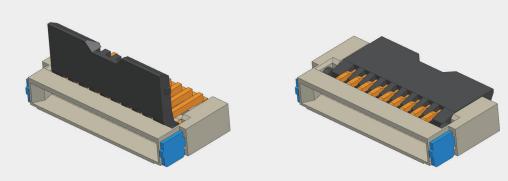
## **FPC/FFC Connectors**

0.4 B/F Series

(Mobile)

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC



- ▶ 0.40mm Pitch, 0.90mm Height, compact design
- ▶ Easy to Insert FPC and operate Actuator Back–lock system
- ▶ High FPC Retention force with Actuator locking boss
- ▶ Applicable for FPC thickness is 0.2±0.03mm

#### **Code & Specification**

Mating Size / Unit : (mm)

| Product Code   | Pitch<br>(mm) | No. of<br>Contacts | Width<br>(mm) | Height (mm) | Length | Remark |
|----------------|---------------|--------------------|---------------|-------------|--------|--------|
| PF040-B09B-C09 | 0.40          | 9                  | 3.00          | 0.90        | 5.40   | -      |

| Rated Current | Contact Resistance | Withstanding voltage | Temperature Range |
|---------------|--------------------|----------------------|-------------------|
| 0.5A Max.     | 100mΩ Max.         | 150V AC(RMS)         | -35°C ~ 85°C      |

### **FPC/FFC Connectors**

0.4 B/F Series

(Mobile)

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

#### **Product Specification**

| Datings | Rated current | 0.5A Max       | Operating temperature range | -35°C<br>to +85°C | Storage temperature range | +15°C<br>to +35 °C |
|---------|---------------|----------------|-----------------------------|-------------------|---------------------------|--------------------|
| Ratings | Rated voltage | 50V AC(RMS)/DC | Operating humidity range    | 70% RH 2          | Storage<br>humidity range | 65% RH             |

<sup>1)</sup> Including terminal temperature rise.

#### Applicable FPC Specification T=0.20±0.03mm, Gold Plated

| Items                     | Specifications  | Conditions   |
|---------------------------|---|--|
| Contact resistance        | 100mΩ Max. / contact  | Closed circuit Current : 1mA.<br>Open circuit voltage : 20mV Max.  |
| 2. Insulation resistance  | 50MΩ Min. / contact   | Test voltage : 100V D.C.   |
| 3. Withstanding voltage   | No flashover or dielectric breakdown  | AC 150V for 1minute  |
| 4. Withdrawal Force       | 0.13kgf Min.  | A connector shall be soldered on a board. An applicable FPC/FFC shall be pulled from a connector at a speed of 25mm/min and measured extraction force  |
| 5. Durability             | Contact resistance : $100m\Omega$ Max.  | Repeated insertion and separation cycles of Max. 20 times  |
| 6. Vibration              | 1) Contact resistance : 100mΩ Max. 2) No damage, loose part nor crack   | <ul> <li>Peak acceleration: 490m/s² (50G)</li> <li>Half sine wave: (Duration: 11ms)</li> <li>Direction: 3direction (X,Y,Z)</li> <li>Number: 3times per each direction</li> <li>Test current: 100mA</li> </ul>                  |
| 7. Shock                  | 1) Discontinuity : 1µs Max.<br>2) No mechanical defect  | <ul> <li>Peak acceleration: 490m/s² (50G)</li> <li>Half sine wave: (Duration: 11ms)</li> <li>Direction: 3direction (X,Y,Z)</li> <li>Number: 3times per each direction</li> <li>Test current: 100mA</li> </ul>                  |
| 8. Humidity               | <ol> <li>Contact resistance : 100mΩ Max.</li> <li>No damage, loose part nor Crack</li> <li>Insulation Resistance : 50MΩ Min.</li> </ol> | <ul> <li>Temperature: 40°C±2°C</li> <li>Relative humidity: 90% RH to 95% RH</li> <li>Duration: 96hr</li> </ul>   |
| 9. Solder heat resistance | Visual inspection : Connector shall meet the design and dimensional requirements of each drawings.                                      | Reflow: Refer to the recommended reflow condition.  Temperature  280 to  240 to  Pre-heating  Pre-heating  Pre-heating  Fre-heating  Fre-heating  Fre-heating  Fre-heating  Fre-heating  Fre-heating  Fre-heating  Fre-heating |

#### Materials / Finish

| Part             | Materials       | Finish         | UL Regulation |
|------------------|-----------------|----------------|---------------|
| Base             | LCP             | Natural        | UL94V-0       |
| Actuator         | LCP             | Black          | UL94V-0       |
| Contact Terminal | Phosphor Bronze | Au over Nickel | -             |
| Fitting Nail     | Phosphor Bronze | Pre-plating Sn | -             |

<sup>2)</sup> Storage area is to be free of corrosive gases and dew formation.

## FPC/FFC Connectors (Mobile)

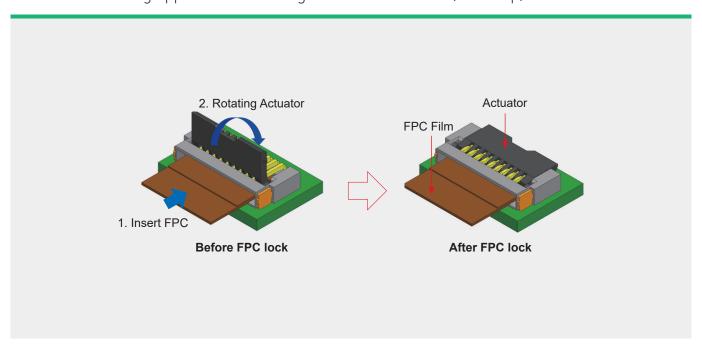
0.4 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

#### **FEATURES AND ADVANTAGES**

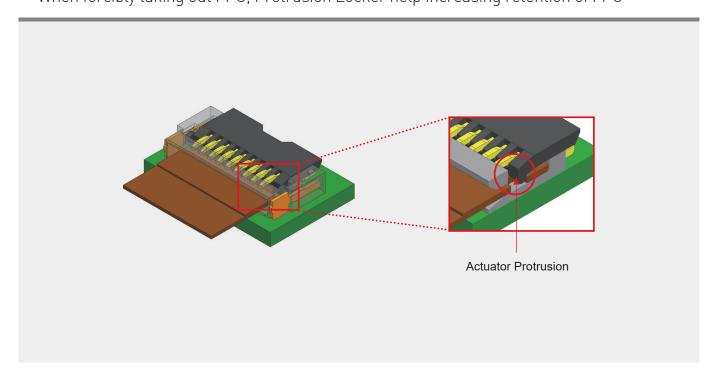
► Easy to Insert FPC and operate to Actuator back lock.

Actuator rotating opposite direction against FPC insertion. (Back flip)



► FPC side Locking structure design

When forcibly taking out FPC, Protrusion Locker help Increasing retention of FPC



# FPC/FFC Connectors (Mobile)

0.4 B/F Series

Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

## **Product Drawing** 80.0±A Finding . (0.15)0.4±0.05 (2.85)B±0.1 (DIMENSION FOR FPC OPENING) 3±0.2 0.12 D±0.1

Mating Size / Unit : (mm)

| Product No.    | No. of Contacts | Α    | В    | С    | D    |
|----------------|-----------------|------|------|------|------|
| PF040-B09B-C09 | 9               | 3.20 | 5.40 | 4.25 | 5.03 |

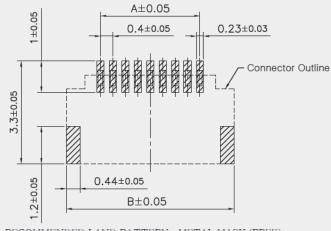
## **FPC/FFC Connectors**

0.4 B/F Series

(Mobile)

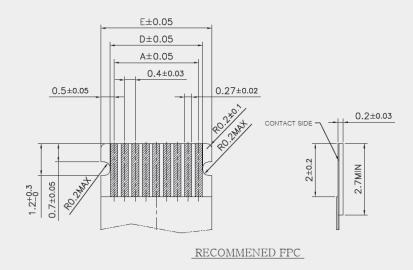
Applications | Mobile phone, Display, Automotive, Smart watch, Medical equipment, Tablet PC

#### Recommended PCB Layout, Metal Mask dimensions



RECOMMENDED LAND PATTERN, METAL MASK (FREE)
RECOMMENDED METAL MASK THICKNESS: t0.10

#### **Recommended FPC Dimensions**



Mating Size / Unit : (mm)

| Product No.    | No. of Contacts | Α    | В    | С    | D    | E    |
|----------------|-----------------|------|------|------|------|------|
| PF040-B09B-C09 | 9               | 3.20 | 5.40 | 4.25 | 3.50 | 4.20 |