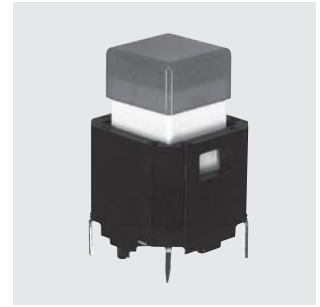


# CFPB

## Illuminated Pushbutton Switches



RoHS Compliant

### Features

1. Full Surface Illumination by LED.
2. Conductive Rubber Contact For Soft and Quiet Operation
3. Available in Four Sizes  
6mm sq., 9mm sq., 11mm sq., 12mm sq.

### Specifications

Rating	Max.	DC5V 5mA or DC20V 1mA
	Min.	DC5V 1mA
Initial Contact Resistance	200 Ω Max (20mV 1.5mA 1kHz Max)	
Dielectric Strength	250VAC 1 minute	
Insulation Resistance	100MΩ (100VDC)	
Travel	1.5mm (11/12mm sq.) 1.3mm (6/9mm sq.)	
Operating Force	1.7±0.5N (11/12mm sq)	
	1.3 +0.6/-0.4N (6/9mm sq.)	
Electrical Life	500,000 operations at maxrating (11/12mm sq.)	
	300,000 operations at max. rating (6/9mm sq.)	
Operating Temperature Range	-10°C~+60°C	
Storage Temperature Range	-25°C~+70°C	

※Information on LED drive circuit are shown on the next page.

### Part Numbering

**CFPB - 1 C C - 1 W 1 W**

Series Code & Actuator		Number of Poles	Terminal Style		LED Color	Button Color	Button Dimension	Packaging Specifications	
Code	Type		Code	Terminal Style				Code	Packaging Specifications
<b>P</b>	Pushbutton		<b>C</b>	Straight				<b>W</b>	Tray

Fig.	Number of Poles	Switching Function	Combination	LED Color	Button Color	Fig.	Button Dimension	Code	Packaging Specifications				
<b>1</b>	1 pole					<b>C</b>	OFF - (ON)	<b>1R</b>	1	Non-illuminated	R	Red	<b>1</b>
			<b>2R</b>	2	Red					<b>2</b>	□12mm sq.		
			<b>10</b>	1	Non-illuminated	O	Orange			<b>6</b>	□6mm sq.		
			<b>30</b>	3	Orange					<b>9</b>	□9mm sq.		
			<b>1W</b>	1	Non-illuminated	W	White clear						
			<b>4W</b>	4	Yellow								
			<b>1B</b>	1	Non-illuminated	B	Blue						
			<b>5B</b>	5	Green								
			<b>1G</b>	1	Non-illuminated	G	Green						
			<b>5G</b>	5	Green								
			<b>1Y</b>	1	Non-illuminated	Y	Yellow						
			<b>5Y</b>	5	Green								

### Switching function

Switching Function		
Part No.	CFPB-1CC-■■■■W	CFPB-1CC-■■■■W
Connecting Terminals	-	1-2

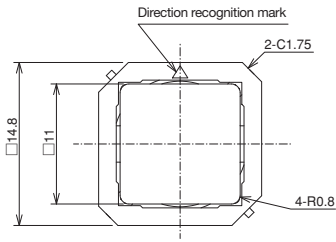
### LED Characteristics

LED Characteristics	
Part No.	CFPB-1CC-■■■■W
Connecting Terminals	3-4

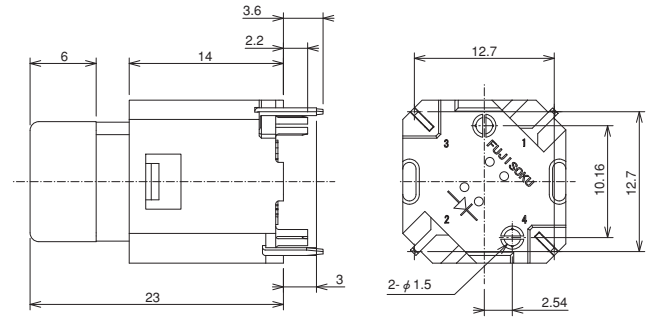
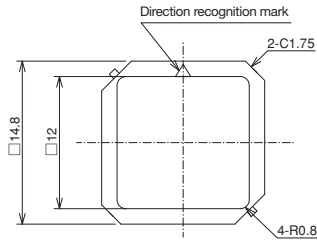
※Exclude Non - illuminated type.

Dimension

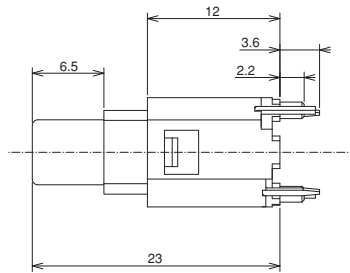
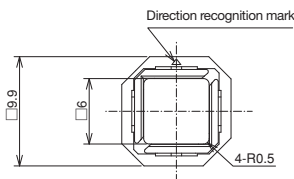
11mm Sq.



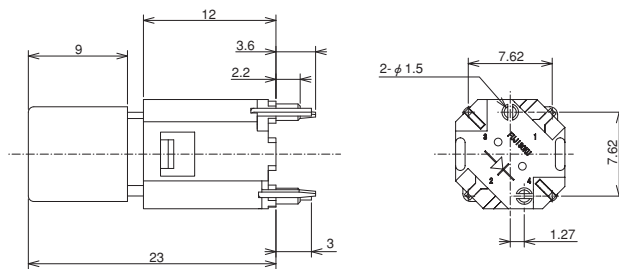
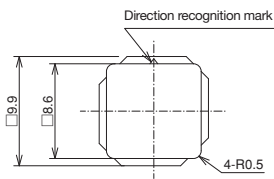
12mm Sq.



6mm Sq.

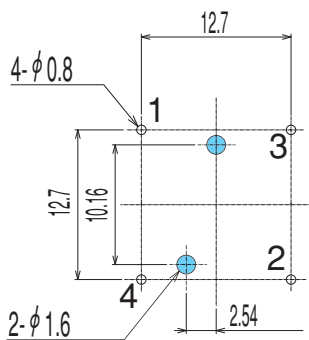


9mm Sq.

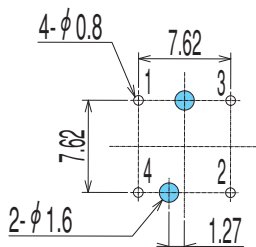


Pad Layouts

11mm/12mm Sq.



6mm/9mm Sq.



Soldering Specifications

(1) flow soldering

260°C max., 3 ~ 5 sec. max. (total 10 sec. max)

Pre Heating: 80 ~ 120°C , 120 sec. max.

No. of flows: 1 time max.

(2) Manual soldering

Device : Solder iron

380°C Max, 3 sec Max

Flux Cleaning

(1) The CFPB series are not washable. To wash the PC board, clean the soldering surface of the PC board with a brush so that the switch is not exposed to the cleaning solution.

(2) Solvent : Alcohol type

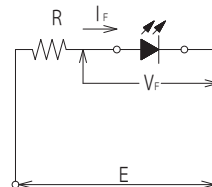
LED Drive circuit

● Case of static lighting system.

$$R = \frac{E - V_F}{I_F}$$

● Case of dynamic lighting system,

$$R = \frac{E - V_F}{I_{FM}}$$



# CFPB

## LED Specification

Item	Symbol	Absolute Maximum Rating <sup>※1</sup>				Code
		Red	Orange	Green	Yellow	
Power Dissipation	P <sub>d</sub>	75	70	70	85	mW
Forward Current	I <sub>F</sub>	30	25	25	30	mA
Forward Voltage	V <sub>F</sub>	2.8	2.8	2.8	2.8	V
Puls Forward Current <sup>※2</sup>	I <sub>FRM</sub>	75	60	60	75	mA
Current Derating (Ta ≤ 25°C)	ΔI <sub>F</sub>	0.40	0.33	0.33	0.40	mA/°C
Reverse Voltage	V <sub>R</sub>	4	4	4	4	V

- ※1. "Absolute Maximum Rating" is the limit value that must not be exceeded even momentarily. Be sure to consider the safety margin for designing the circuit.  
 ※2. Measurement conditions of I<sub>FRM</sub>  
 Pulse width ≤ 1 ms; Duty ratio ≤ 1/20.  
 ※3. The above ratings are specified at ambient temperature Ta = 25°C.

## Table of Part Numbers

□ 6mm Sq.

Part No.	LED color	Button color
<b>CFPB-1CC-1W6W</b>	Non-illuminated	White
<b>CFPB-1CC-1R6W</b>	Non-illuminated	Red
☆ <b>CFPB-1CC-1G6W</b>	Non-illuminated	Green
☆ <b>CFPB-1CC-1Y6W</b>	Non-illuminated	Yellow
☆ <b>CFPB-1CC-1B6W</b>	Non-illuminated	Blue
☆ <b>CFPB-1CC-1O6W</b>	Non-illuminated	Orange
<b>CFPB-1CC-2R6W</b>	Red	Red
☆ <b>CFPB-1CC-3O6W</b>	Orange	Orange
<b>CFPB-1CC-4W6W</b>	Yellow	White
☆ <b>CFPB-1CC-5G6W</b>	Green	Green
☆ <b>CFPB-1CC-5Y6W</b>	Green	Yellow
☆ <b>CFPB-1CC-5B6W</b>	Green	Blue

□ 9mm Sq.

Part No.	LED color	Button color
<b>CFPB-1CC-1W9W</b>	Non-illuminated	White
<b>CFPB-1CC-1R9W</b>	Non-illuminated	Red
☆ <b>CFPB-1CC-1G9W</b>	Non-illuminated	Green
☆ <b>CFPB-1CC-1Y9W</b>	Non-illuminated	Yellow
☆ <b>CFPB-1CC-1B9W</b>	Non-illuminated	Blue
☆ <b>CFPB-1CC-1O9W</b>	Non-illuminated	Orange
<b>CFPB-1CC-2R9W</b>	Red	Red
☆ <b>CFPB-1CC-3O9W</b>	Orange	Orange
<b>CFPB-1CC-4W9W</b>	Yellow	White
☆ <b>CFPB-1CC-5G9W</b>	Green	Green
☆ <b>CFPB-1CC-5Y9W</b>	Green	Yellow
☆ <b>CFPB-1CC-5B9W</b>	Green	Blue

□ 11mm Sq.

Part No.	LED color	Button color
<b>CFPB-1CC-1W1W</b>	Non-illuminated	White
<b>CFPB-1CC-1R1W</b>	Non-illuminated	Red
☆ <b>CFPB-1CC-1G1W</b>	Non-illuminated	Green
☆ <b>CFPB-1CC-1Y1W</b>	Non-illuminated	Yellow
☆ <b>CFPB-1CC-1B1W</b>	Non-illuminated	Blue
☆ <b>CFPB-1CC-1O1W</b>	Non-illuminated	Orange
<b>CFPB-1CC-2R1W</b>	Red	Red
☆ <b>CFPB-1CC-3O1W</b>	Orange	Orange
<b>CFPB-1CC-4W1W</b>	Yellow	White
☆ <b>CFPB-1CC-5G1W</b>	Green	Green
☆ <b>CFPB-1CC-5Y1W</b>	Green	Yellow
☆ <b>CFPB-1CC-5B1W</b>	Green	Blue

□ 12mm Sq.

Part No.	LED color	Button color
<b>CFPB-1CC-1W2W</b>	Non-illuminated	White
<b>CFPB-1CC-1R2W</b>	Non-illuminated	Red
☆ <b>CFPB-1CC-1G2W</b>	Non-illuminated	Green
☆ <b>CFPB-1CC-1Y2W</b>	Non-illuminated	Yellow
☆ <b>CFPB-1CC-1B2W</b>	Non-illuminated	Blue
☆ <b>CFPB-1CC-1O2W</b>	Non-illuminated	Orange
<b>CFPB-1CC-2R2W</b>	Red	Red
☆ <b>CFPB-1CC-3O2W</b>	Orange	Orange
<b>CFPB-1CC-4W2W</b>	Yellow	White
☆ <b>CFPB-1CC-5G2W</b>	Green	Green
☆ <b>CFPB-1CC-5Y2W</b>	Green	Yellow
☆ <b>CFPB-1CC-5B2W</b>	Green	Blue

## Packaging Specifications

