



# ShanPu

## Pushbutton Switches Series SP86N / SP86NH / SP86L



### General Specifications

Switch circuit :SPDT  
 Switch contact rating :12mA @ 24V DC max  
 LED rating :Limited forward current(If) at 20mA max  
 Contact Resistance :50m Ohm Max(initial)  
 Insulation Resistance :100M Ohm Min  
 Operating Force :170gf±50gf (SP86N / SP86L)  
 400gf±100gf (SP86NH)  
 Total Travel :2.5mm±0.5mm  
 Mechanical Life :1,000,000 Cycles Min. (SP86N / SP86NH)  
 500,000 Cycles Min. (SP86L)  
 Solder Specifications :260°C for 3 seconds  
 Operating Temperature :-10 °C ~ +60 °C  
 Function :Momentary (SP86N / SP86NH)  
 :Alternate (SP86L)

### Material

Cap :Acrylonitrile Butadiene Styrene (ABS)  
 Case :Polyamide (PA)  
 Fixed Support :Stainless steel wire  
 Terminal :Phosphor bronze (PBS) with gold plating  
 Moving Contact :Phosphor bronze (PBS) with gold plating  
 Spring :Piano wire  
 LED :3mm Diameter LED Lamp

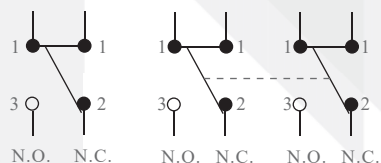
### ▼ Circuit & PCB Layout

/ SP86N/SP86L

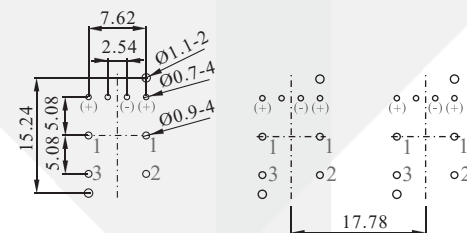
/ SP86NH

/ SP86N/SP86L

/ SP86NH



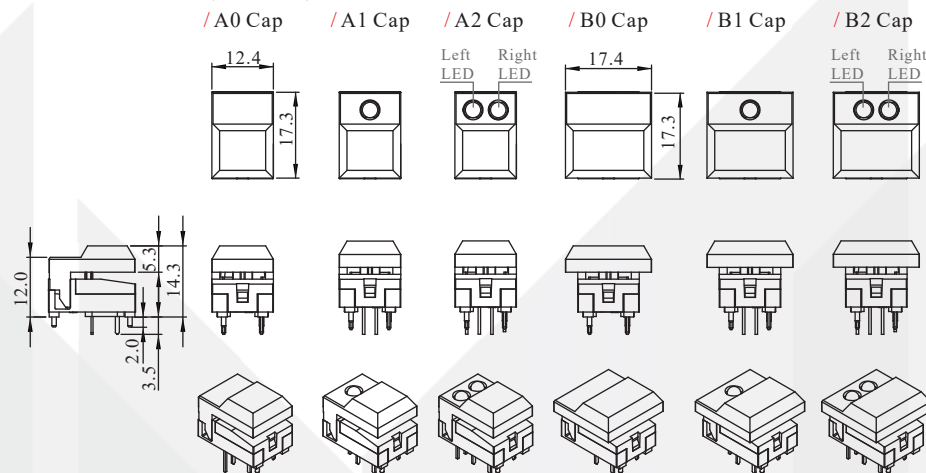
Contact Configuration



PCB Layout

Recommend add resistor to limited each LED forward current at 20mA

### ▼ Dimension (SP86N)



### ▼ How to order (SP86N)

SP86N — [ ] — [ ] — [ ] — [ ]

CAP Styles	
Small CAP	
A0	Without LED
A1	One-LED
A2	Two-LED
Large CAP	
B0	Without LED
B1	One-LED
B2	Two-LED

CAP Colors	
5	Black
9	Grey

LED Colors	
00	Without LED
One LED	
01	Red
02	Yellow
03	Green
07	Blue
2 LEDs	
Left	Right
1	Red
2	Yellow
3	Green
7	Blue

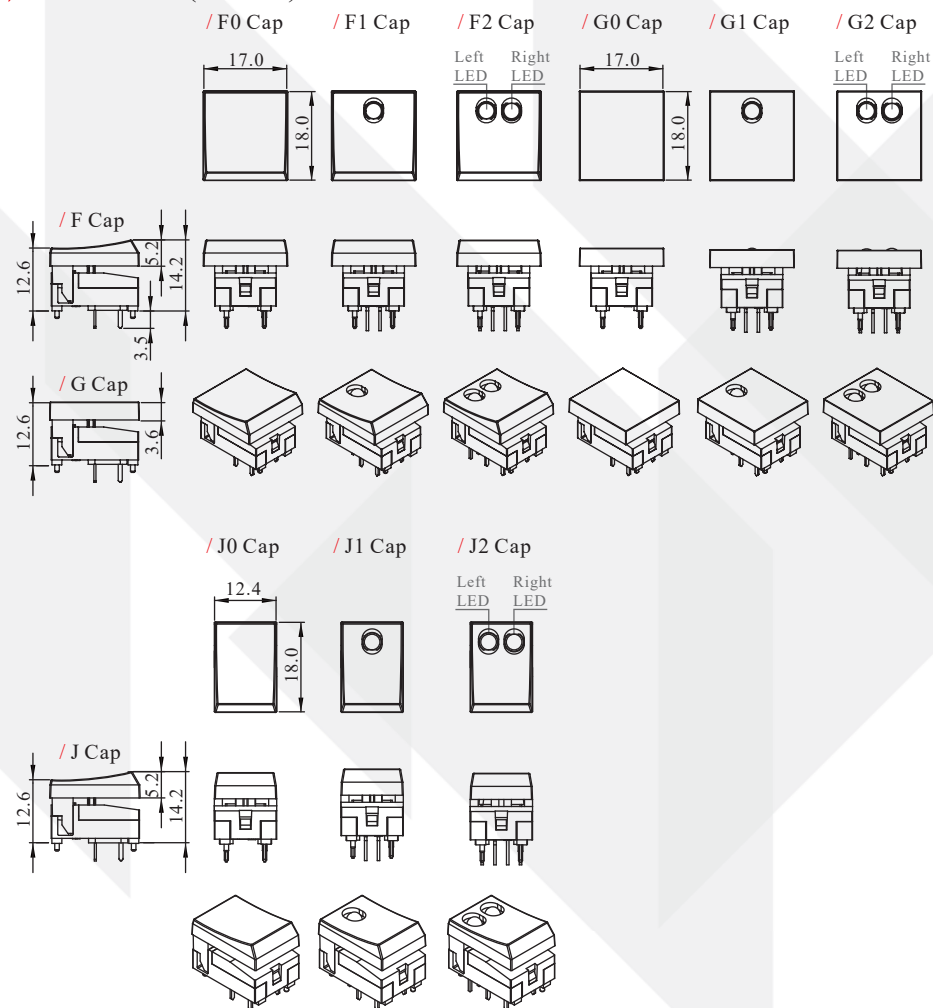
EXAMPLE :  
 SP86N-B0-1-01  
 SP86N-A2-5-13



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## Pushbutton Switches Series SP86N / SP86NH / SP86L

### Dimension (SP86N)



### How to Order

SP86N — [ ] — [ ] — [ ] — [ ] — [ ]

CAP Styles		CAP Colors		LED Colors			
F CAP		5	Black	00 Without LED			
F0	Without LED	9	Grey	One LED			
F1	One-LED			01	Red		
F2	Two-LED			02	Yellow		
G CAP				03	Green		
G0	Without LED			07	Blue		
G1	One-LED			2 LEDs			
G2	Two-LED			Left		Right	
J CAP				1	Red	1	Red
J0	Without LED			2	Yellow	2	Yellow
J1	One-LED			3	Green	3	Green
J2	Two-LED			7	Blue	7	Blue

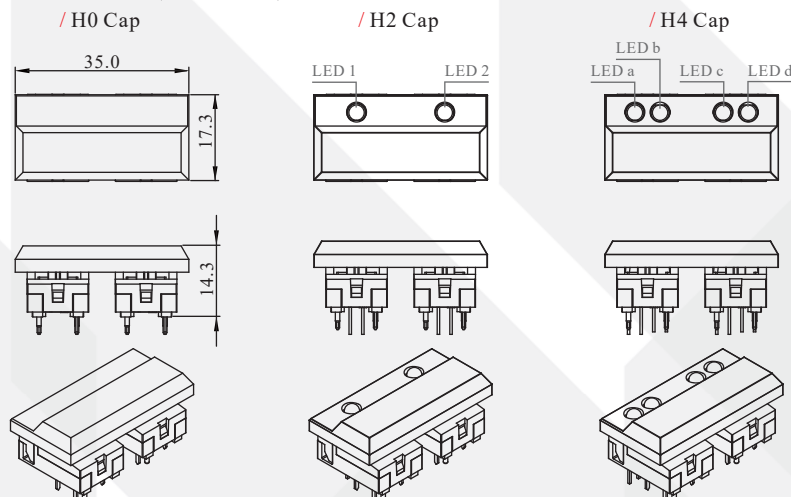
EXAMPLE :  
SP86N-F0-5-01  
SP86N-G2-9-13



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## Pushbutton Switches Series SP86N / SP86NH / SP86L

### Dimension (SP86NH)



### How to order (SP86NH)

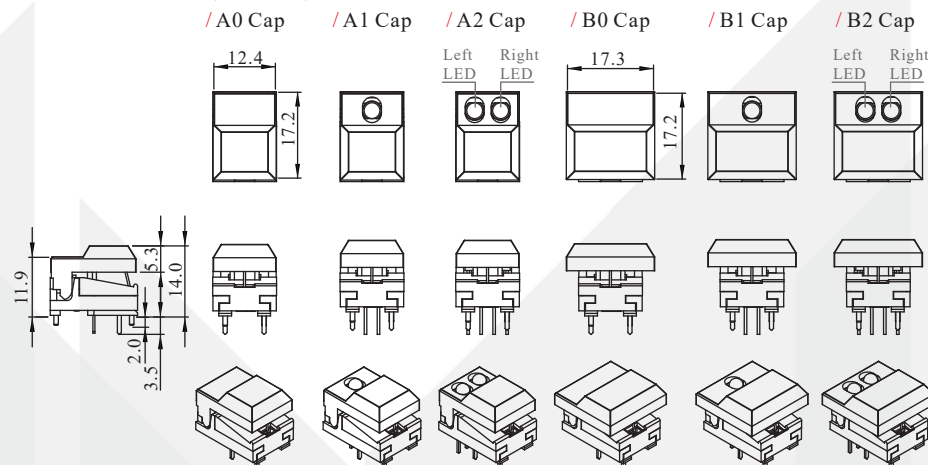
SP86N — **H** —  —  —  —  —  —

Double wide CAP		CAP Colors		LED Colors Option					
H0	Without LED	5	Black	2 LEDs					
H2	Two-LED	9	Grey	Led 1		Led 2			
H4	Four-LED			1	2	1	2	Red	
				2	3	2	3	Yellow	
				3	7	3	7	Green	
				7		7		Blue	
				4 LEDs					
				Led a	Led b	Led c	Led d		
				1	1	1	1	Red	
				2	2	2	2	Yellow	
				3	3	3	3	Green	
				7	7	7	7	Blue	

EXAMPLE :  
SP86NH2511

\*Repeat the code for the following LED(s)

### Dimension (SP86L)



### How to order (SP86L)

SP86L —  —  —  —  —

CAP Styles		CAP Colors		LED Colors			
A0	Without LED	5	Black	00	Without LED		
A1	One-LED	9	Grey	One LED			
A2	Two-LED			01	Red		
				02	Yellow		
				03	Green		
				07	Blue		
				2 LEDs			
B0	Without LED			Left		Right	
B1	One-LED			1	Red	1	Red
B2	Two-LED			2	Yellow	2	Yellow
				3	Green	3	Green
				7	Blue	7	Blue

EXAMPLE :  
SP86L-B2-9-12