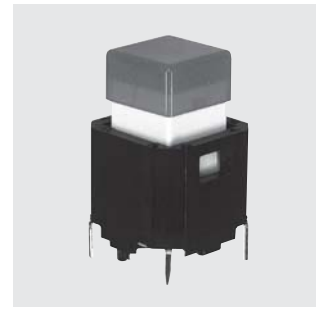


CFPB



RoHS Compliant

Illuminated Pushbutton Switches



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

| Code | Type |
|------|------------|
| P | Pushbutton |

Number of Poles

1

Terminal Style

| Code | Terminal Style |
|------|----------------|
| C | Straight |

LED Color

1

Button Color

W

Button Dimension

1

Packaging Specifications

W

| Fig. | Number of Poles | Switching Function | | Combination | LED Color | Button Color | | Fig. | Button Dimension | Code | Packaging Specifications | |
|------|-----------------|--------------------|--------------------|-------------|-----------|-----------------|---|-------------|------------------|-----------|--------------------------|------|
| | | Code | Switching Function | | | | | | | | | |
| 1 | 1 pole | C | OFF - (ON) | 1R | 1 | Non-illuminated | R | Red | 1 | □11mm sq. | W | Tray |
| | | | | 2R | 2 | Red | | | 2 | □12mm sq. | | |
| | | | | 10 | 1 | Non-illuminated | O | Orange | | | | |
| | | | | 30 | 3 | Orange | | | | | | |
| | | | | 1W | 1 | Non-illuminated | W | White clear | | | | |
| | | | | 4W | 4 | Yellow | | | | | | |
| | | | | 1B | 1 | Non-illuminated | B | Blue | | | | |
| | | | | 5B | 5 | Green | | | | | | |
| | | | | 1G | 1 | Non-illuminated | G | Green | | | | |
| | | | | 5G | 5 | Green | | | | | | |
| | | | | 1Y | 1 | Non-illuminated | Y | Yellow | | | | |
| | | | | 5Y | 5 | Green | | | | | | |

Switching function

| Part No. | Switching Function | OFF | (ON) |
|----------------------|--------------------|-----|------|
| CFPB-1CC-■■■■W | | | |
| Connecting Terminals | | — | 1-2 |

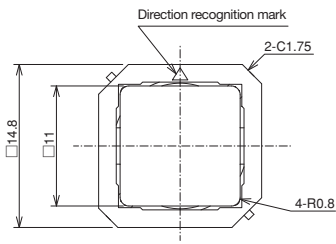
LED Characteristics

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

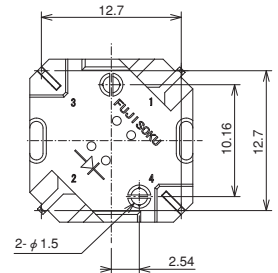
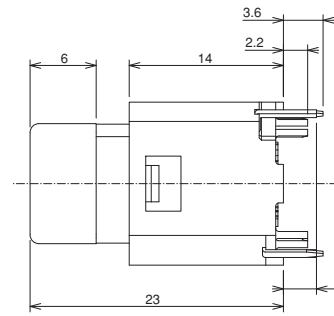
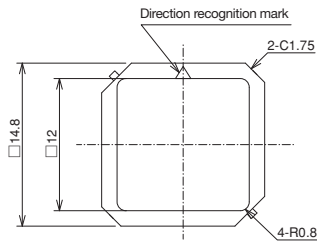
※Exclude Non - illuminated type.

Dimension

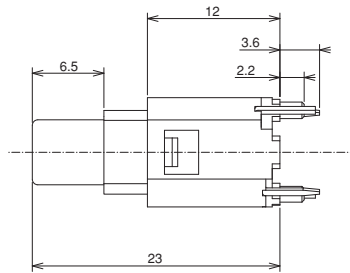
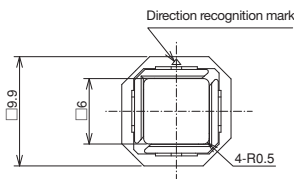
11mm Sq.



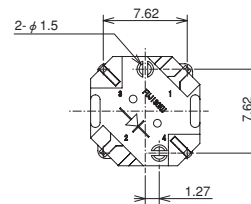
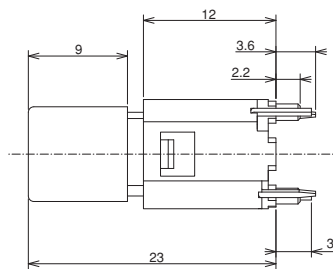
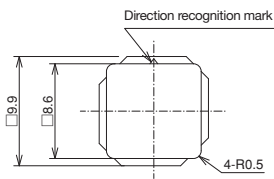
12mm Sq.



6mm Sq.

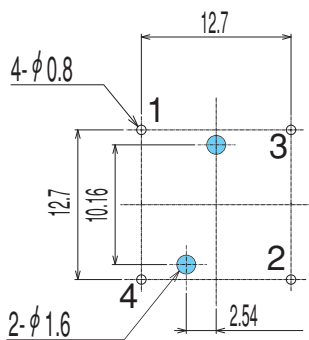


9mm Sq.

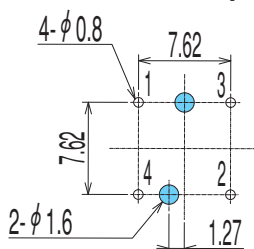


Pad Layouts

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

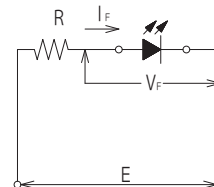
LED Drive circuit

- 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 ^{※1} | | | | Code |
|------------------------------------|------------------|---------------------------------------|--------|-------|--------|-------|
| | | Red | Orange | Green | Yellow | |
| Power Dissipation | P _d | 75 | 70 | 70 | 85 | mW |
| Forward Current | I _F | 30 | 25 | 25 | 30 | mA |
| Forward Voltage | V _F | 2.8 | 2.8 | 2.8 | 2.8 | V |
| Puls Forward Current ^{※2} | I _{FRM} | 75 | 60 | 60 | 75 | mA |
| Current Derating (Ta ≤ 25°C) | ΔI _F | 0.40 | 0.33 | 0.33 | 0.40 | mA/°C |
| Reverse Voltage | V _R | 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_{FRM}
 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 |
|------------------------|-----------------|--------------|
| CFPB-1CC-1W6W | Non-illuminated | White |
| CFPB-1CC-1R6W | Non-illuminated | Red |
| ☆ CFPB-1CC-1G6W | Non-illuminated | Green |
| ☆ CFPB-1CC-1Y6W | Non-illuminated | Yellow |
| ☆ CFPB-1CC-1B6W | Non-illuminated | Blue |
| ☆ CFPB-1CC-1O6W | Non-illuminated | Orange |
| CFPB-1CC-2R6W | Red | Red |
| ☆ CFPB-1CC-3O6W | Orange | Orange |
| CFPB-1CC-4W6W | Yellow | White |
| ☆ CFPB-1CC-5G6W | Green | Green |
| ☆ CFPB-1CC-5Y6W | Green | Yellow |
| ☆ CFPB-1CC-5B6W | Green | Blue |

□ 9mm Sq.

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

□ 11mm Sq.

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

□ 12mm Sq.

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

Packaging Specifications

