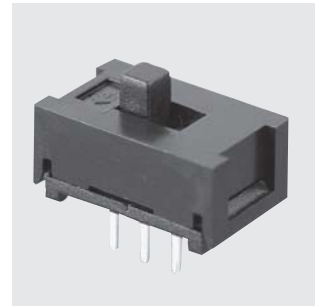


# MCS 221N · 222N 421N · 422N

## Slide Switches

RoHS Compliant



### ■ Features

#### 1. High Contact Reliability

Self-cleaning contact mechanism for high contact reliability.

#### 2. Gold-plated contacts for low current applications

**MCS222N-2018/MCS221N-2019**

**MCS422N-2032/MCS421N-2033**

#### 3. Designed for PC board mounting

### ■ Specifications

Contact plating	Silver plated	Gold plated
Max. rating	0.2A 30VDC	0.4VA (50mA max. 30VDC max.)
Initial contact resistance	30mΩ max. (1.5mA 200μVAC)	50mΩ max. (1.5mA 200μVAC)
Dielectric strength	500VAC 1 minute	
Initial Insulation resistance	100MΩ min.	(500VDC)
Electrical life	10,000 cycles	
Operating force	1.96±0.98N	
Switch timing	Non-shorting	
Operating temperature range	-10~+60°C	

### ■ Table of Part Numbers

Terminal styles	2-pole		4-pole	
	PC terminal	Right angle terminal	PC terminal	Right angle terminal
Silver plated contacts	<b>MCS221N-2017</b>	<b>MCS222N-2016</b>	<b>MCS421N-2031</b>	<b>MCS422N-2030</b>
Gold plated contacts	<b>MCS221N-2019</b>	<b>MCS222N-2018</b>	<b>MCS421N-2033</b>	<b>MCS422N-2032</b>

### ■ Soldering Specifications

(1) Manual Soldering

Device : Soldering iron

① 350°C, Max.; 3 seconds, Max.

(2) When soldering two or more terminals to the common land, use solder resist to solder them independently.

### ■ Flux Cleaning

(1) Solvent : Fluorine or Alcohol type.

(2) MCS series are not process sealed. If the PC board is to be cleaned, clean the soldering surface of substrate with a brush so that the switch is not exposed to the cleaning solution.

### ■ Frequency of switch use

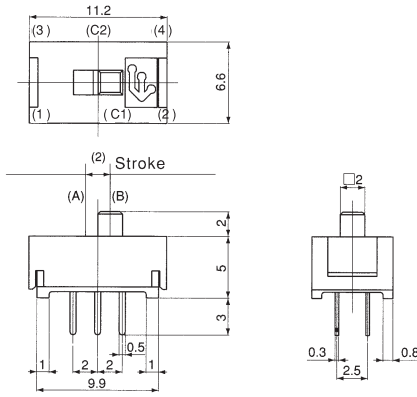
If the switch is not likely to be operated frequently (e.g. two or three operations a year) in the dry circuit area, a sulfide film is likely to be formed on the contacts, resulting in contact failure. If this is the case, gold-plated products are recommended. Please contact your local Nidec Copal Electronics sales representative.

**MCS**

**MCS221N-2017  
MCS221N-2019**



**PC**



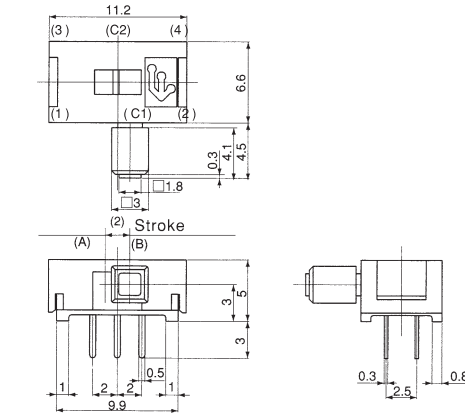
Terminal numbers are not shown on the switch.

Switching function	Position (A)	Position (B)
Part No.		
<b>MCS222N-2016</b> Silver plated	ON	ON
<b>MCS221N-2017</b> Silver plated		
<b>MCS222N-2018</b> Gold plated		
<b>MCS221N-2019</b> Gold plated		
Connecting terminals	C1-1 C2-3	C1-2 C2-4
Circuit diagram		

**MCS222N-2016  
MCS222N-2018**

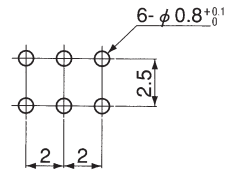


**R/A**

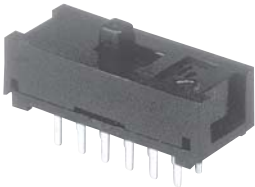


Terminal numbers are not shown on the switch.

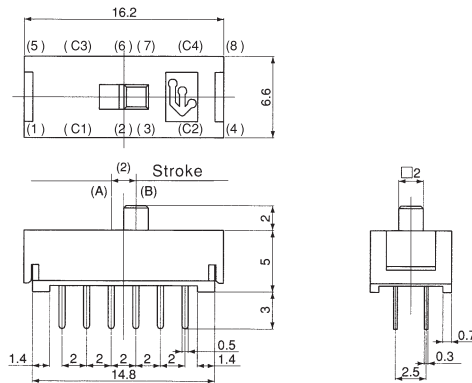
**PC Hole Layouts**



**MCS421N-2031  
MCS421N-2033**



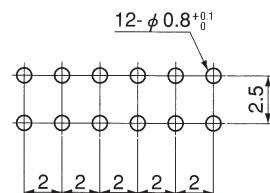
**PC**



Terminal numbers are not shown on the switch.

Switching function	Position (A)	Position (B)
Part No.		
<b>MCS422N-2030</b> Silver plated	ON	ON
<b>MCS421N-2031</b> Silver plated		
<b>MCS422N-2032</b> Gold plated		
<b>MCS421N-2033</b> Gold plated		
Connecting terminals	C1-1 C2-3 C3-5 C4-7	C1-2 C2-4 C3-6 C4-8
Circuit diagram		

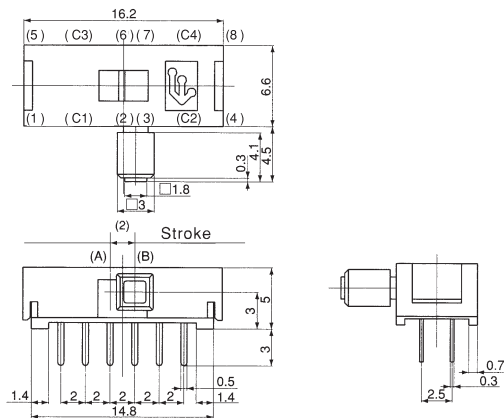
**PC Hole Layouts**



**MCS422N-2030  
MCS422N-2032**



**R/A**



Terminal numbers are not shown on the switch.