

MINIFLEX® 3-BFN
(0.3mm pitch FPC Conn.)

MINIFLEX® 25-BFN
(0.25mm pitch FPC Conn.)

Product Name	Part No.	Type
MINIFLEX 3-BFN	20527-0**E-0*	STANDARD TYPE
	20538-0**E-0*#	LONG ACT TYPE
	20541-0**E-01	ID TYPE
	20556-0**E-01	WIDE GAP TYPE
	20584-0**E-01	LONG ACT LK TYPE
	20595-0**E-01	43 LONG ACTUATOR TYPE
	20599-0**E-01#	LK TYPE
	20601-0**E-01	WIDE GAP ID TYPE
	20655-0**E-01#	L-LK-HD TYPE
	20667-0**E-01	WIDE GAP TYPE
	20718-0**E-01	L-HD TYPE
	20979-0**E-01	S TYPE
	20982-0**E-01	L-HD TYPE
MINIFLEX 25-BFN	20636-0**E-01	LONG ACT LK TYPE
	20639-0**E-01	LONG ACT TYPE

Instruction Manual

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20	S20060	January 27, 2020	S.Shigekoshi	M.Muro	H.Ikari
19	S19679	October 29, 2019	M.Muro	-	H.Ikari
18	S19520	September 10, 2019	S.Shigekoshi	M.Muro	H.Ikari
Rev.	ECN	Date	Prepared by	Checked by	Approved by

This manual provides cautions to handle our FPC connector MINIFLEX 3-BFN and MINIFLEX 25-BFN properly and safely.

◆Connector

Product Name : MINIFLEX 3-BFN

Part No. : 20527-0**E-0*

20538-0**E-0*# (LONG ACT TYPE)
20541-0**E-01 (ID TYPE)
20556-0**E-01 (WIDE GAP TYPE)
20584-0**E-01 (LONG ACT LK TYPE)
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20667-0**E-01 (WIDE GAP TYPE)
20718-0**E-01 (L-HD TYPE)
20979-0**E-01 (S TYPE)
20982-0**E-01 (L-HD TYPE)

Product Name : MINIFLEX 25-BFN

Part No. : 20636-0**E-01 (LONG ACT LK TYPE)

20639-0**E-01 (LONG ACT TYPE)

“ ** ” part shows the number of the connector position.

【Names of each part of the connector】

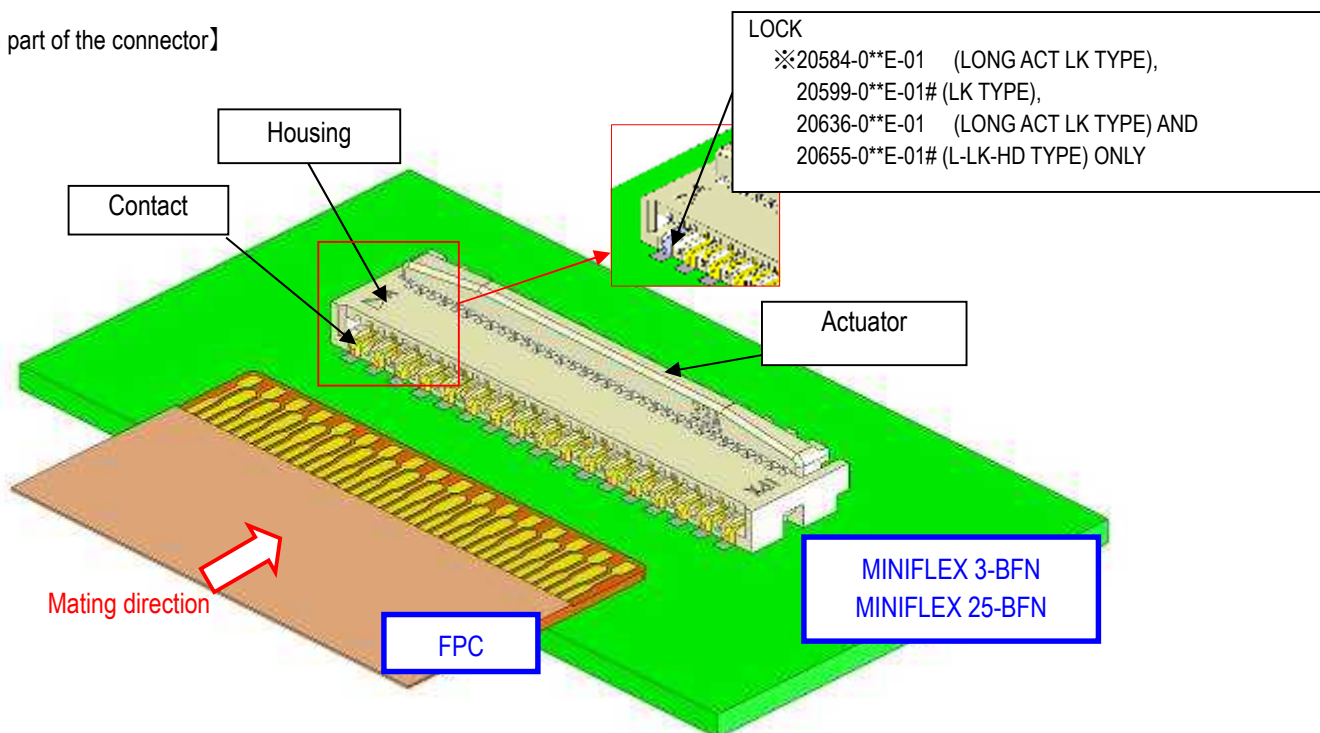


Fig.1 Names of each part of the connector

1. Connector mounting state (Before FPC insertion)

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

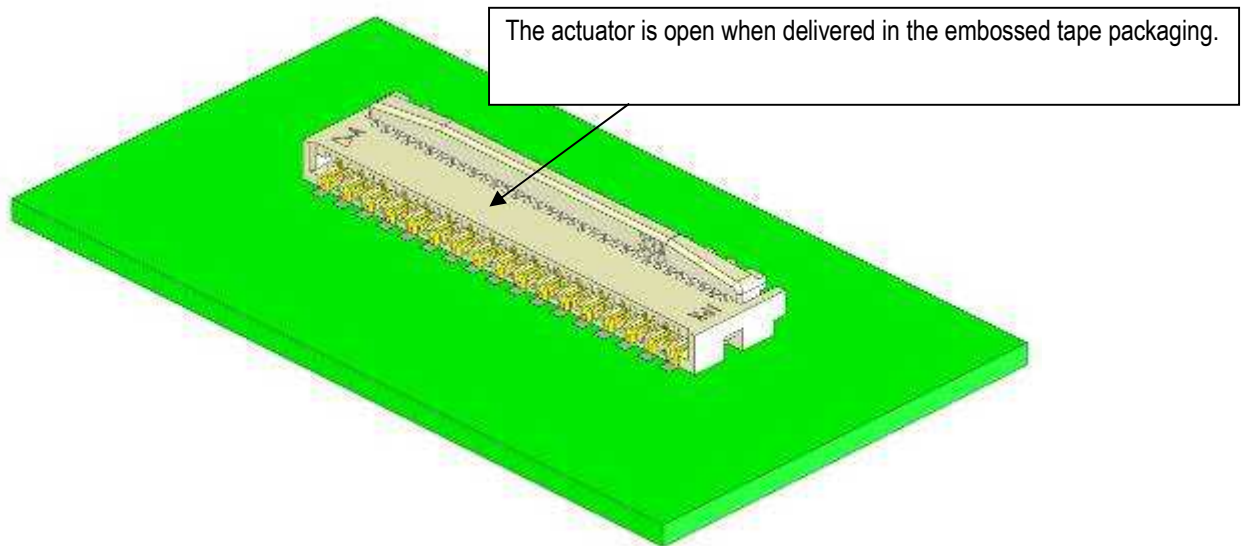


Fig.2 Connector mounting state

« Caution »

- (1) Please do not locking the actuator when soldering connector.
There is the possibility that C/T buckling, FPC damage, and FPC insertion force rises in inserting FPC, because the gap of contacts became narrowed.
- (2) Even if the actuator is locked without FPC (FPC is not inserted), there is no remarkable effect 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.
- (3) In case of the manual mounting do not to touch contact tail.
Please do not use excessive amount of solder and flux compounds.
- (4) The connector cannot washing.

2. FPC Insertion Method

Please insert FPC straight in the connector.

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

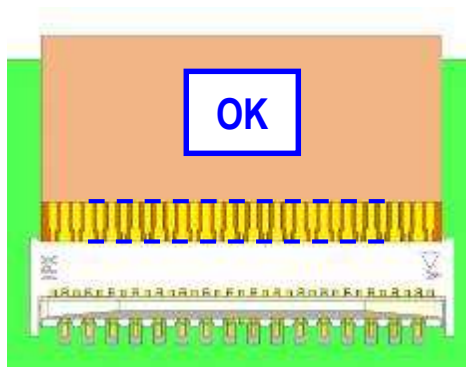
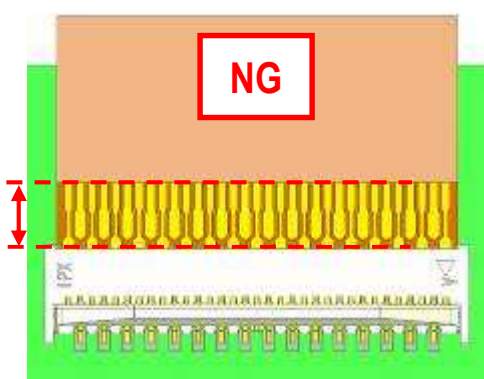


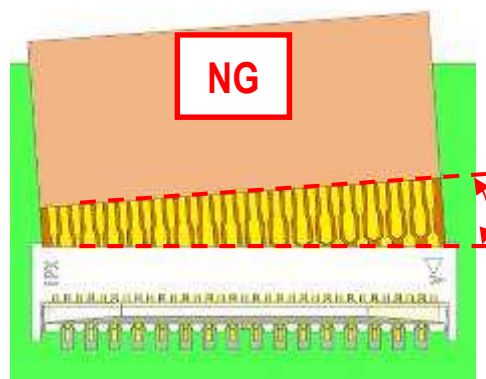
Fig.3 FPC insertion (OK)

« Caution »

- (1) If the short insertion and oblique insertion of FPC occur as shown in Fig.4, electrical connection NG and a short circuit will be caused.



NG-① : Short insertion



NG-② : Oblique insertion

Fig.4 FPC insertion (NG)

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

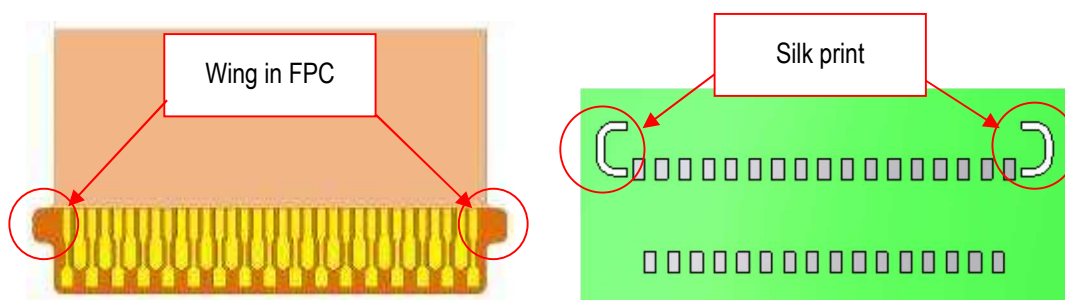


Fig.5 The check of FPC insertion (Reference)

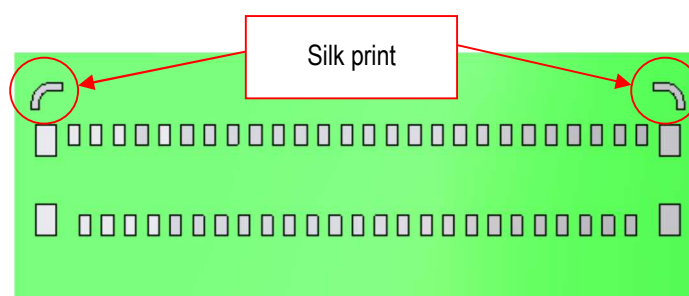


Fig.6 The check of FPC insertion : For L-LK-HD TYPE, L-HD TYPE (Reference)

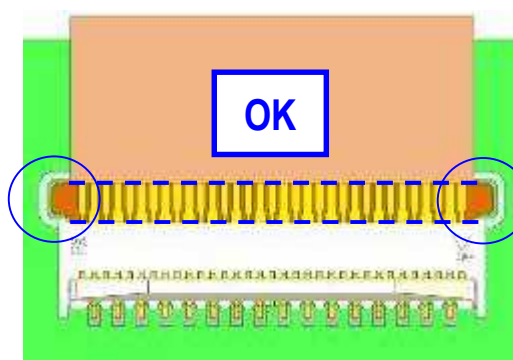


Fig.7 FPC insertion (OK)

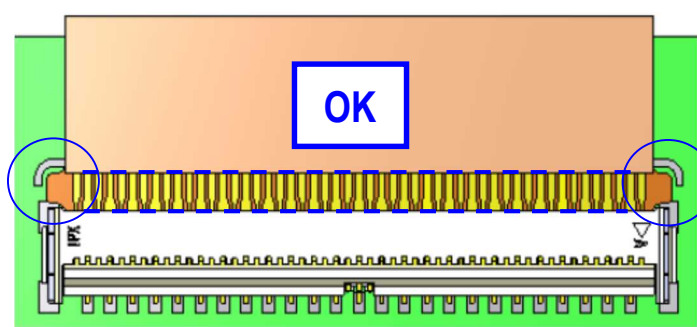


Fig.8 FPC insertion : For L-LK-HD TYPE, L-HD TYPE (OK)

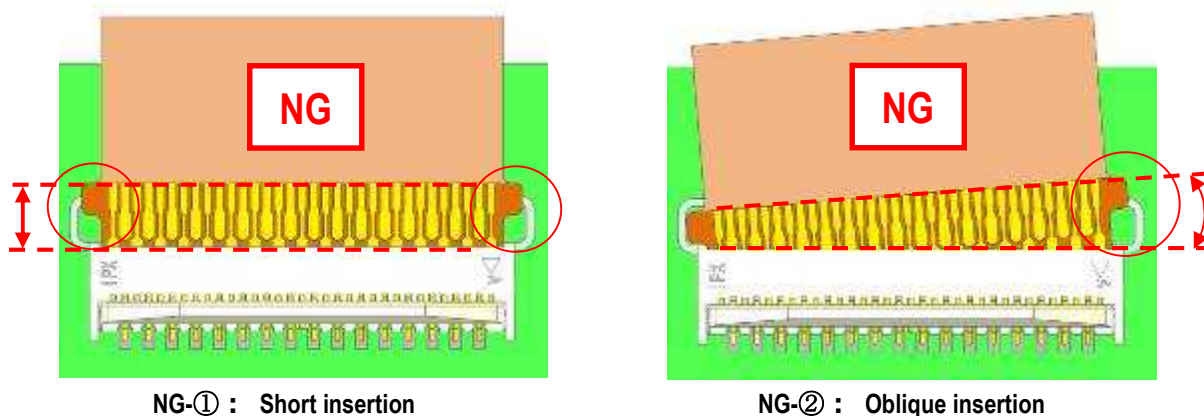


Fig.9 FPC insertion (NG)

(2) Please do not push against housing both ends at 5N or more.
Housing is damaged.

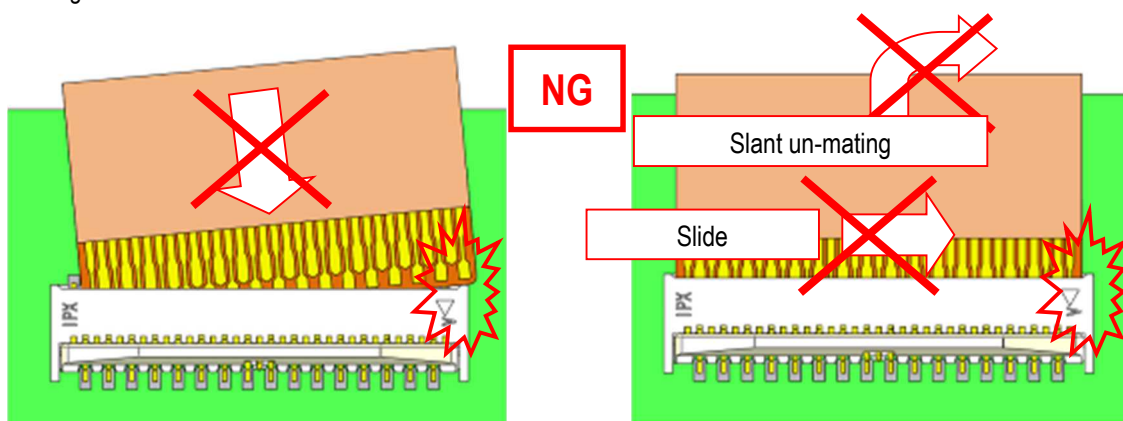


Fig.10 FPC insertion (NG)

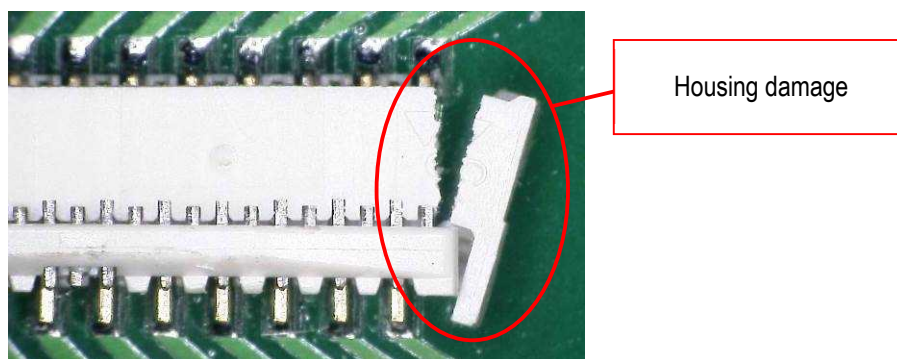


Photo.1 Housing damage (NG)

- (3) Please do not press FPC near a connector.
Contact gives damage to FPC and contact is damaged. It becomes the electrical connection NG.

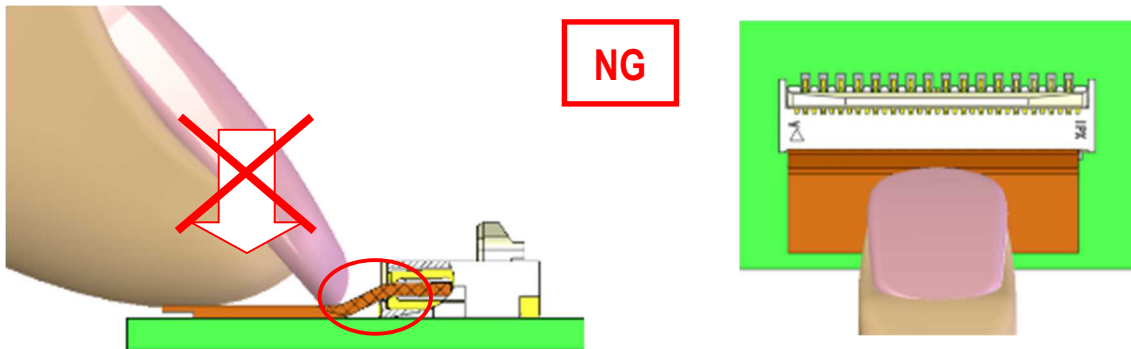


Fig.11 FPC insertion (NG)

3. To lock actuator

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

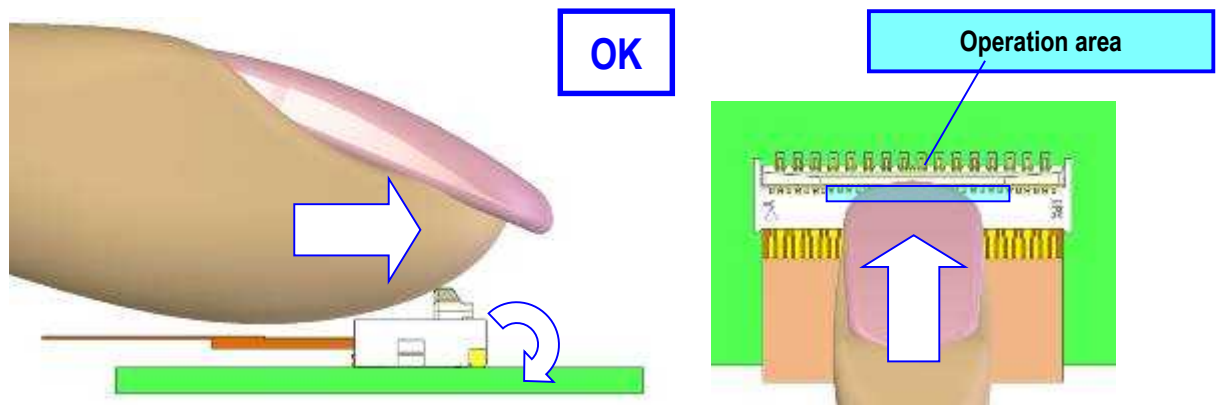


Fig.12 To lock actuator (OK)

« Caution »

- (1) Please do not press actuator both from a top and the FPC mating side, and lock actuator by finger nail.
Actuator is damaged or come off and function is not satisfied.

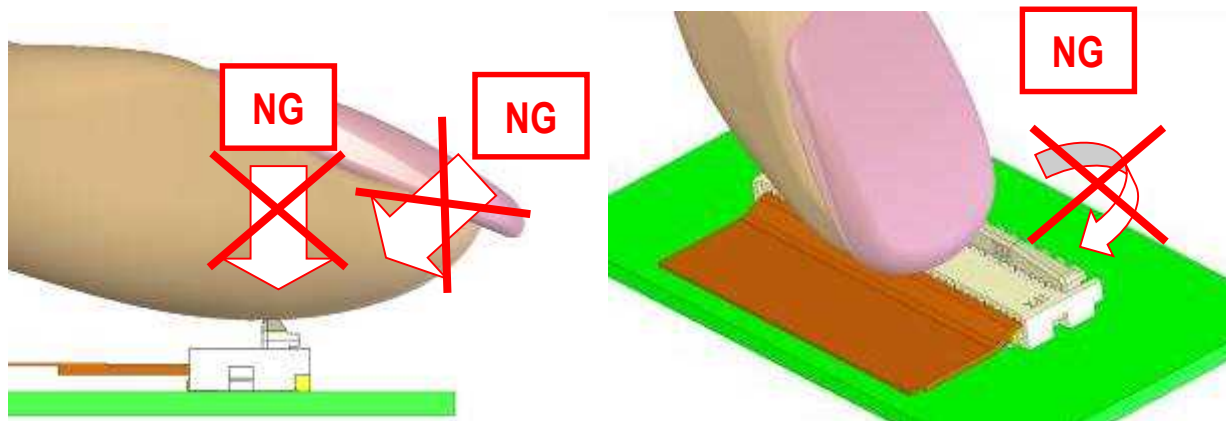
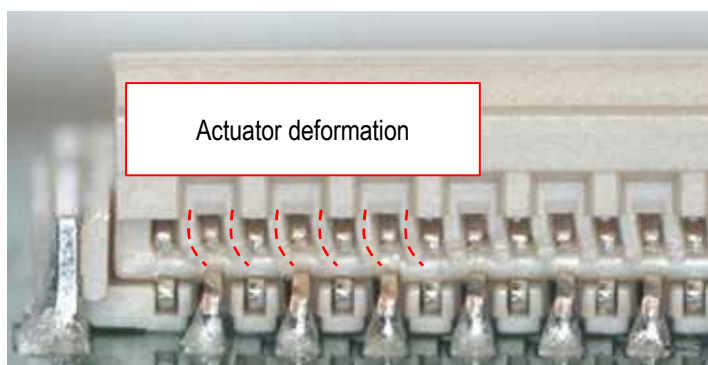
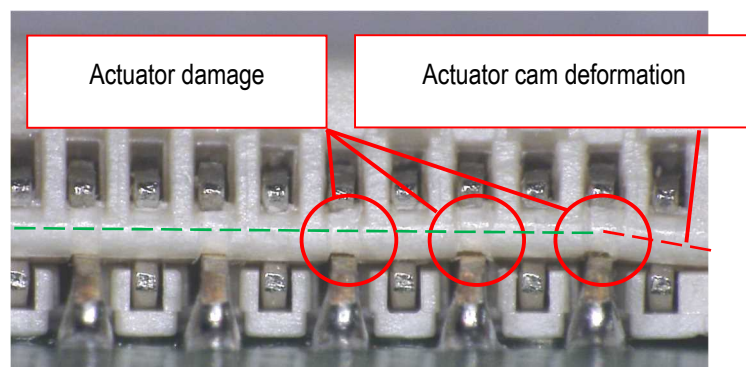


Fig.13 To lock actuator (NG)



When the actuator is pressed down from a top.



When the actuator is locked while being pressed down from a top.

Photo.2 Actuator damage

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

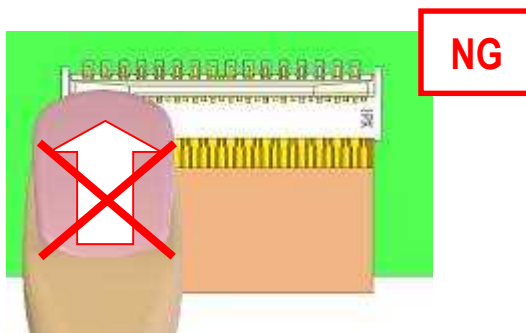


Fig.14 To lock actuator (NG)

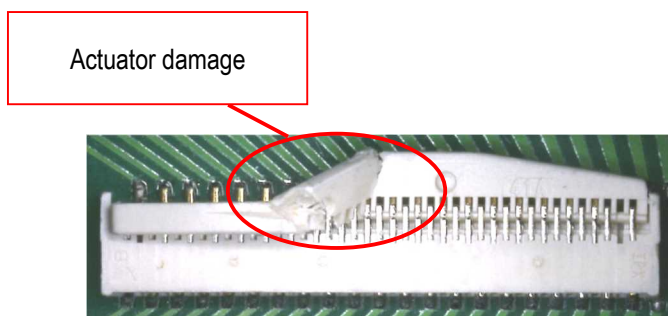


Photo.3 Actuator damage (NG)

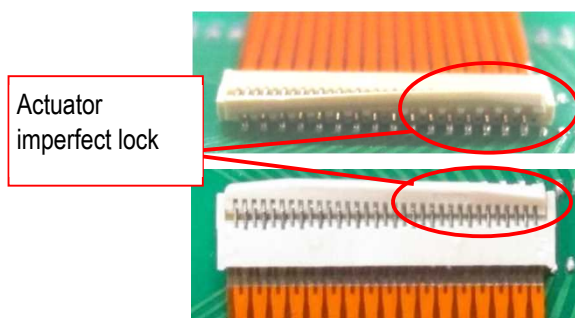


Photo.4 Actuator imperfect lock(NG)

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

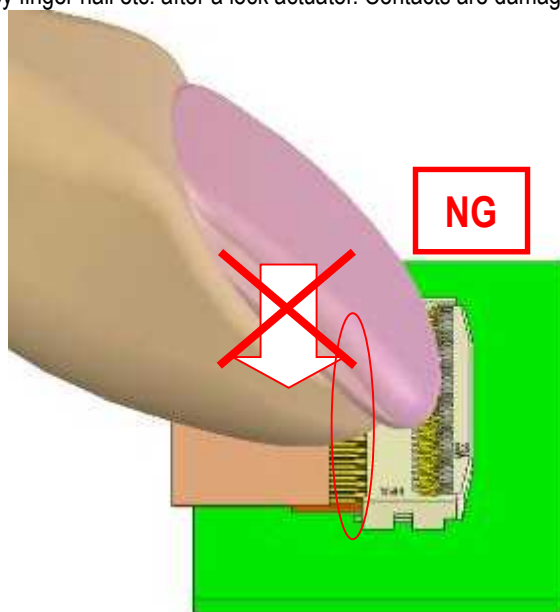


Fig.15 To lock actuator (NG)

- (4) 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.

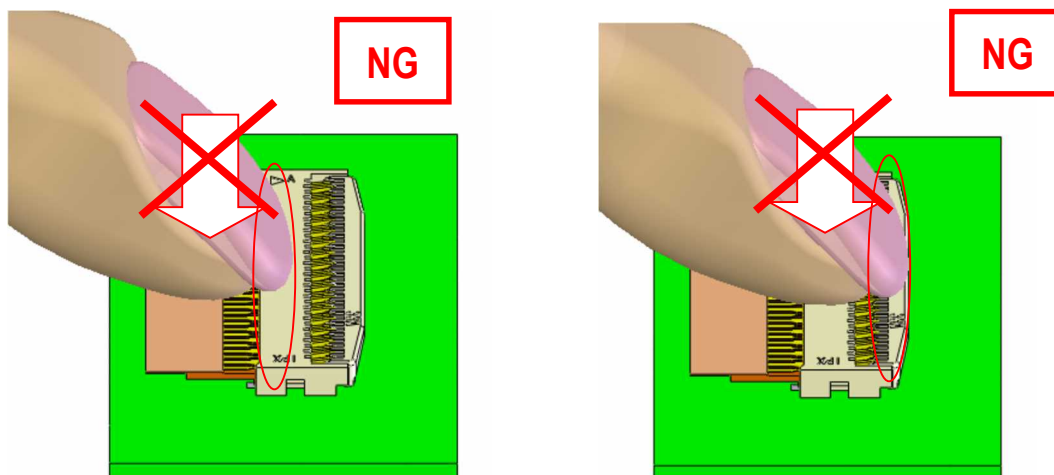


Fig.16 To lock actuator (NG)

- (5) 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.

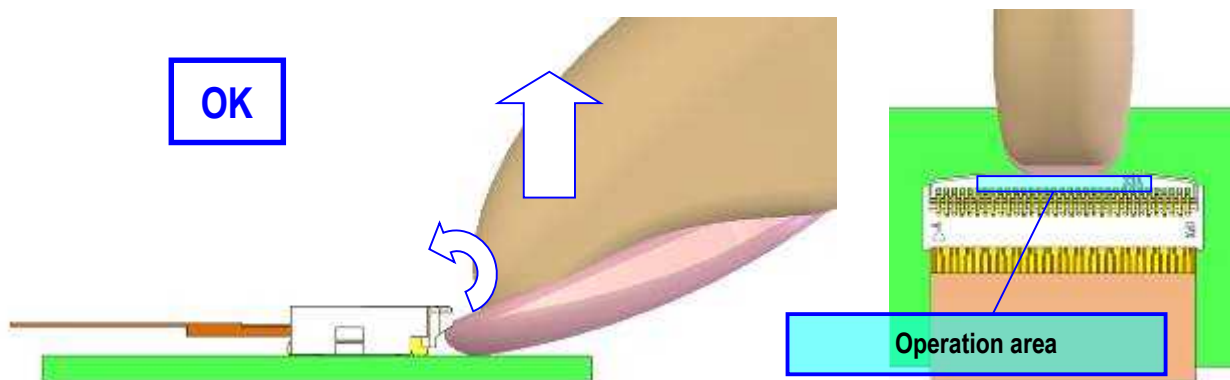


Fig.17 To release actuator (OK)

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

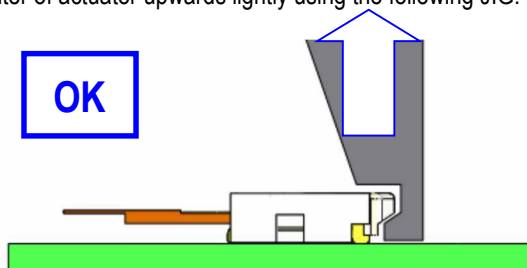


Fig.18 To release actuator (OK)

« Caution »

- (1) Please do not press to the direction of FPC mating side.
Actuator come off or actuator and contacts are damaged.

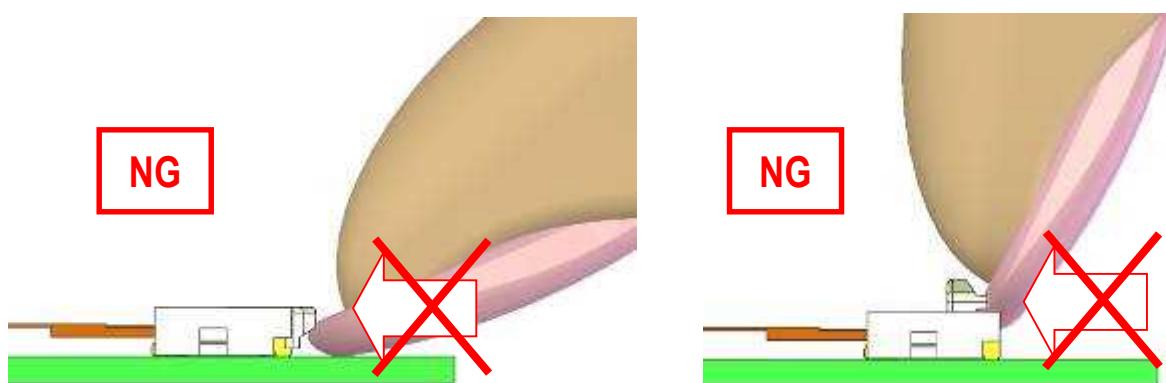


Fig.19 To release actuator (NG)

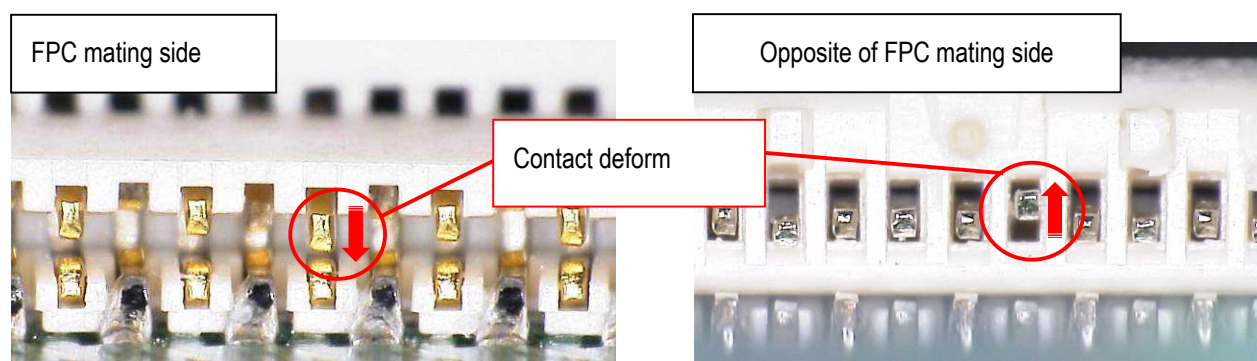


Photo.5 Contact deform (NG)

(2) Please do not operate side of an actuator. Actuator is damaged.

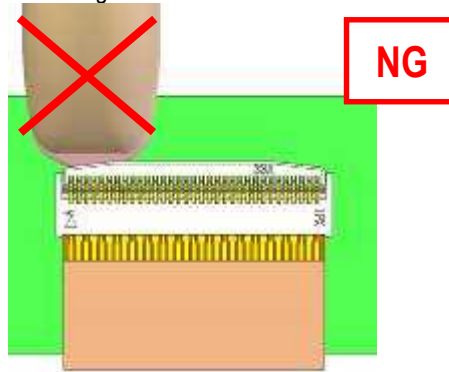


Fig.20 To lock actuator (NG)

Actuator damage

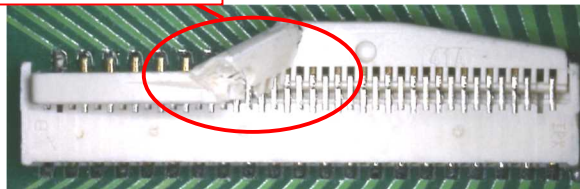


Photo.6 Actuator damage (NG)

(3) 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.

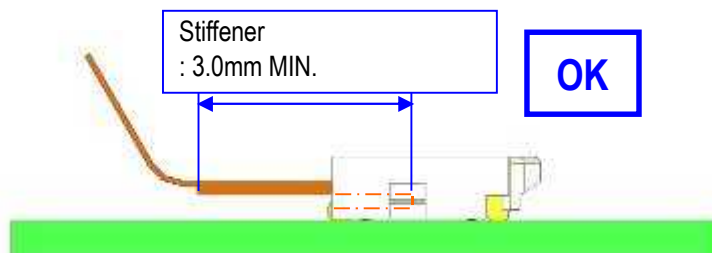


Fig.21 Flexion of FPC (OK)

« Caution »

- (1) 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.

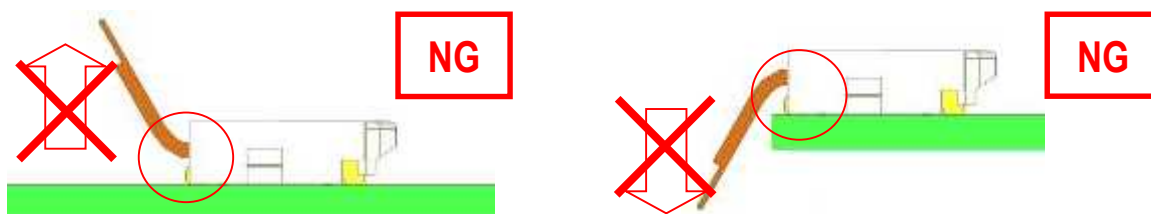


Fig.22 Flexion of FPC (NG)

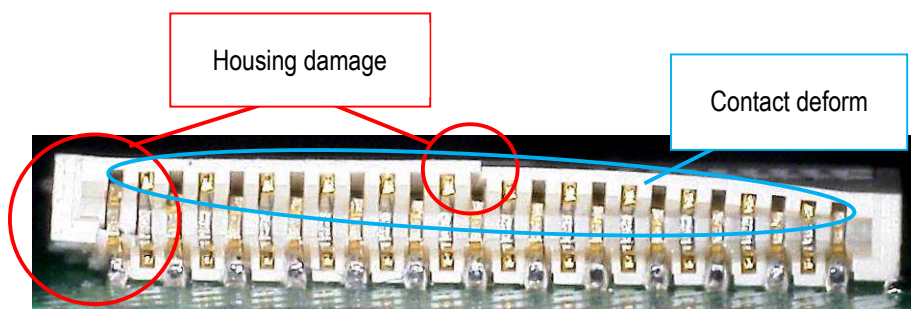


Photo.7 Housing damage and contact deform (NG)

Due to the bending of the FPC, the contact point part separates from the FPC, resulting in poor continuity.

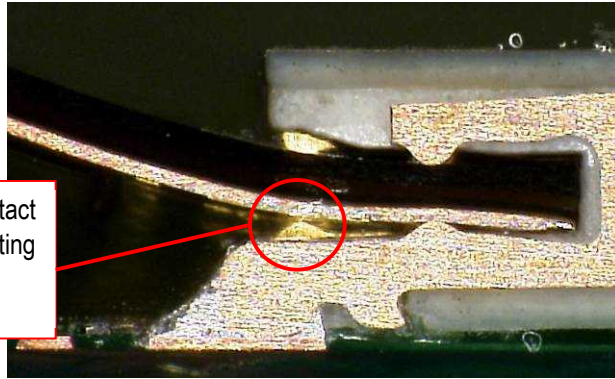


Photo.8 In case applying excessive stress to the FPC connector exit part

- (2) When FPC is bent, Please avoid FPC's hitting a cover.
FPC will be bent and be in the state of the above (1).

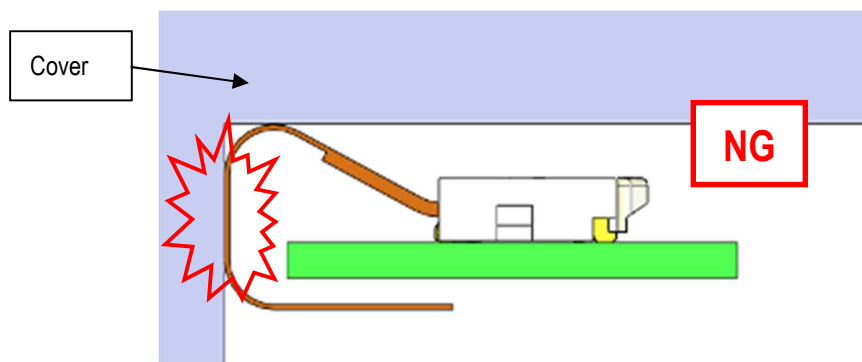


Fig.23 Handling of FPC (NG)

6. To withdraw FPC

(For : 20584-0**E-01 LONG ACT LK TYPE, 20599-0**E-01# LK TYPE,
20636-0**E-01 LONG ACT LK TYPE, 20655-0**E-01# L-LK-HD TYPE)

Please withdraw FPC straight in the connector with actuator release condition.

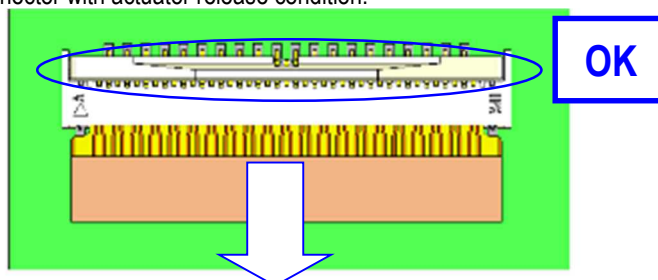


Fig.24 To withdraw FPC (OK)

« Caution »

(1) Please refrain from withdrawing FPC with actuator close condition. It may cause deformation of FPC.

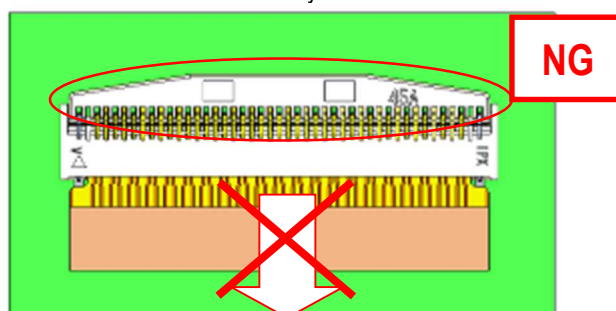


Fig.25 To withdraw FPC (NG)

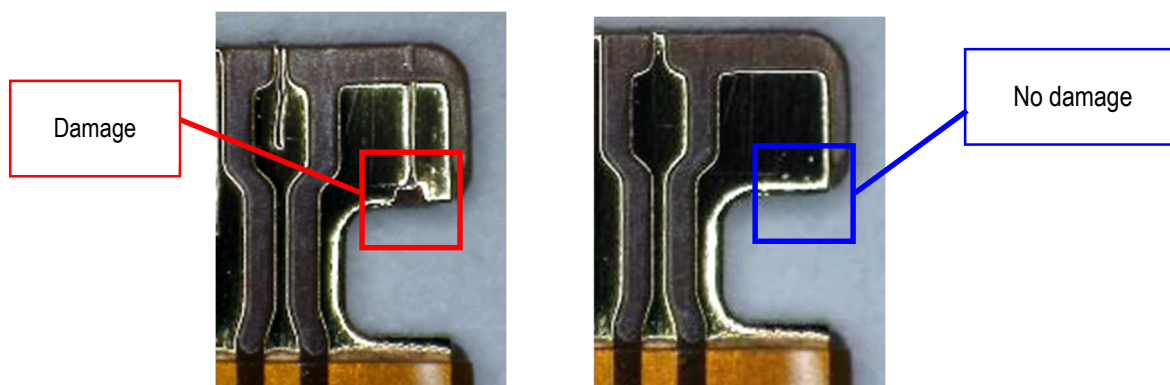


Photo.9 In case withdrawing FPC with (a) actuator close condition or (b) actuator release condition

※If FPC receives damage like photo.9, FPC retention force will be down, please exchange to new FPC.

7. 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)

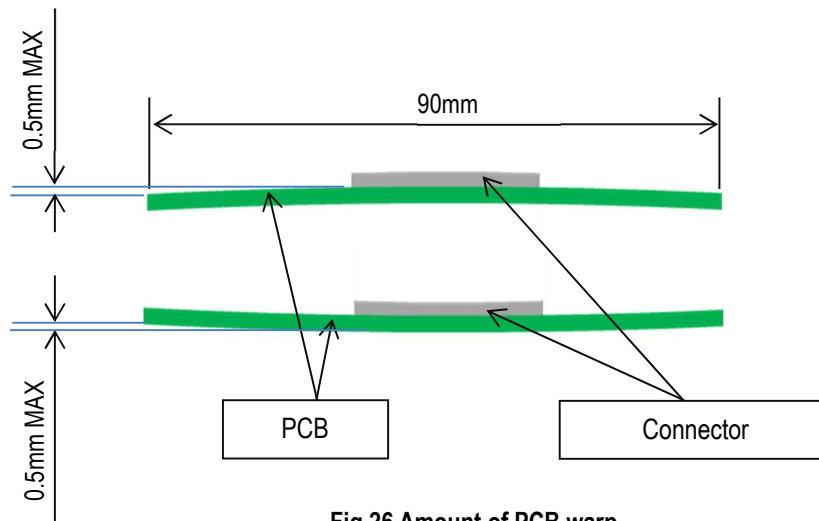


Fig.26 Amount of PCB warp