

# Compact-sized Snap Action Switches (Contact gap is more than 1mm) MQS-54AS Series

## Features

- ◇ Flux-resistant construction with integrally molded terminals.
- ◇ 4 variations with low operating force (0.25N) to high operating force (1.47N).
- ◇ Lead wire terminal, PC board terminal, #110 Quick-connect terminal, PC board terminal Right/Left angle are available.
- ◇ UL, CSA (C-UL) approved. File No. : E90211
- ◇ TÜV approved.
- ◇ Contact gap is more than 1mm.



Actual size

## Applications

- ◇ Door inter-lock switch office equipments ( Printer, Copy machine and so on)

## Products No. system

MQS-54AS - [ ] [ ] [ ] - [ ]

Operating force (Pin plunger type)	
1: MAX0.49N(50gf)	5: MAX1.96N(200gf)
3: MAX0.98N(100gf)	7: MAX2.94N(300gf)

Actuator			
Blank	: Pin plunger type		
L1	: Hinge short lever L=5mm		
L	: Hinge lever L=7.15mm		
L2	: Hinge long lever L=13.1mm		
L3	: Hinge long lever L=26.1mm		
D	: Hinge R2.5 lever L=6.3mm		
D3	: Hinge R1.3 lever L=6.3mm		
D2	: Hinge roller lever L=5mm		

Contact	
Blank	: Silver alloy
U2	: Gold clad twin layer
AU	: Gold clad triple layer

Terminal					
Blank	: Lead wire terminal		PR	: PC board terminal Right angle	
P	: PC board terminal		PL	: PC board terminal Left angle	
F	: #110 Quick connect terminal				

□ UL,CSA(C-UL) , TUV Ratings

Contacts	Operating force code	UL,CSA(C-UL) Ratings	TUV Ratings
Silver alloy contact type	1 type	—	0.1A 30V DC
	3 , 5 , 7 type	3A 250V AC / 3A 30V DC	3A 250V AC / 3A 30V DC
Gold clad triple layer contact type	1 , 3 , 5 , 7 type	0.1A 125V AC / 0.1A 30V DC	0.1A 30V DC

Please see the approved standard list.

□ Typical Specifications

Item	Specifications							
Contact	Silver alloy contact type				Gold clad twin/triple layer contact type			
<b>Operating force (Pin plunger type)</b>	MAX 0.50N (50gf)	MAX 0.98N (100gf)	MAX 1.96N (200gf)	MAX 2.94N (300gf)	MAX 0.50N (50gf)	MAX 0.98N (100gf)	MAX 1.96N (200gf)	MAX 2.94N (300gf)
<b>Ratings (Resistive load)</b>	0.1A 125V AC 0.1A 30V DC	3A 125V AC 3A 30V DC			0.1A 125V AC 0.1A 30V DC			
<b>Mechanical life</b>	100,000 cycles							
<b>Electrical life</b>	100,000 cycles	50,000 cycles			100,000 cycles			
<b>Contact resistance (Initial)</b>	MAX 500 milliohm	MAX 30 milliohm			MAX 500 milliohm	MAX 100 milliohm		
<b>Insulation Resistance</b>	MIN 100 megohm 500V DC							
<b>Withstanding voltage</b>	Between open contacts				: 1000V AC 1min			
	Between each terminal and non live metal part				: 1500V AC 1min			
	Between each terminal and each				: 1500V AC 1min			
<b>Resistibility to vibration (Pin plunger type)</b>	double amplitude : 1.5mm , frequency : 10 to 55Hz Each direction Open contact shall be less than 1 ms at the above conditions.							
<b>Resistibility to shock (Pin plunger type)</b>	5G	15G	30G	5G	15G	30G		
	Open contact shall be less than 1 ms at the above conditions.							
<b>Allowable operating speed (at no load)</b>	1 to 500 mm/sec.							
<b>Max. operating cycle rate (at no load)</b>	120 times/min.							
<b>Operating temperature range</b>	-20 to +70 degree Celsius							
<b>Ambient humidity</b>	MAX 85%RH							

□ Range of current

Contacts specification	Range of current				Operating force (MAX) (Pin plunger type)			
	1mA	10mA	100mA	3A	0.25N(25gf)	0.49N(50gf)	0.98N(100gf)	1.47N(150gf)
Silver alloy		↔			●			
			↔			●	●	●
Gold clad triple layer	↔				●	●	●	●
Gold clad twin layer	↔				●	●	●	●

□ Products line

◇ Silver alloy contact type

Actuator	No	Operating force (MAX)	*Approved standard		Lead wire terminal	PC board terminal	#110 Quick connect terminal	PC board terminal Right angle	PC board terminal Left angle
			C-UL	TUV	Products No.	Products No.	Products No.	Products No.	Products No.
Pin plunger type (Blank)	1	0.49N	-	3	MQS-54AS-1	MQS-54AS-1-P	MQS-54AS-1-F	MQS-54AS-1-PR	MQS-54AS-1-PL
		0.98N	1	1	MQS-54AS-3	MQS-54AS-3-P	MQS-54AS-3-F	MQS-54AS-3-PR	MQS-54AS-3-PL
		1.96N	1	1	MQS-54AS-5	MQS-54AS-5-P	MQS-54AS-5-F	MQS-54AS-5-PR	MQS-54AS-5-PL
		2.94N	1	1	MQS-54AS-7	MQS-54AS-7-P	MQS-54AS-7-F	MQS-54AS-7-PR	MQS-54AS-7-PL
Hinge short lever (L1)	2	0.20N	-	3	MQS-54AS-1L1	MQS-54AS-1L1-P	MQS-54AS-1L1-F	MQS-54AS-1L1-PR	MQS-54AS-1L1-PL
		0.39N	1	1	MQS-54AS-3L1	MQS-54AS-3L1-P	MQS-54AS-3L1-F	MQS-54AS-3L1-PR	MQS-54AS-3L1-PL
		0.78N	1	1	MQS-54AS-5L1	MQS-54AS-5L1-P	MQS-54AS-5L1-F	MQS-54AS-5L1-PR	MQS-54AS-5L1-PL
		1.18N	1	1	MQS-54AS-7L1	MQS-54AS-7L1-P	MQS-54AS-7L1-F	MQS-54AS-7L1-PR	MQS-54AS-7L1-PL
Hinge lever (L)	3	0.16N	-	3	MQS-54AS-1L	MQS-54AS-1L-P	MQS-54AS-1L-F	MQS-54AS-1L-PR	MQS-54AS-1L-PL
		0.31N	1	1	MQS-54AS-3L	MQS-54AS-3L-P	MQS-54AS-3L-F	MQS-54AS-3L-PR	MQS-54AS-3L-PL
		0.69N	1	1	MQS-54AS-5L	MQS-54AS-5L-P	MQS-54AS-5L-F	MQS-54AS-5L-PR	MQS-54AS-5L-PL
		1.08N	1	1	MQS-54AS-7L	MQS-54AS-7L-P	MQS-54AS-7L-F	MQS-54AS-7L-PR	MQS-54AS-7L-PL
Hinge long lever (L2)	4	0.24N	1	1	MQS-54AS-3L2	MQS-54AS-3L2-P	MQS-54AS-3L2-F	MQS-54AS-3L2-PR	MQS-54AS-3L2-PL
		0.49N	1	1	MQS-54AS-5L2	MQS-54AS-5L2-P	MQS-54AS-5L2-F	MQS-54AS-5L2-PR	MQS-54AS-5L2-PL
		0.88N	1	1	MQS-54AS-7L2	MQS-54AS-7L2-P	MQS-54AS-7L2-F	MQS-54AS-7L2-PR	MQS-54AS-7L2-PL
Hinge long lever (L3)	5	0.20N	1	1	MQS-54AS-3L3	MQS-54AS-3L3-P	MQS-54AS-3L3-F	MQS-54AS-3L3-PR	MQS-54AS-3L3-PL
		0.39N	1	1	MQS-54AS-5L3	MQS-54AS-5L3-P	MQS-54AS-5L3-F	MQS-54AS-5L3-PR	MQS-54AS-5L3-PL
		0.69N	1	1	MQS-54AS-7L3	MQS-54AS-7L3-P	MQS-54AS-7L3-F	MQS-54AS-7L3-PR	MQS-54AS-7L3-PL
Hinge R2.5 lever (D)	6	0.16N	-	3	MQS-54AS-1D	MQS-54AS-1D-P	MQS-54AS-1D-F	MQS-54AS-1D-PR	MQS-54AS-1D-PL
		0.31N	1	1	MQS-54AS-3D	MQS-54AS-3D-P	MQS-54AS-3D-F	MQS-54AS-3D-PR	MQS-54AS-3D-PL
		0.69N	1	1	MQS-54AS-5D	MQS-54AS-5D-P	MQS-54AS-5D-F	MQS-54AS-5D-PR	MQS-54AS-5D-PL
		1.08N	1	1	MQS-54AS-7D	MQS-54AS-7D-P	MQS-54AS-7D-F	MQS-54AS-7D-PR	MQS-54AS-7D-PL
Hinge R1.3 lever (D3)	7	0.16N	-	3	MQS-54AS-1D3	MQS-54AS-1D3-P	MQS-54AS-1D3-F	MQS-54AS-1D3-PR	MQS-54AS-1D3-PL
		0.31N	1	1	MQS-54AS-3D3	MQS-54AS-3D3-P	MQS-54AS-3D3-F	MQS-54AS-3D3-PR	MQS-54AS-3D3-PL
		0.69N	1	1	MQS-54AS-5D3	MQS-54AS-5D3-P	MQS-54AS-5D3-F	MQS-54AS-5D3-PR	MQS-54AS-5D3-PL
		1.08N	1	1	MQS-54AS-7D3	MQS-54AS-7D3-P	MQS-54AS-7D3-F	MQS-54AS-7D3-PR	MQS-54AS-7D3-PL
Hinge roller lever (D2)	8	0.20N	-	3	MQS-54AS-1D2	MQS-54AS-1D2-P	MQS-54AS-1D2-F	MQS-54AS-1D2-PR	MQS-54AS-1D2-PL
		0.39N	1	1	MQS-54AS-3D2	MQS-54AS-3D2-P	MQS-54AS-3D2-F	MQS-54AS-3D2-PR	MQS-54AS-3D2-PL
		0.78N	1	1	MQS-54AS-5D2	MQS-54AS-5D2-P	MQS-54AS-5D2-F	MQS-54AS-5D2-PR	MQS-54AS-5D2-PL
		1.18N	1	1	MQS-54AS-7D2	MQS-54AS-7D2-P	MQS-54AS-7D2-F	MQS-54AS-7D2-PR	MQS-54AS-7D2-PL

\* The number represents ratings. 1 : 3A 250V AC / 3A 30V DC  
 2 : 0.1A 125V AC / 0.1A 30V DC  
 3 : 0.1A 30V DC

◇ Gold clad triple layer contact type

Actuator	No	Operating force (MAX)	*Approved standard		Lead wire terminal	PC board terminal	#110 Quick connect terminal	PC board terminal Right angle	PC board terminal Left angle
			C-UL	TUV	Products No.	Products No.	Products No.	Products No.	Products No.
Pin plunger type (Blank)	1	0.49N	2	3	MQS-54AS-1AU	MQS-54AS-1AU-P	MQS-54AS-1AU-F	MQS-54AS-1AU-PR	MQS-54AS-1AU-PL
		0.98N	2	3	MQS-54AS-3AU	MQS-54AS-3AU-P	MQS-54AS-3AU-F	MQS-54AS-3AU-PR	MQS-54AS-3AU-PL
		1.96N	2	3	MQS-54AS-5AU	MQS-54AS-5AU-P	MQS-54AS-5AU-F	MQS-54AS-5AU-PR	MQS-54AS-5AU-PL
		2.94N	2	3	MQS-54AS-7AU	MQS-54AS-7AU-P	MQS-54AS-7AU-F	MQS-54AS-7AU-PR	MQS-54AS-7AU-PL
Hinge short lever (L1)	2	0.20N	2	3	MQS-54AS-1L1AU	MQS-54AS-1L1AU-P	MQS-54AS-1L1AU-F	MQS-54AS-1L1AU-PR	MQS-54AS-1L1AU-PL
		0.39N	2	3	MQS-54AS-3L1AU	MQS-54AS-3L1AU-P	MQS-54AS-3L1AU-F	MQS-54AS-3L1AU-PR	MQS-54AS-3L1AU-PL
		0.78N	2	3	MQS-54AS-5L1AU	MQS-54AS-5L1AU-P	MQS-54AS-5L1AU-F	MQS-54AS-5L1AU-PR	MQS-54AS-5L1AU-PL
		1.18N	2	3	MQS-54AS-7L1AU	MQS-54AS-7L1AU-P	MQS-54AS-7L1AU-F	MQS-54AS-7L1AU-PR	MQS-54AS-7L1AU-PL
Hinge lever (L)	3	0.16N	2	3	MQS-54AS-1LAU	MQS-54AS-1LAU-P	MQS-54AS-1LAU-F	MQS-54AS-1LAU-PR	MQS-54AS-1LAU-PL
		0.31N	2	3	MQS-54AS-3LAU	MQS-54AS-3LAU-P	MQS-54AS-3LAU-F	MQS-54AS-3LAU-PR	MQS-54AS-3LAU-PL
		0.69N	2	3	MQS-54AS-5LAU	MQS-54AS-5LAU-P	MQS-54AS-5LAU-F	MQS-54AS-5LAU-PR	MQS-54AS-5LAU-PL
		1.08N	2	3	MQS-54AS-7LAU	MQS-54AS-7LAU-P	MQS-54AS-7LAU-F	MQS-54AS-7LAU-PR	MQS-54AS-7LAU-PL
Hinge long lever (L2)	4	0.24N	2	3	MQS-54AS-3L2AU	MQS-54AS-3L2AU-P	MQS-54AS-3L2AU-F	MQS-54AS-3L2AU-PR	MQS-54AS-3L2AU-PL
		0.49N	2	3	MQS-54AS-5L2AU	MQS-54AS-5L2AU-P	MQS-54AS-5L2AU-F	MQS-54AS-5L2AU-PR	MQS-54AS-5L2AU-PL
		0.88N	2	3	MQS-54AS-7L2AU	MQS-54AS-7L2AU-P	MQS-54AS-7L2AU-F	MQS-54AS-7L2AU-PR	MQS-54AS-7L2AU-PL
Hinge long lever (L3)	5	0.20N	2	3	MQS-54AS-3L3AU	MQS-54AS-3L3AU-P	MQS-54AS-3L3AU-F	MQS-54AS-3L3AU-PR	MQS-54AS-3L3AU-PL
		0.39N	2	3	MQS-54AS-5L3AU	MQS-54AS-5L3AU-P	MQS-54AS-5L3AU-F	MQS-54AS-5L3AU-PR	MQS-54AS-5L3AU-PL
		0.69N	2	3	MQS-54AS-7L3AU	MQS-54AS-7L3AU-P	MQS-54AS-7L3AU-F	MQS-54AS-7L3AU-PR	MQS-54AS-7L3AU-PL
Hinge R2.5 lever (D)	6	0.16N	2	3	MQS-54AS-1DAU	MQS-54AS-1DAU-P	MQS-54AS-1DAU-F	MQS-54AS-1DAU-PR	MQS-54AS-1DAU-PL
		0.31N	2	3	MQS-54AS-3DAU	MQS-54AS-3DAU-P	MQS-54AS-3DAU-F	MQS-54AS-3DAU-PR	MQS-54AS-3DAU-PL
		0.69N	2	3	MQS-54AS-5DAU	MQS-54AS-5DAU-P	MQS-54AS-5DAU-F	MQS-54AS-5DAU-PR	MQS-54AS-5DAU-PL
		1.08N	2	3	MQS-54AS-7DAU	MQS-54AS-7DAU-P	MQS-54AS-7DAU-F	MQS-54AS-7DAU-PR	MQS-54AS-7DAU-PL
Hinge R1.3 lever (D3)	7	0.16N	2	3	MQS-54AS-1D3AU	MQS-54AS-1D3AU-P	MQS-54AS-1D3AU-F	MQS-54AS-1D3AU-PR	MQS-54AS-1D3AU-PL
		0.31N	2	3	MQS-54AS-3D3AU	MQS-54AS-3D3AU-P	MQS-54AS-3D3AU-F	MQS-54AS-3D3AU-PR	MQS-54AS-3D3AU-PL
		0.69N	2	3	MQS-54AS-5D3AU	MQS-54AS-5D3AU-P	MQS-54AS-5D3AU-F	MQS-54AS-5D3AU-PR	MQS-54AS-5D3AU-PL
		1.08N	2	3	MQS-54AS-7D3AU	MQS-54AS-7D3AU-P	MQS-54AS-7D3AU-F	MQS-54AS-7D3AU-PR	MQS-54AS-7D3AU-PL
Hinge roller lever (D2)	8	0.20N	2	3	MQS-54AS-1D2AU	MQS-54AS-1D2AU-P	MQS-54AS-1D2AU-F	MQS-54AS-1D2AU-PR	MQS-54AS-1D2AU-PL
		0.39N	2	3	MQS-54AS-3D2AU	MQS-54AS-3D2AU-P	MQS-54AS-3D2AU-F	MQS-54AS-3D2AU-PR	MQS-54AS-3D2AU-PL
		0.78N	2	3	MQS-54AS-5D2AU	MQS-54AS-5D2AU-P	MQS-54AS-5D2AU-F	MQS-54AS-5D2AU-PR	MQS-54AS-5D2AU-PL
		1.18N	2	3	MQS-54AS-7D2AU	MQS-54AS-7D2AU-P	MQS-54AS-7D2AU-F	MQS-54AS-7D2AU-PR	MQS-54AS-7D2AU-PL

\* The number represents ratings. 1 : 3A 250V AC / 3A 30V DC  
 2 : 0.1A 125V AC / 0.1A 30V DC  
 3 : 0.1A 30V DC

◇ Gold clad twin layer contact type

Actuator	No	Operating force (MAX)	*Approved standard		Lead wire terminal	PC board terminal	#110 Quick connect terminal	PC board terminal Right angle	PC board terminal Left angle
			C-UL	TUV	Products No.	Products No.	Products No.	Products No.	Products No.
Pin plunger type (Blank)	1	0.49N	-	-	MQS-54AS-1U2	MQS-54AS-1U2-P	MQS-54AS-1U2-F	MQS-54AS-1U2-PR	MQS-54AS-1U2-PL
		0.98N	-	-	MQS-54AS-3U2	MQS-54AS-3U2-P	MQS-54AS-3U2-F	MQS-54AS-3U2-PR	MQS-54AS-3U2-PL
		1.96N	-	-	MQS-54AS-5U2	MQS-54AS-5U2-P	MQS-54AS-5U2-F	MQS-54AS-5U2-PR	MQS-54AS-5U2-PL
		2.94N	-	-	MQS-54AS-7U2	MQS-54AS-7U2-P	MQS-54AS-7U2-F	MQS-54AS-7U2-PR	MQS-54AS-7U2-PL
Hinge short lever (L1)	2	0.20N	-	-	MQS-54AS-1L1U2	MQS-54AS-1L1U2-P	MQS-54AS-1L1U2-F	MQS-54AS-1L1U2-PR	MQS-54AS-1L1U2-PL
		0.39N	-	-	MQS-54AS-3L1U2	MQS-54AS-3L1U2-P	MQS-54AS-3L1U2-F	MQS-54AS-3L1U2-PR	MQS-54AS-3L1U2-PL
		0.78N	-	-	MQS-54AS-5L1U2	MQS-54AS-5L1U2-P	MQS-54AS-5L1U2-F	MQS-54AS-5L1U2-PR	MQS-54AS-5L1U2-PL
		1.18N	-	-	MQS-54AS-7L1U2	MQS-54AS-7L1U2-P	MQS-54AS-7L1U2-F	MQS-54AS-7L1U2-PR	MQS-54AS-7L1U2-PL
Hinge lever (L)	3	0.16N	-	-	MQS-54AS-1LU2	MQS-54AS-1LU2-P	MQS-54AS-1LU2-F	MQS-54AS-1LU2-PR	MQS-54AS-1LU2-PL
		0.31N	-	-	MQS-54AS-3LU2	MQS-54AS-3LU2-P	MQS-54AS-3LU2-F	MQS-54AS-3LU2-PR	MQS-54AS-3LU2-PL
		0.69N	-	-	MQS-54AS-5LU2	MQS-54AS-5LU2-P	MQS-54AS-5LU2-F	MQS-54AS-5LU2-PR	MQS-54AS-5LU2-PL
		1.08N	-	-	MQS-54AS-7LU2	MQS-54AS-7LU2-P	MQS-54AS-7LU2-F	MQS-54AS-7LU2-PR	MQS-54AS-7LU2-PL
Hinge long lever (L2)	4	0.24N	-	-	MQS-54AS-3L2U2	MQS-54AS-3L2U2-P	MQS-54AS-3L2U2-F	MQS-54AS-3L2U2-PR	MQS-54AS-3L2U2-PL
		0.49N	-	-	MQS-54AS-5L2U2	MQS-54AS-5L2U2-P	MQS-54AS-5L2U2-F	MQS-54AS-5L2U2-PR	MQS-54AS-5L2U2-PL
		0.88N	-	-	MQS-54AS-7L2U2	MQS-54AS-7L2U2-P	MQS-54AS-7L2U2-F	MQS-54AS-7L2U2-PR	MQS-54AS-7L2U2-PL
Hinge long lever (L3)	5	0.20N	-	-	MQS-54AS-3L3U2	MQS-54AS-3L3U2-P	MQS-54AS-3L3U2-F	MQS-54AS-3L3U2-PR	MQS-54AS-3L3U2-PL
		0.39N	-	-	MQS-54AS-5L3U2	MQS-54AS-5L3U2-P	MQS-54AS-5L3U2-F	MQS-54AS-5L3U2-PR	MQS-54AS-5L3U2-PL
		0.69N	-	-	MQS-54AS-7L3U2	MQS-54AS-7L3U2-P	MQS-54AS-7L3U2-F	MQS-54AS-7L3U2-PR	MQS-54AS-7L3U2-PL
Hinge R2.5 lever (D)	6	0.16N	-	-	MQS-54AS-1DU2	MQS-54AS-1DU2-P	MQS-54AS-1DU2-F	MQS-54AS-1DU2-PR	MQS-54AS-1DU2-PL
		0.31N	-	-	MQS-54AS-3DU2	MQS-54AS-3DU2-P	MQS-54AS-3DU2-F	MQS-54AS-3DU2-PR	MQS-54AS-3DU2-PL
		0.69N	-	-	MQS-54AS-5DU2	MQS-54AS-5DU2-P	MQS-54AS-5DU2-F	MQS-54AS-5DU2-PR	MQS-54AS-5DU2-PL
		1.08N	-	-	MQS-54AS-7DU2	MQS-54AS-7DU2-P	MQS-54AS-7DU2-F	MQS-54AS-7DU2-PR	MQS-54AS-7DU2-PL
Hinge R1.3 lever (D3)	7	0.16N	-	-	MQS-54AS-1D3U2	MQS-54AS-1D3U2-P	MQS-54AS-1D3U2-F	MQS-54AS-1D3U2-PR	MQS-54AS-1D3U2-PL
		0.31N	-	-	MQS-54AS-3D3U2	MQS-54AS-3D3U2-P	MQS-54AS-3D3U2-F	MQS-54AS-3D3U2-PR	MQS-54AS-3D3U2-PL
		0.69N	-	-	MQS-54AS-5D3U2	MQS-54AS-5D3U2-P	MQS-54AS-5D3U2-F	MQS-54AS-5D3U2-PR	MQS-54AS-5D3U2-PL
		1.08N	-	-	MQS-54AS-7D3U2	MQS-54AS-7D3U2-P	MQS-54AS-7D3U2-F	MQS-54AS-7D3U2-PR	MQS-54AS-7D3U2-PL
Hinge roller lever (D2)	8	0.20N	-	-	MQS-54AS-1D2U2	MQS-54AS-1D2U2-P	MQS-54AS-1D2U2-F	MQS-54AS-1D2U2-PR	MQS-54AS-1D2U2-PL
		0.39N	-	-	MQS-54AS-3D2U2	MQS-54AS-3D2U2-P	MQS-54AS-3D2U2-F	MQS-54AS-3D2U2-PR	MQS-54AS-3D2U2-PL
		0.78N	-	-	MQS-54AS-5D2U2	MQS-54AS-5D2U2-P	MQS-54AS-5D2U2-F	MQS-54AS-5D2U2-PR	MQS-54AS-5D2U2-PL
		1.18N	-	-	MQS-54AS-7D2U2	MQS-54AS-7D2U2-P	MQS-54AS-7D2U2-F	MQS-54AS-7D2U2-PR	MQS-54AS-7D2U2-PL

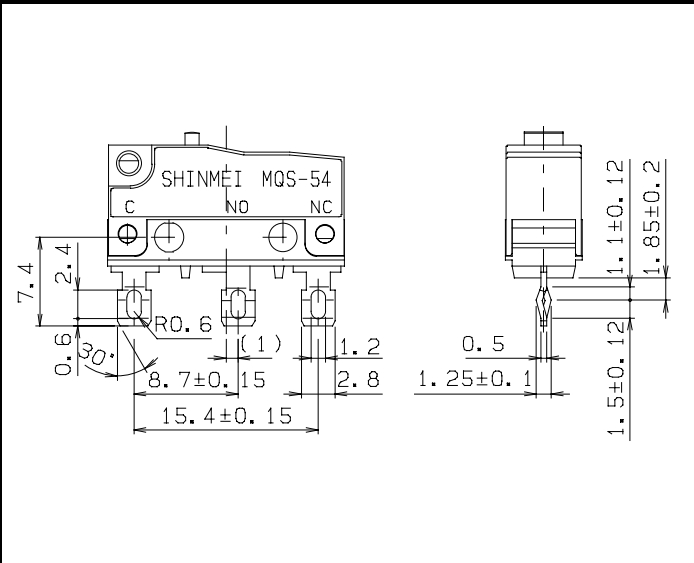
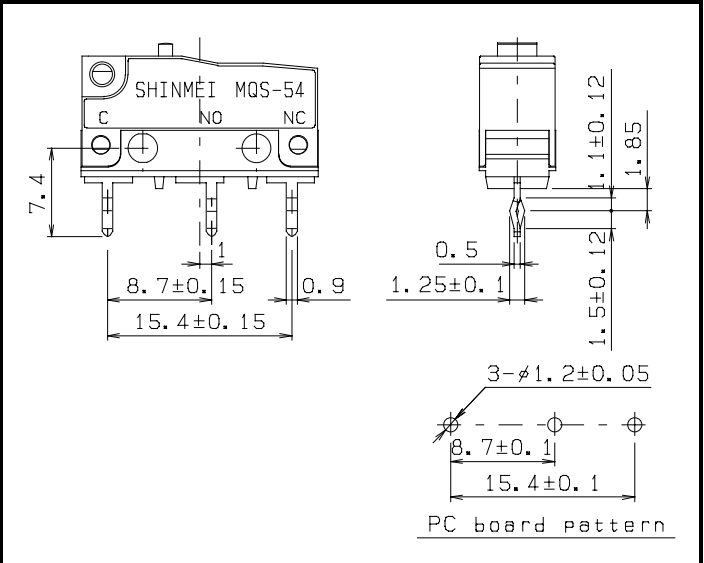
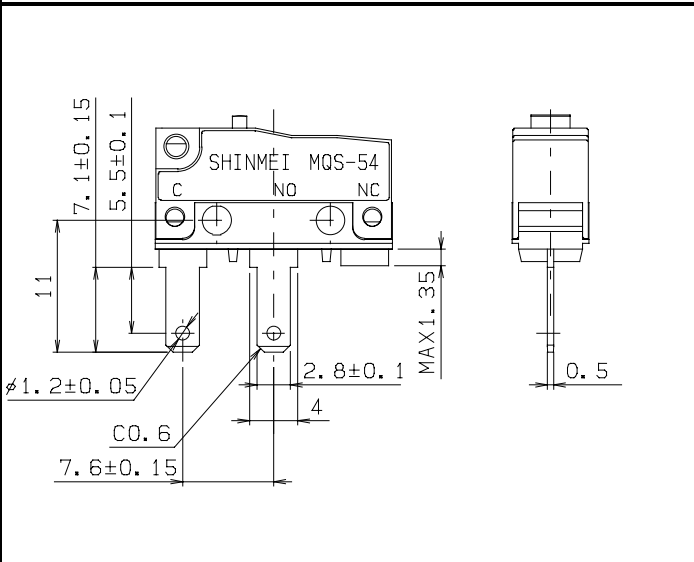
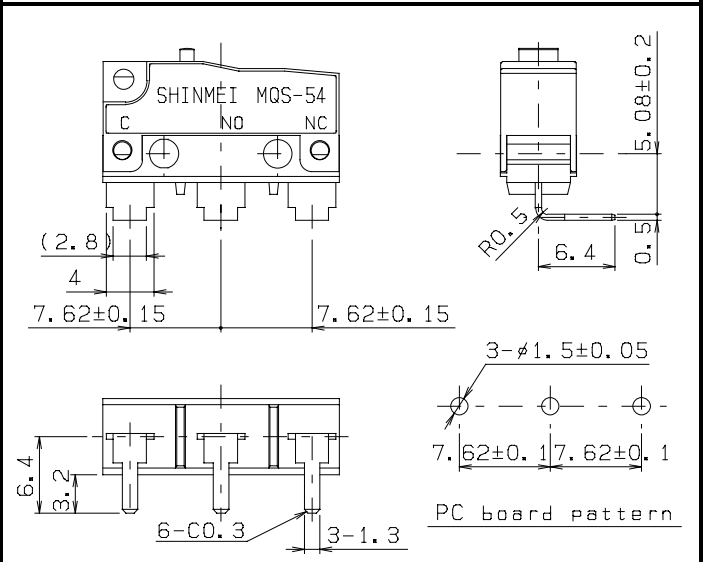
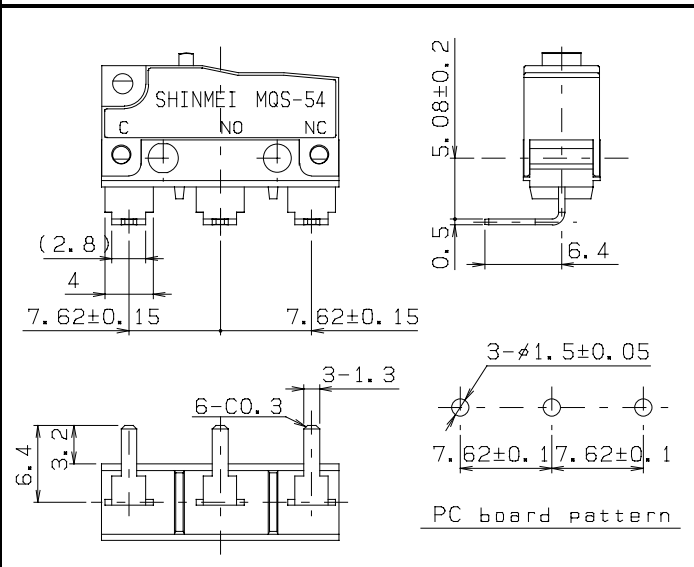
\*The number represents ratings. 1 : 3A 250V AC / 3A 30V DC  
 2 : 0.1A 125V AC / 0.1A 30V DC  
 3 : 0.1A 30V DC

□ Operating characteristic

Actuator	Operating Force code	O.F. MAX.	R.F. MIN	P.T. MAX	M.D. MAX	O.T. MIN	O.P.
Pin plunger type (Blank)	1	0.49N(50gf)	0.020N(2gf)	0.7mm	0.25mm	0.3mm	8.4 plus or minus 0.35mm
	3	0.98N(100gf)	0.074N(7.5gf)				
	5	1.96N(200gf)	0.150N(15gf)				
	7	2.94N(300gf)	0.200N(20gf)				
Hinge short lever (L1)	1	0.20N(20gf)	0.004N(0.4gf)	3.0mm	1.25mm	0.6mm	8.8 plus or minus 1.0mm
	3	0.39N(40gf)	0.017N(1.7gf)				
	5	0.78N(80gf)	0.034N(3.5gf)				
	7	1.18N(120gf)	0.039N(4gf)				
Hinge lever (L)	1	0.16N(16gf)	0.003N(0.35gf)	3.3mm	2.0mm	0.85mm	8.8 plus or minus 1.0mm
	3	0.31N(32gf)	0.015N(1.5gf)				
	5	0.69N(70gf)	0.029N(3gf)				
	7	1.08N(110gf)	0.034N(3.5gf)				
Hinge long lever (L2)	3	0.24N(24gf)	0.012N(1.2gf)	4.0mm	2.5mm	1.2mm	8.8 plus or minus 1.4mm
	5	0.49N(50gf)	0.025N(2.5gf)				
	7	0.88N(90gf)	0.029N(3gf)				
Hinge long lever (L3)	3	0.20N(20gf)	0.004N(0.4gf)	7.0mm	4.5mm	1.3mm	8.8 plus or minus 3.4mm
	5	0.39N(40gf)	0.017N(1.7gf)				
	7	0.69N(70gf)	0.029N(3gf)				
Hinge R2.5 lever (D)	1	0.16N(16gf)	0.003N(0.35gf)	3.3mm	2.0mm	0.75mm	11.65 plus or minus 1.0mm
	3	0.31N(32gf)	0.015N(1.5gf)				
	5	0.69N(70gf)	0.029N(3gf)				
	7	1.08N(110gf)	0.034N(3.5gf)				
Hinge R1.3 lever (D3)	1	0.16N(16gf)	0.003N(0.35gf)	3.3mm	2.0mm	0.75mm	10.7 plus or minus 1.0mm
	3	0.31N(32gf)	0.015N(1.5gf)				
	5	0.69N(70gf)	0.029N(3gf)				
	7	1.08N(110gf)	0.034N(3.5gf)				
Hinge roller lever (D2)	1	0.20N(20gf)	0.004N(0.4gf)	3.0mm	1.25mm	0.6mm	14.5 plus or minus 1.0mm
	3	0.39N(40gf)	0.017N(1.7gf)				
	5	0.78N(80gf)	0.034N(3.5gf)				
	7	1.18N(120gf)	0.039N(4gf)				

Terminal dimensions

Unit : mm

Lead wire terminal	PC board terminal
 <p>SHINMEI MQS-54</p> <p>C NO NC</p> <p>7.4, 2.4, 0.6, R0.6, 30°, 8.7±0.15, 1.2, 2.8, 15.4±0.15, 0.5, 1.25±0.1, 1.1±0.12, 1.85±0.2</p>	 <p>SHINMEI MQS-54</p> <p>C NO NC</p> <p>7.4, 8.7±0.15, 0.9, 15.4±0.15, 0.5, 1.25±0.1, 1.1±0.12, 1.85, 1.5±0.12</p> <p>PC board pattern: 3-∅1.2±0.05, 8.7±0.1, 15.4±0.1</p>
#110 Quick connect terminal	PC board terminal Right angle
 <p>SHINMEI MQS-54</p> <p>C NO NC</p> <p>11, 7.1±0.15, 5.5±0.1, MAX1.35, 0.5, 2.8±0.1, 4, 7.6±0.15, C0.6, ∅1.2±0.05</p>	 <p>SHINMEI MQS-54</p> <p>C NO NC</p> <p>(2.8), 4, 7.62±0.15, 7.62±0.15, R0.5, 6.4, 0.5, 5.08±0.2</p> <p>PC board pattern: 3-∅1.5±0.05, 7.62±0.1, 7.62±0.1</p>
PC board terminal Left angle	
 <p>SHINMEI MQS-54</p> <p>C NO NC</p> <p>(2.8), 4, 7.62±0.15, 7.62±0.15, 5.08±0.2, 0.5, 6.4, 3-∅1.5±0.05, 6-C0.3, 3-1.3, 7.62±0.1, 7.62±0.1</p> <p>PC board pattern</p>	

**Dimensions**

Unit : mm

No	Style	Operating characteristic	
1	<p>Pin plunger type</p>	P.T. MAX	0.7mm
		M.D. MAX	0.25mm
		O.T. MIN	0.3mm
		O.P. From fixing hole	8.4 plus or minus 0.35mm
		O.P. From fixing face	11.8 plus or minus 0.45mm
2	<p>Hinge short lever L=5mm</p>	P.T. MAX	3.0mm
		M.D. MAX	1.25mm
		O.T. MIN	0.6mm
		O.P. From fixing hole	8.8 plus or minus 1.0mm
		O.P. From fixing face	12.2 plus or minus 1.1mm
3	<p>Hinge short lever L=7.15mm</p>	P.T. MAX	3.3mm
		M.D. MAX	2.0mm
		O.T. MIN	0.85mm
		O.P. From fixing hole	8.8 plus or minus 1.0mm
		O.P. From fixing face	12.2 plus or minus 1.1mm



Dimensions

Unit : mm

No	Style	Operating characteristic	
4	<p>Hinge long lever L=13.1mm</p>	P.T. MAX	4.0mm
		M.D. MAX	2.5mm
		O.T. MIN	1.2mm
		O.P. From fixing hole	8.8 plus or minus 1.4mm
		O.P. From fixing face	12.2 plus or minus 1.5mm
5	<p>Hinge long lever L=26.1mm</p>	P.T. MAX	7.0mm
		M.D. MAX	4.5mm
		O.T. MIN	1.3mm
		O.P. From fixing hole	8.8 plus or minus 3.4mm
		O.P. From fixing face	12.2 plus or minus 3.5mm
6	<p>Hinge R2.5 lever L=6.3mm</p>	P.T. MAX	3.3mm
		M.D. MAX	2.0mm
		O.T. MIN	0.75mm
		O.P. From fixing hole	11.65 plus or minus 1.0mm
		O.P. From fixing face	15.05 plus or minus 1.1mm

Dimensions

Unit : mm

No	Style	Operating characteristic	
7	Hinge R1.3 lever L=6.3mm 	P.T. MAX	3.3mm
	M.D. MAX	2.0mm	
	O.T. MIN	0.75mm	
	O.P. From fixing hole	10.7 plus or minus 1.0mm	
	O.P. From fixing face	14.1 plus or minus 1.1mm	
8	Hinge roller lever L=5mm 	P.T. MAX	3.0mm
	M.D. MAX	1.25mm	
	O.T. MIN	0.6mm	
	O.P. From fixing hole	14.5 plus or minus 1.0mm	
	O.P. From fixing face	17.9 plus or minus 1.1mm	

Notes

- The appearance and specifications of the product may be modified without prior notice to improve its performance.
- This catalog shows only outline specifications. When using the product, please obtain formal specifications.
- Please see appendix [Cautions in Using Switches].
- Fix the switch by M2.3 screw with torque less than 29.4 N-cm(3 kg-cm)  
Fixing with spring washers and adhesive are recommended to avoid the loose of the screw.
- Operating force applied to push button or actuator should be zero at free position and the force shall not be applied vertically to push button during the operation.
- O.T. (Over travel) shall be set between 80% and 100% of O.T. specifications.
- In connecting lead wires, care should be taken not to apply tension to terminal.
- In case of manual-soldering, soldering should be finished within 3 seconds by soldering iron of 30 W or with maximum tip temperature of 350 degree Celsius. Please do not apply pressure for 1 minute after soldering.
- Please design usage of switch in proper operation even if any standard value of operational characteristics changes by plus or minus 20 % .
- No dust, high humidity and organic gas should be found in the storage location.
- Please confirm the performance on actual operation by simulation with actual environment environments for high reliability.