

# MINIFLEX® 3-BFNH

(0.3mm pitch FPC Conn.)

Part No.	Type
20613-0**E-0#	-
20605-0**E-0#	LONG ACT TYPE
20660-0**E-01	L-HD TYPE
20780-0**E-01	L-HD-B TYPE

## Instruction Manual

6	S21216	May 12, 2021	M.Muro	-	H.Ikari
5	S19621	October 2, 2019	R.Morita	T.Masunaga	H.Ikari
4	S18796	December 19, 2018	H.Aoki	M.Muro	Y.Shimada
3	S17504	July 5, 2017	H.Aoki	M.Muro	Y.Shimada
Rev.	ECN	Date	Prepared by	Checked by	Approved by

This manual provides cautions to handle our FPC connector MINIFLEX 3-BFNH properly and safely.

## ◆Connector

Product Name : MINIFLEX 3-BFNH

Part No : 20613-0\*\*E-0#

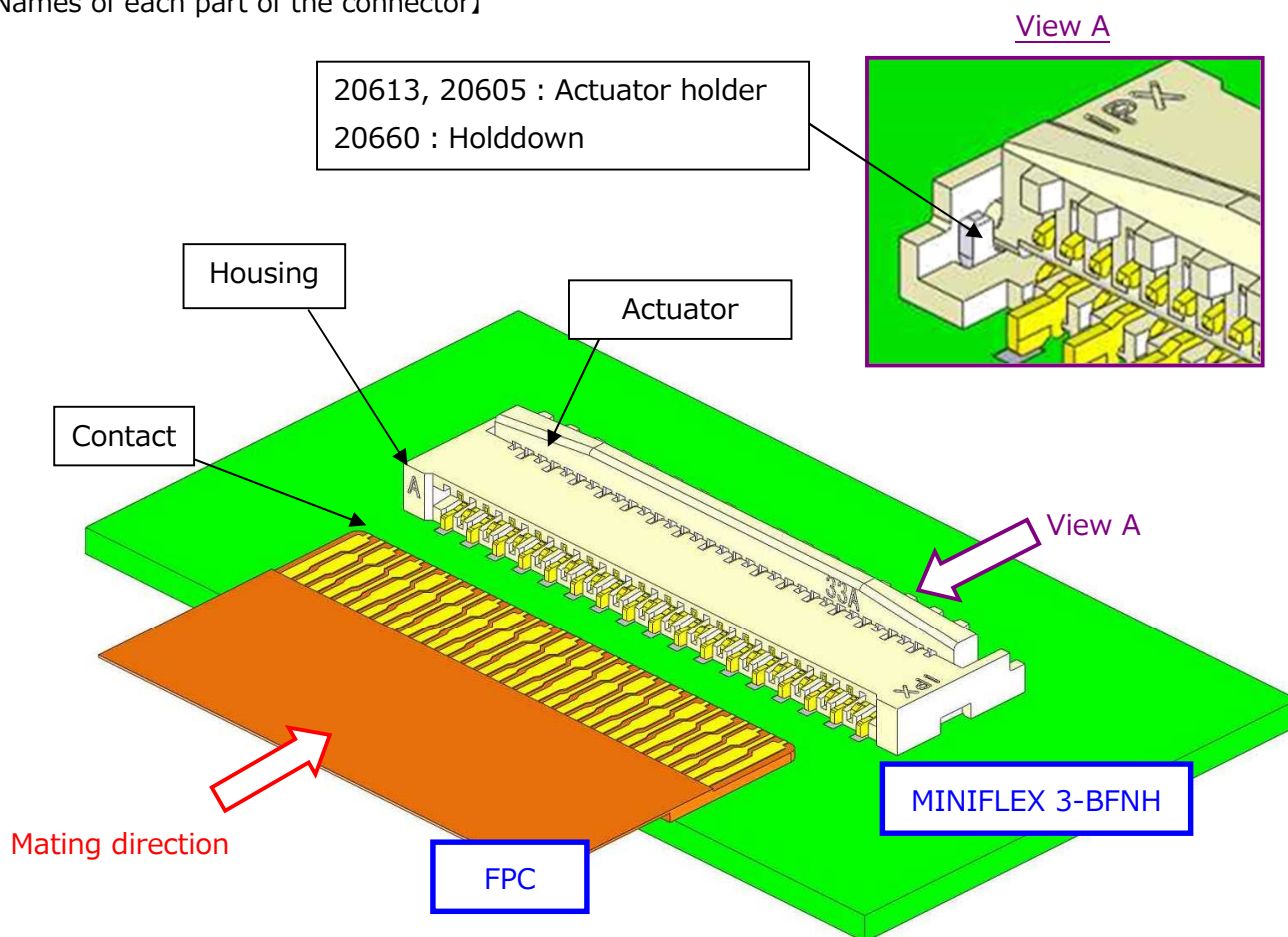
20605-0\*\*E-0# (LONG ACT TYPE)

20660-0\*\*E-01 (L-HD TYPE)

20780-0\*\*E-01 (L-HD-B TYPE)

" \*\* " part shows the number of the connector position.

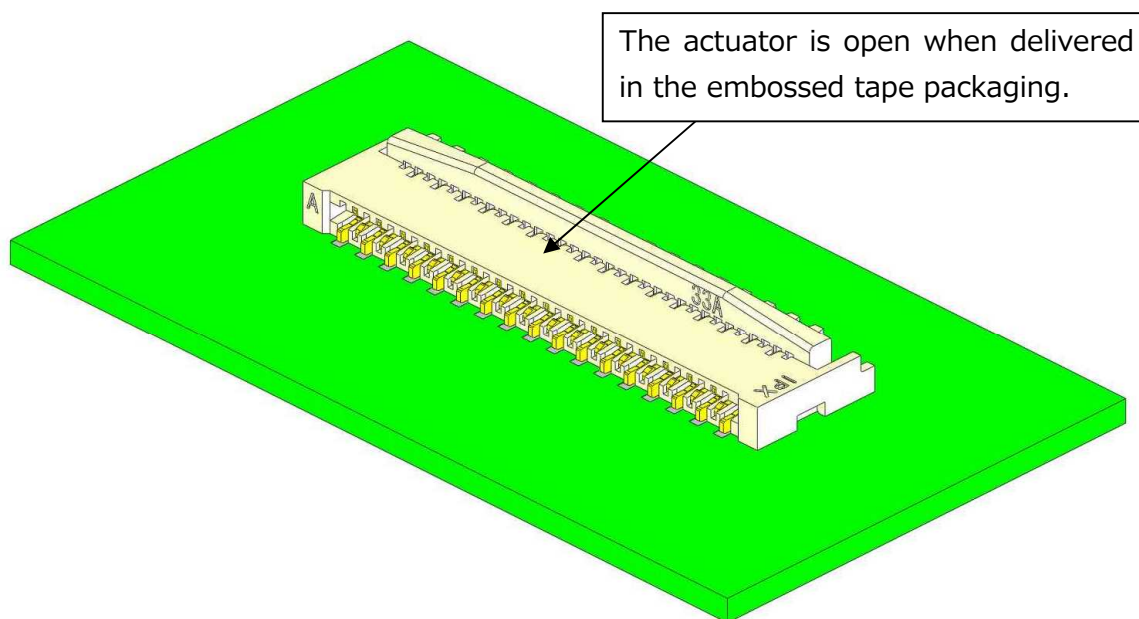
【Names of each part of the connector】



**Fig.1 Names of each part of the connector**

## 1. Connector mounting state (Before FPC insertion)

Connectors are delivered with actuator open. There is no need to operate the actuator before FPC insertion.



**Fig.2 Connector mounting state**

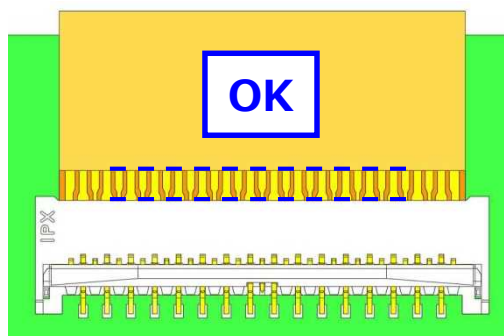
### «Caution»

- Please do not lock the actuator when soldering connector.  
There is the possibility that contact buckling, FPC damage, and FPC insertion force rises in inserting FPC, because the gap of contacts became narrowed.
- Even if the actuator is locked without FPC (FPC is not inserted), there is no remarkable affect to the contact pressure and the reliability will not be damaged.  
However, there is the possibility that the insertion force rises in inserting FPC, because the gap of contacts became narrowed. Therefore, please avoid locking the actuator without FPC as much as possible.
- In case of the manual mounting do not to touch contact tail.  
Please do not use excessive amount of solder and flux compounds.

## 2. FPC Insertion Method

Please insert FPC straight in the connector.

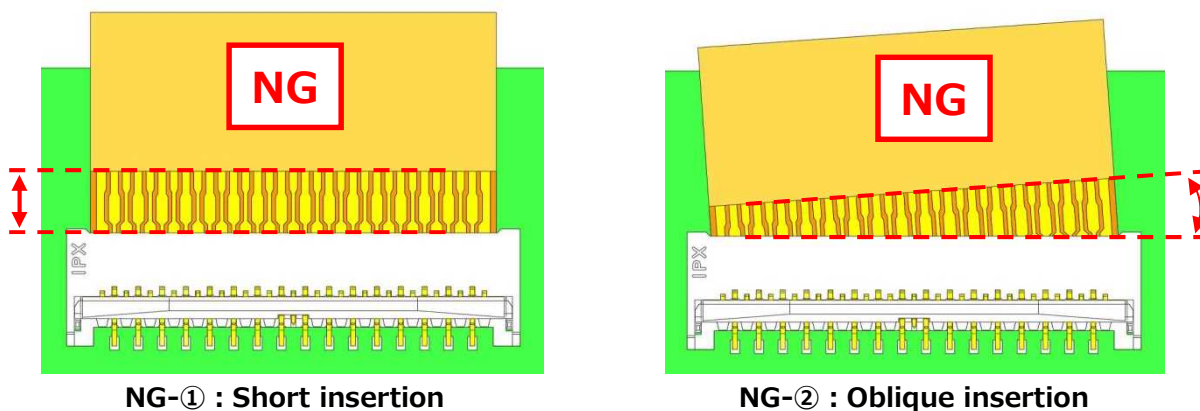
Please confirm FPC is inserted into the end of mating part fully.



**Fig.3 FPC insertion (OK)**

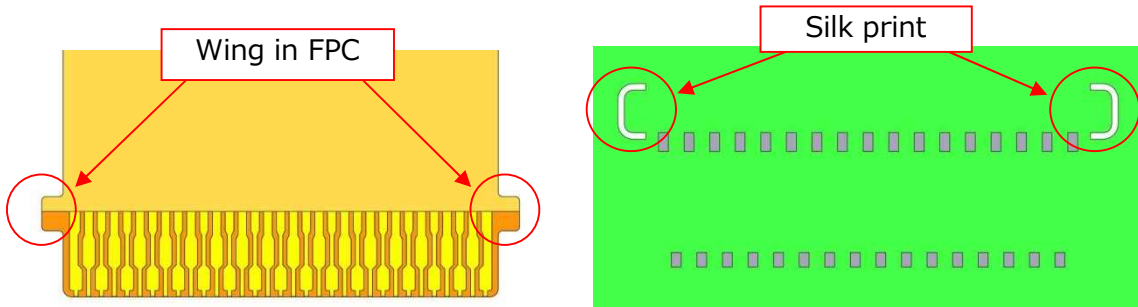
### «Caution»

·If it becomes the short insertion and oblique insertion of FPC as shown in Fig. 4, electrical connection NG and a short circuit will be caused.

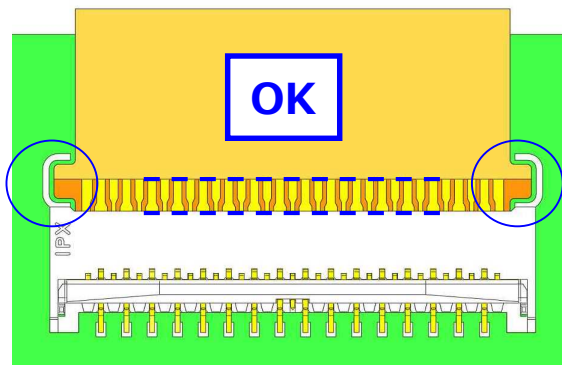


**Fig.4 FPC insertion (NG)**

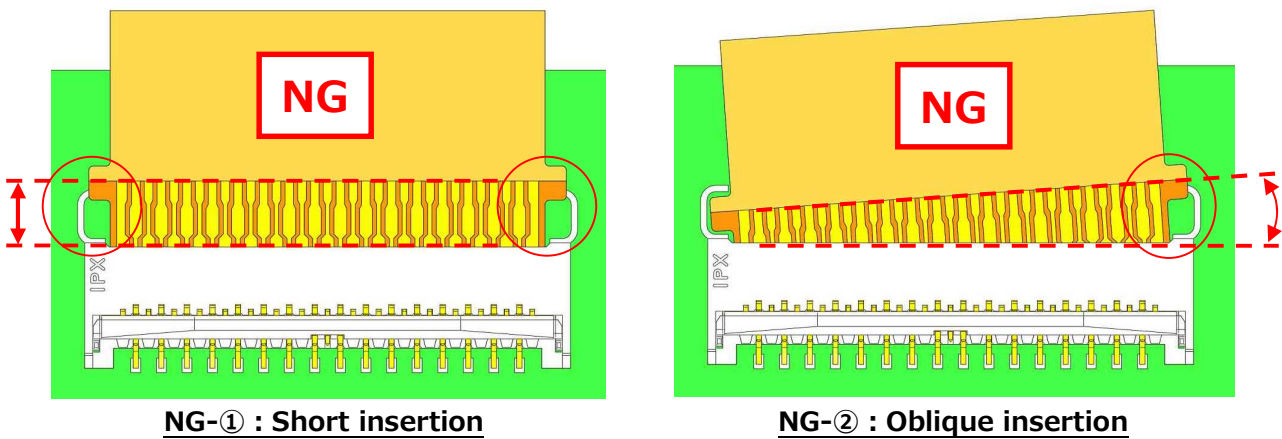
★The check of FPC insertion becomes easy by preparing the wing in FPC and preparing the silk print in board.



**Fig.5 The check of FPC insertion (Reference)**



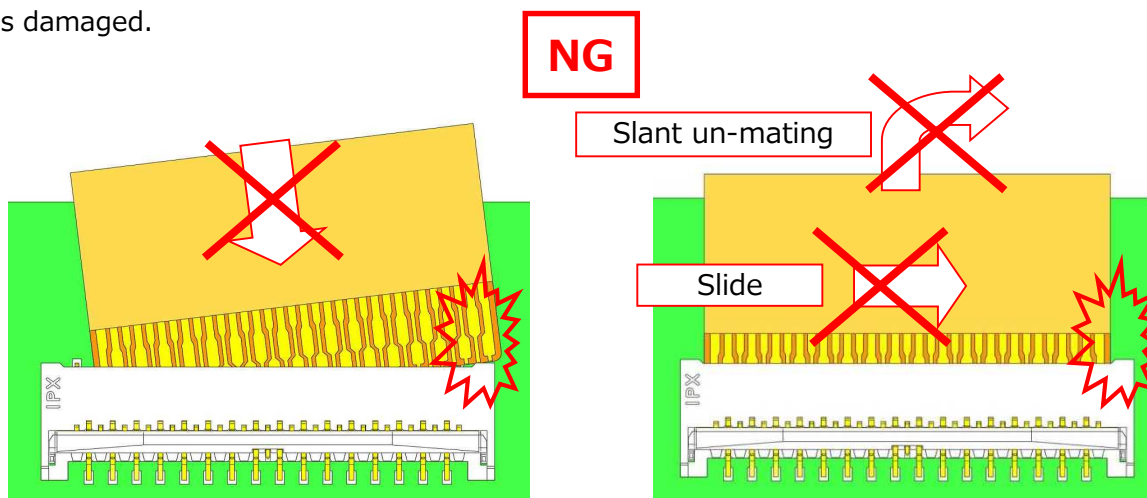
**Fig.6 FPC insertion (OK)**



**Fig.7 FPC insertion (NG)**

- Please do not push against housing both ends at 5N or more.

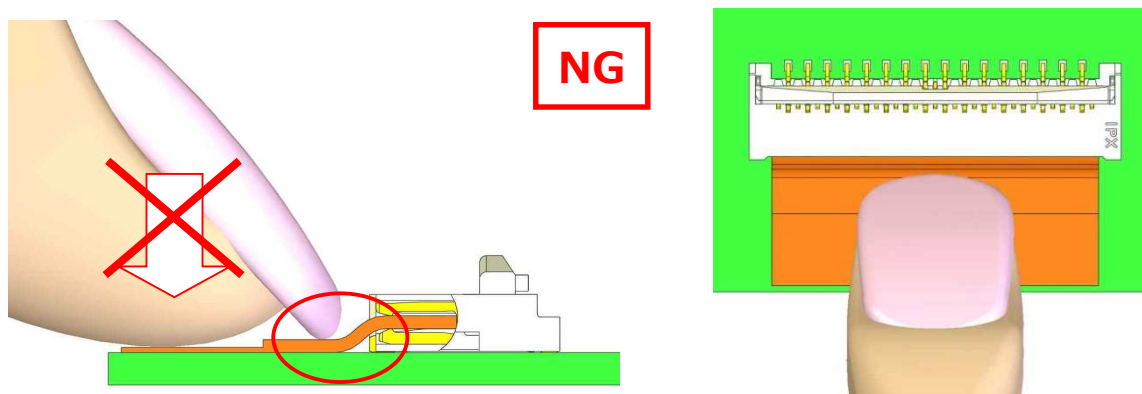
Housing is damaged.



**Fig.8 FPC insertion (NG)**

- Please do not press FPC near a connector.

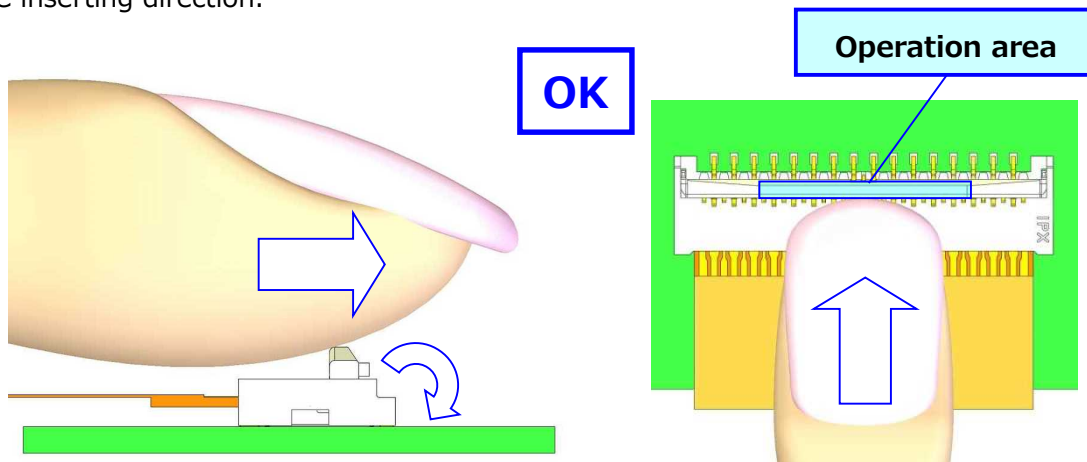
Contact gives damage to FPC and contact is damaged. It becomes the electrical connection NG.



**Fig.9 FPC insertion (NG)**

### 3. To lock actuator

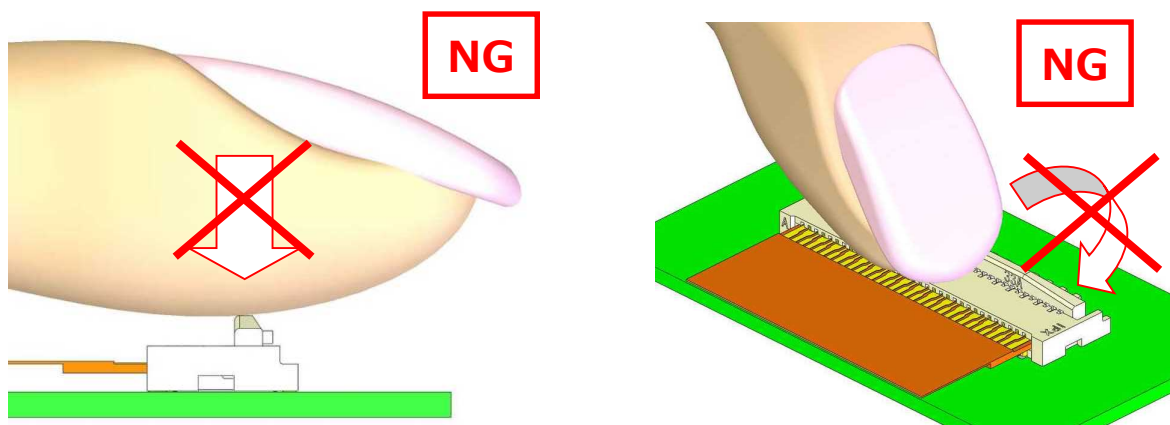
Push the center of actuator to the arrowed direction horizontally with finger cushion from the FPC inserting direction.



**Fig.10 To lock actuator (OK)**

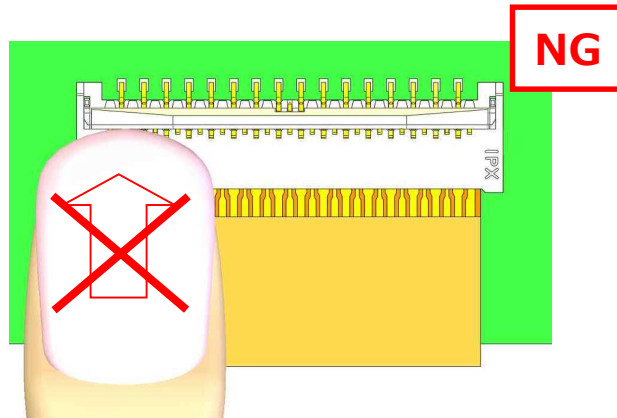
#### «Caution»

- Please do not press an actuator from a top and lock actuator by finger nail. Actuator is damaged and a function is not satisfied.



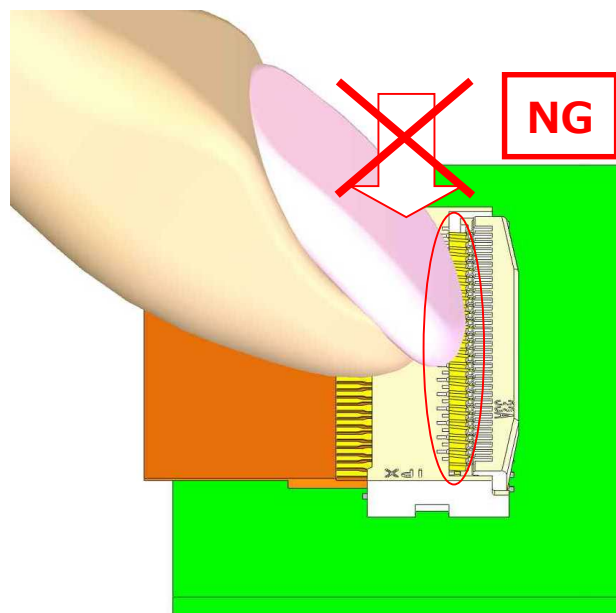
**Fig.11 To lock actuator (NG)**

- Please do not operate side of an actuator.  
Actuator is damaged, or it becomes imperfect lock.



**Fig.12 To lock actuator (NG)**

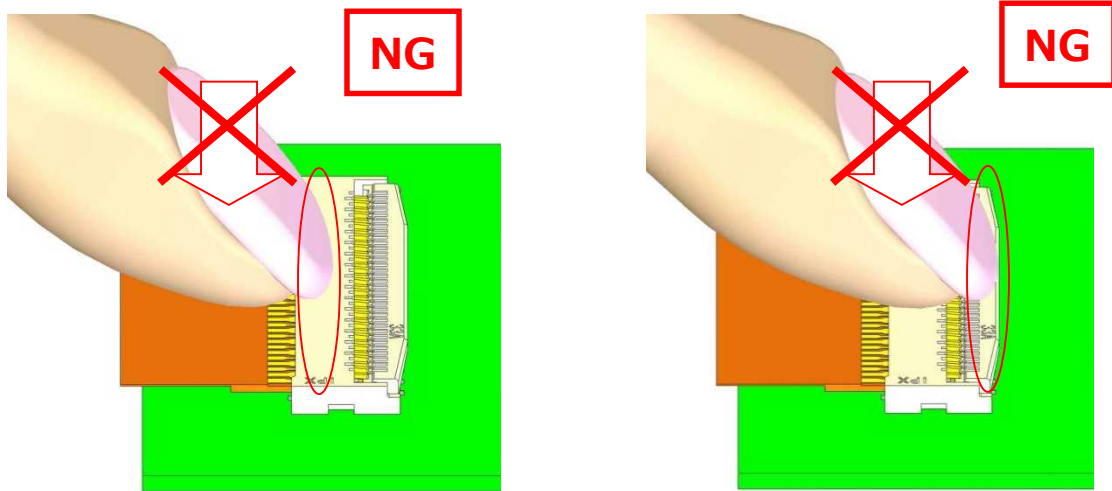
- Please do not press contact on top by finger nail etc. after a lock actuator. Contacts are damaged.



**Fig.13 To lock actuator (NG)**



- Please do not press at 10N or more housing on top and actuator after a lock actuator. Connector and FPC are damaged. It becomes the electrical connection NG.

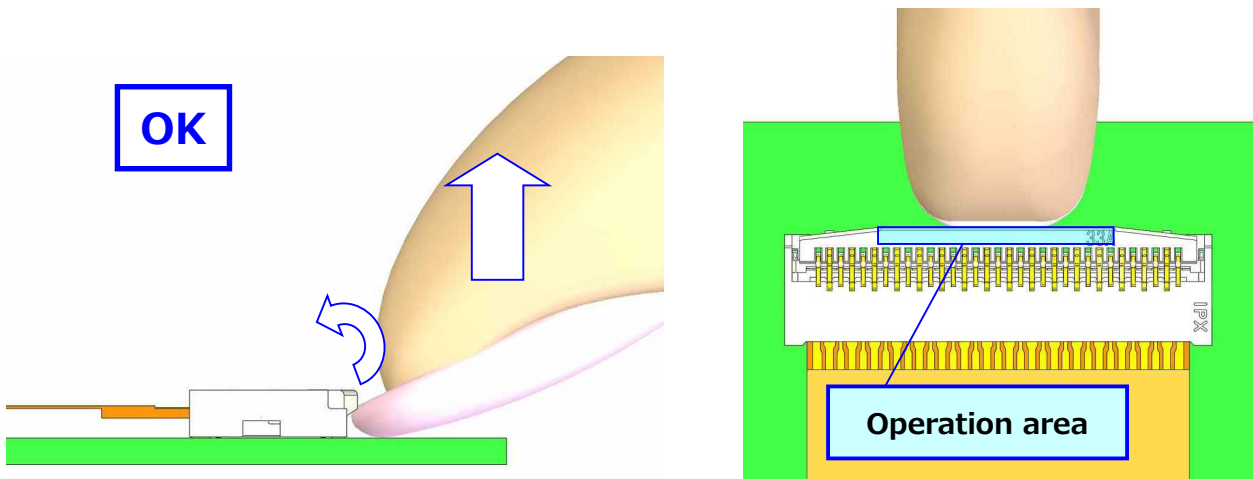


**Fig.14 To lock actuator (NG)**

- Please do not operate it using a sharp tool. (For example, tweezers) Connector is damaged.

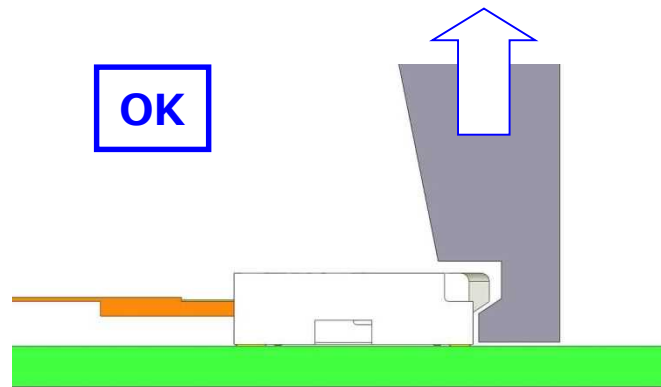
#### 4. To release actuator

Raise the center of actuator upwards lightly.



**Fig.15 To release actuator (OK)**

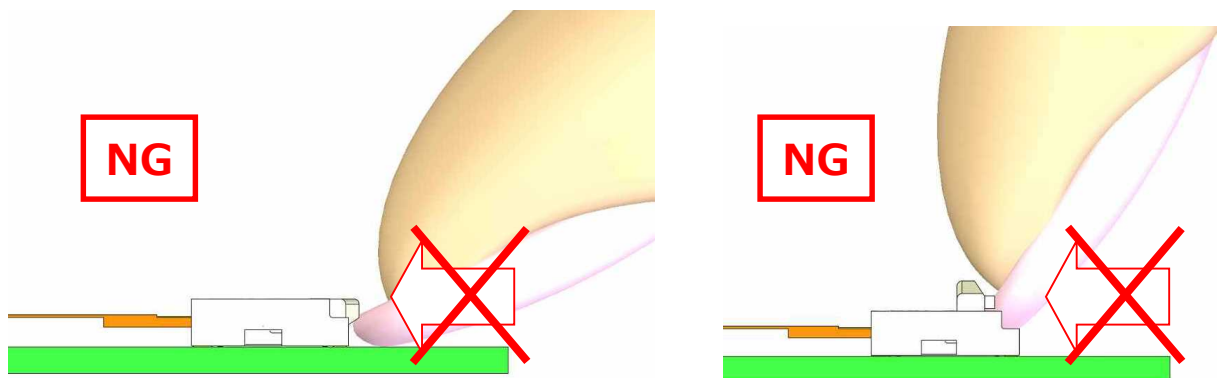
When release actuator is difficult, raise the center of actuator upwards lightly using the following JIG.



**Fig.16 To release actuator (OK)**

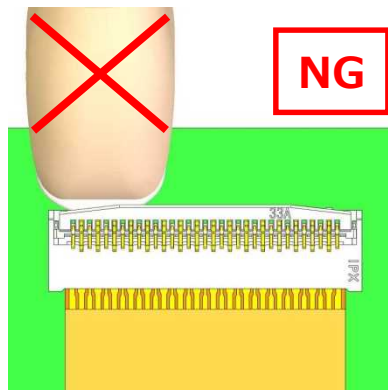
«Caution»

- Please do not press to the direction of FPC mating side.  
Actuator and contacts are damaged.



**Fig.17 To release actuator (NG)**

•Please do not operate side of an actuator. Actuator is damaged.

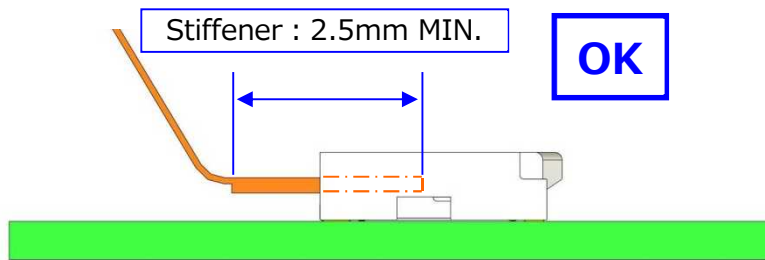


**Fig.18 To lock actuator (NG)**

•Please do not operate it using a sharp tool. (For example, tweezers) Connector is damaged.

## 5. Flexion of FPC

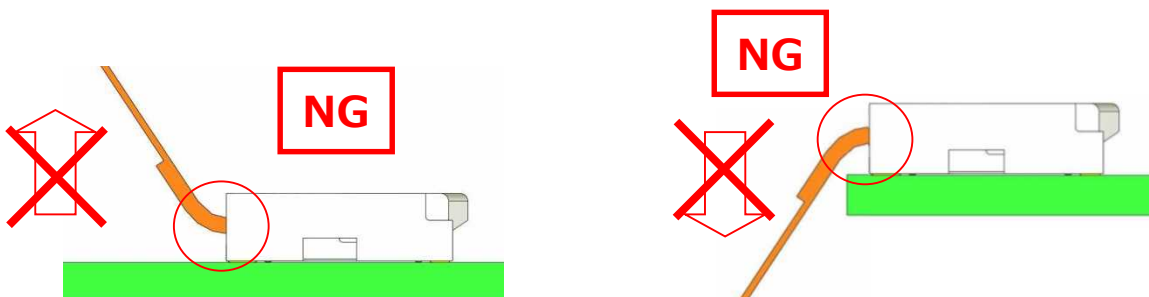
Please bend from the end of FPC stiffener.



**Fig.19 Flexion of FPC (OK)**

### «Caution»

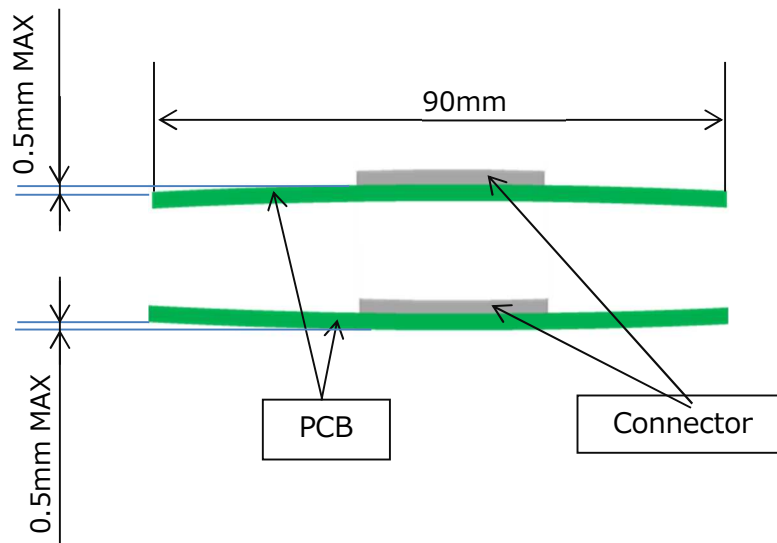
•Please avoid applying excessive stress to the FPC connector exit part (FPC stiffener) with FPC inserted. Housing and contacts are damaged. It becomes the electrical connection NG.



**Fig.20 Flexion of FPC (NG)**

## 6. Regarding board warp after mounting

Be careful that warp of 90mm width PCB is 0.5mm or less. If excessive warp is applied, Connector is damaged.  
(Reference standard: JEITA ED-4702C)



**Fig.21 Amount of PCB warp**