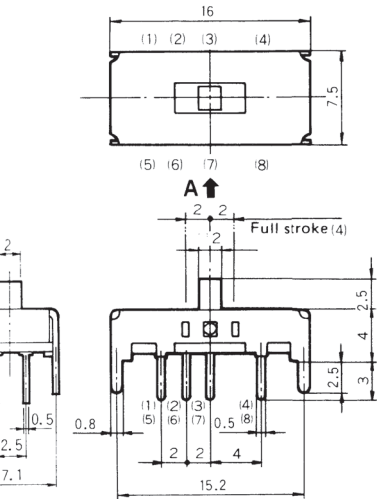
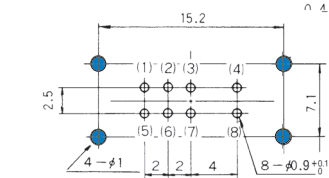
Switching function (Viewed from A)			Circuit diagram	No. of terminals
				8
ON	ON	ON		
3-1 7-5	3-2 7-6	3-4 7-8		

↔ : Operating force from the center to the outer side (right or left).
→← : Operating force from the outer side (right or left) to the center.

★MFS201PA-5-Z
※[Note] See below.



■PC Hole Layouts
(Top view)



Terminal numbers are not shown on the switch.

■ Specifications

Rating	Max.	DC30V 0.3A (Resistive load)
	Min.	DC5V 10mA (Resistive load)
Initial contact resistance	20mΩ Max.	
Dielectric strength	AC500V 1 minute	
Insulation resistance	100MΩ Min.	
Electrical life	5,000 cycles	
Operating force	4.41 +1.67 -2.16N	
Switch timing	Undefined	

Switching function (Viewed from A)			Circuit diagram	No. of terminals
				8
ON	ON	ON		
3-1 7-5	3-2 7-6	3-4 7-8		

※ : Please note that MFS201PA-4-Z and MFS201PA-5-Z can be either Shorting or Non-shorting (See page 506).

★ : Made to order products.

