0.15 mm Pitch Ultra-low Profile FPC Back-lock Connector

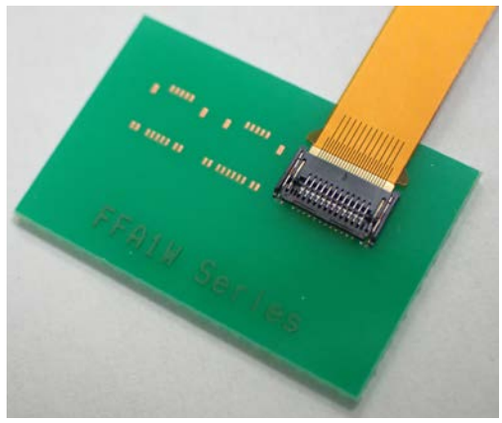
RoHS2

FFA1W Series 【Upper Contact】

Fujikura

OUTLINE

FFA1W series is an ultra-low profile FPC connector with 0.15mm pitch, depth 3.0 mm and 0.55 mm connector height.
FFA1W has a cable lock mechanism and is a dedicated connector for upper contact with high FPC holding.



FEATURES

- Original cam-type "Back-lock" system ensures a reliable connection and continued retention from inadvertent upward pulling of the FPC.
- The contact with our original cable lock mechanism can pass current as a signal contact, which makes it possible to miniaturize the connector.
- FFA1W has a pitch of 0.15 mm and a mounting height of 0.55 mm.
- The upper contact is used for electrical contact with the FPC circuit.
- Connectors are delivered unlocked so the lock lever does not need to be opened before operation.
- Supplied with emboss tape for automatic mounting
- Nickel barrier prevents solder wicking.
- Halogen Free
- The housing and the lock lever are made of heat-resistant resin making the FPC connector compatible with lead-free reflow soldering.

Note: ※ Please do not close the lock lever without inserting FPC.

APPPLICATIONS

Smartphone, Wearable devices, other Portable devices

SPECIFICATIONS

Rated Voltage	50 V AC (r.m.s.)
Rated Current	0.2 A Signal contact
Dielectric Withstand Voltage	200V AC(r.m.s.) /1 minute
Insulation Resistance	50 MΩ min. at 250 V DC
Contact Resistance	100 m Ω max.

MATERIAL/FINISH

RoHS Compliant

Item	Material / Finish
Contact	Copper Alloy / Au (Flash) over Ni
Housing	LCP Resin (UL94V-0) / Black
Lock Lever	PPS Resin (UL94V-0) / Black
Hold Tab	Copper Alloy / Au(Flash) over Ni

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Please varify the latest specifications with our drawings.

Unit : mm

▶0.15㎜ Pitch FPC Connector

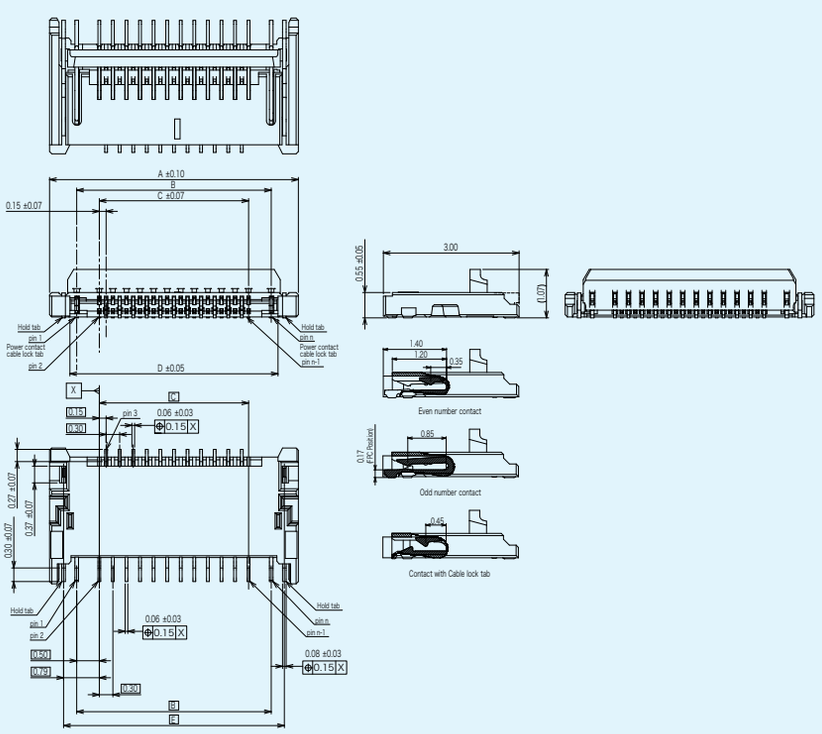
FFA1W - □□ A-R21A-B-3J

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series	FFA1W
② Number of Contacts	Refer to Table-1
③ Contact Position	A : Upper contact Applicable FPC : 0.12±0.02 mm
④ Connecor Style	R : Right Angle
⑤ Contact Material	2 : Corson Copper Alloy
⑥ Contact Plating/Finish	1 : Au(Flash) over Ni plating
⑦ Lock Lever	A : Standard
⑧ Housing	B : Black
⑨ Material	3J : Halogen-free,PFAS Free

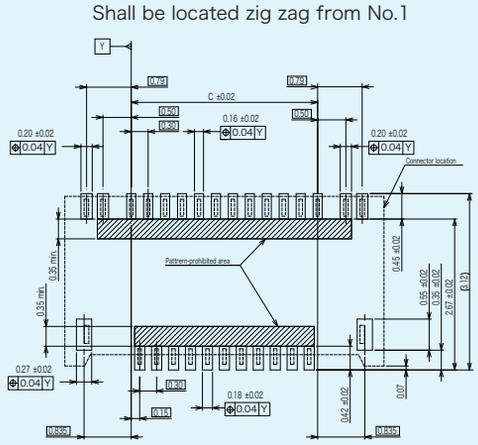
Odd number of contacts

◆ Dimensions

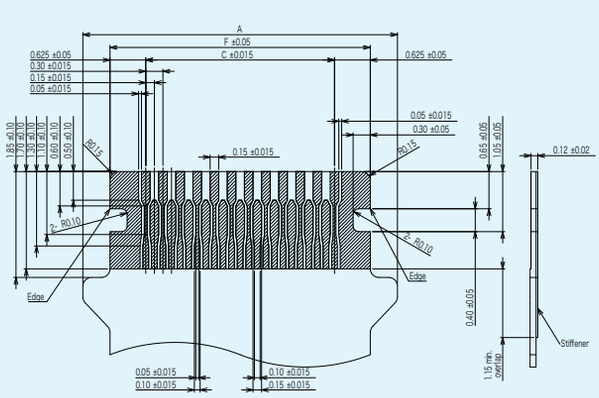


◆ Recommended P.C.B. Lay out

Shall be located zig zag from No.1



◆ Applicable FPC Dimensions



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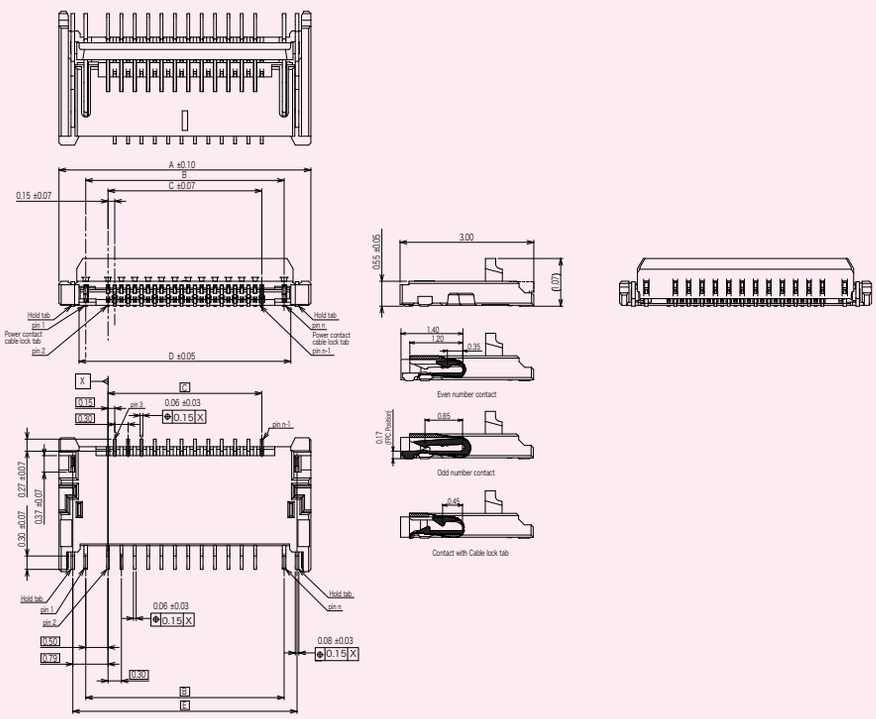
▶0.15㎜ Pitch FPC Connector

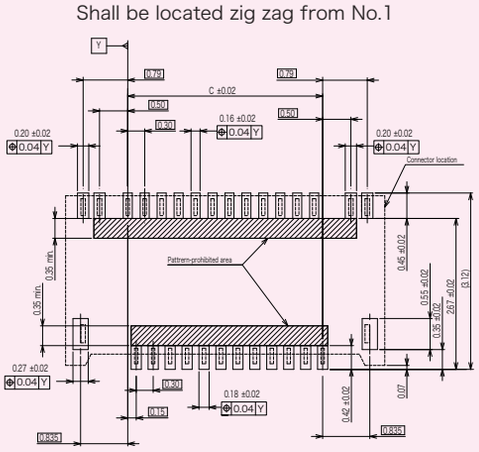
Even number of contacts

◆ Dimensions

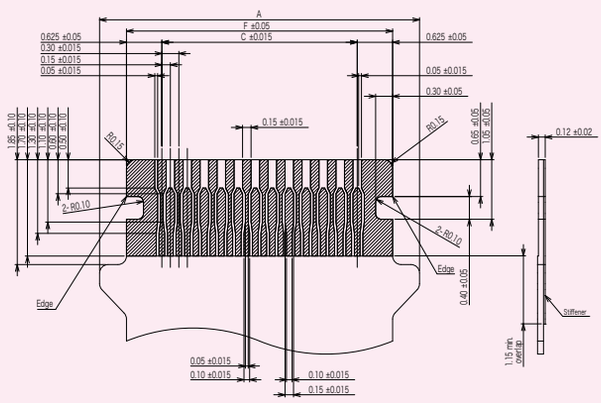


◆ Recommended P.C.B. Lay out

Shall be located zig zag from No.1



◆ Applicable FPC Dimensions



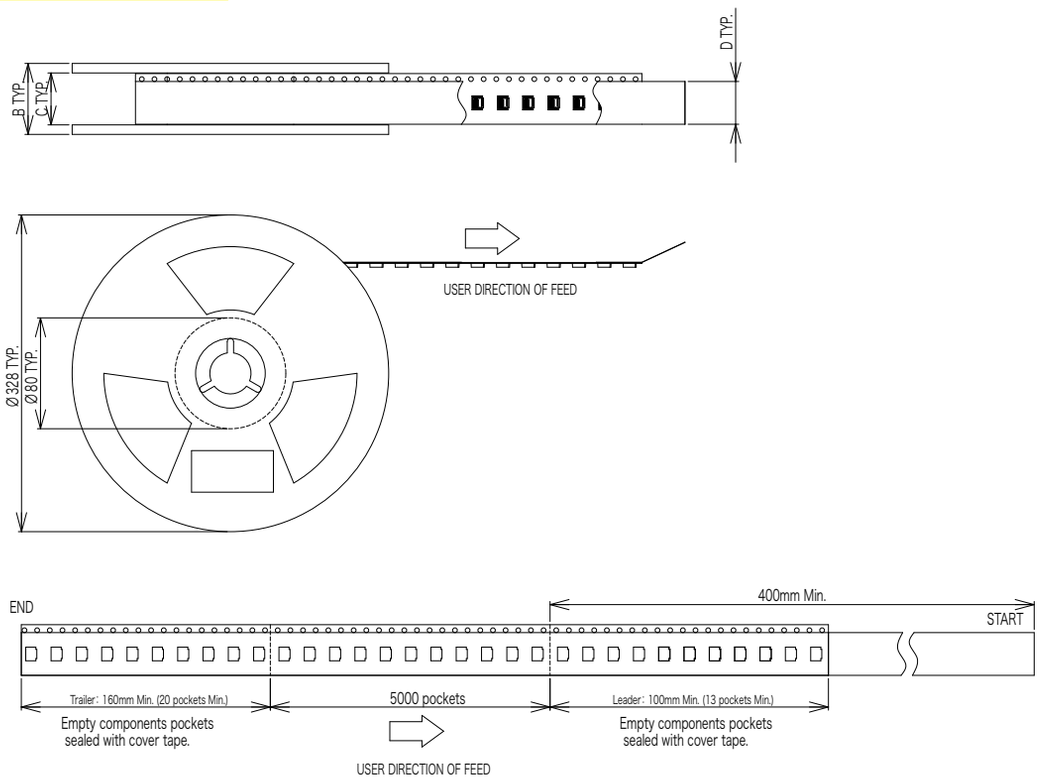
Table–1

Part Number	Number of Contacts	A	B	C	D	E	F
FFA1W-12A-R21A-B-3J	12	3.55	2.35	1.35	2.65	2.93	2.60
FFA1W-13A-R21A-B-3J	13	3.70	2.50	1.50	2.80	3.08	2.75
FFA1W-26A-R21A-B-3J	26	5.65	4.45	3.45	4.75	5.03	4.70

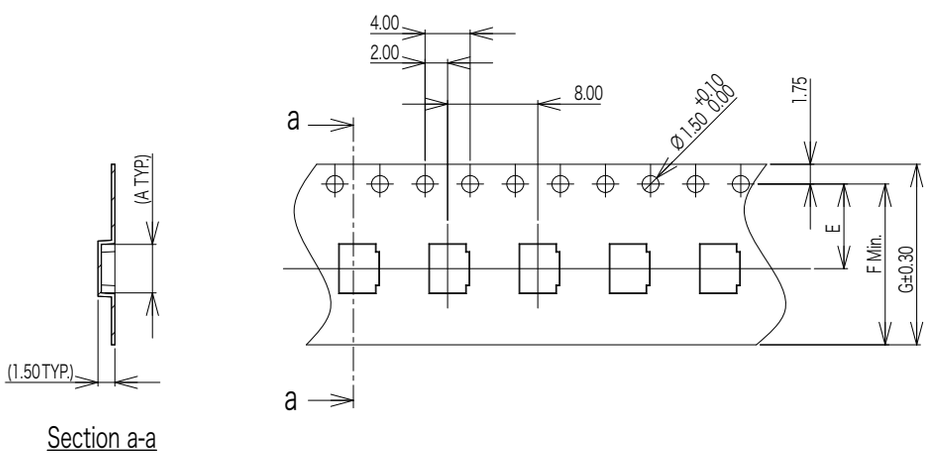
Unit : mm

Packing Specifications

■ Reel Dimensions



■ Emboss Tape Dimensions



Section a-a

Part Number	Number of Contacts	A	B	C	D	E	F	G
FFA1W-12A-R21A-B-3J	12	3.70	22.4	16.4	13.5	7.5	14.3	16.0
FFA1W-13A-R21A-B-3J	13	3.85						
FFA1W-26A-R21A-B-3J	26	5.80						

■ Package Quantity : 5,000pcs./Reel

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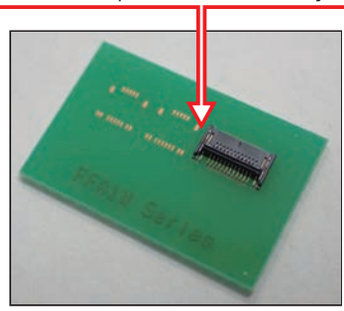
Unit：mm

▶ Operating Instruction and Cautions

1. Connector mounting Instruction

Lock lever is opened when delivery.



picture ①

・Connectors are delivered with the lock lever opened.
You do not have to operate the lock lever before inserting FPC.
(picture ①)

・Please do not re-flow with the lock lever in the closed condition.

・Please do not close the lock lever without inserting FPC.
Otherwise, the contact gap will become narrower and FPC insertion force will rise.

・Please do not load from the top of the lock lever. (figure ①)
And please do not load toward the opposite direction of the lock lever. (figure ②)
Otherwaise, the lock lever may be broken or contacts may be deformed.

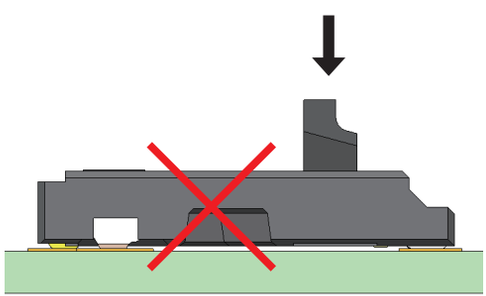


figure ①

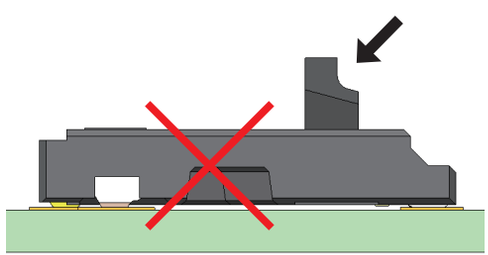


figure ②

・Please do not insert finger nail into the entry
as it may damage the connector (figure ③)

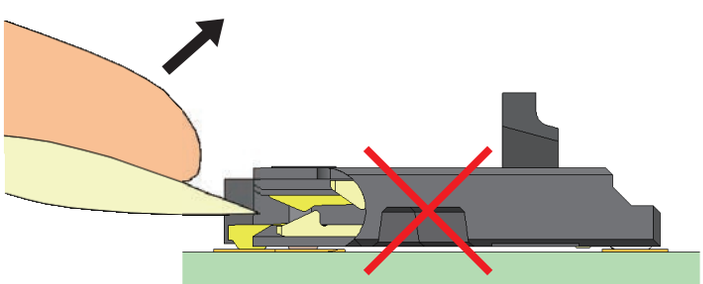


figure ③

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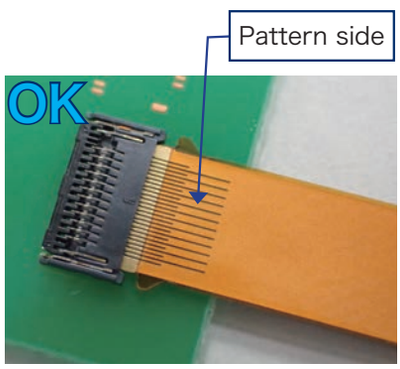
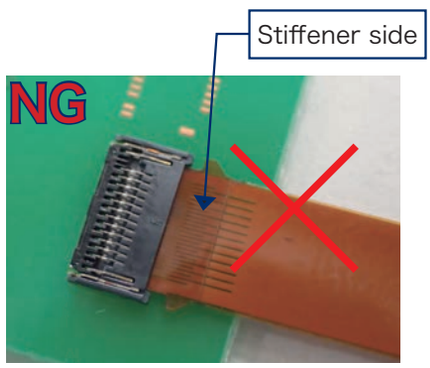
2. FPC Insertion

・Please insert the FPC with the pattern side up.(correct: picture ② , wrong：picture ③)

・Please insert the FPC straight into the connector.
Due to the semi-retaining mechnism, some insertion force is necessary when inserting FPC.
FPC insertion is completed when the edges of the FPC are ouching connector frange.(picture ⑤)



picture ②



picture ③

3. Correct FPC Insertion Position

・The frange position enables a visual verification of the mating position.(figure ④) .
It prevents shallow and diagonal insertion. (picture ⑤、⑥)

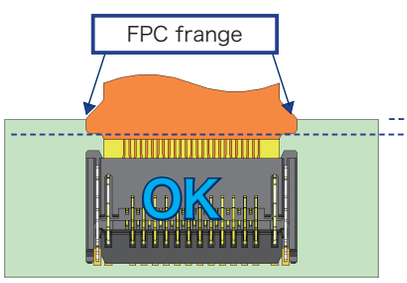


figure ④：normal insersion

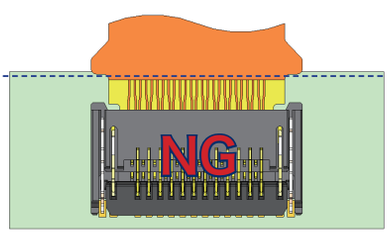


figure ⑤：Shallow insertion

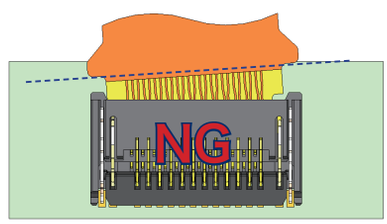
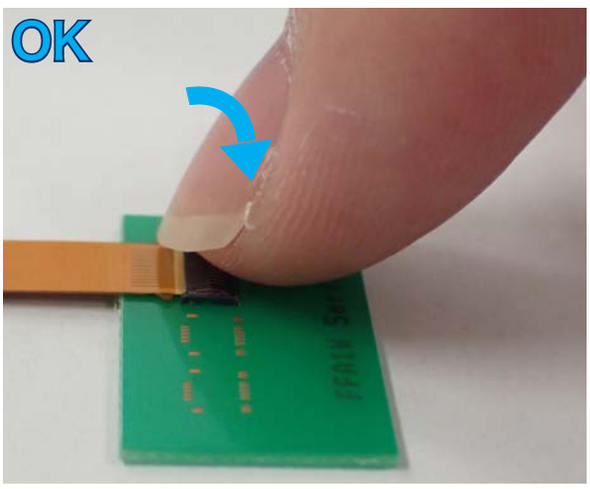


figure ⑥：Diagonal insertion

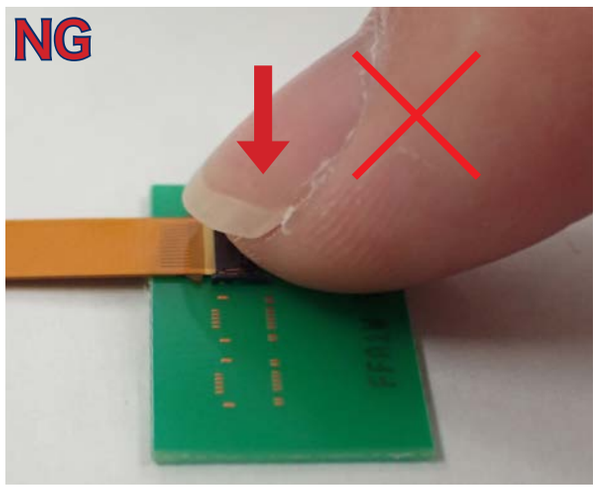
・If cable lock tabs catch the FPC correcty, FPC patterns are not dislocated from contacts.

4. Closing Lock Lever

・Please rotate down the lock lever until firmly closed.(picture ④)
Please do not load excessive force on the housing.(picture ⑤)

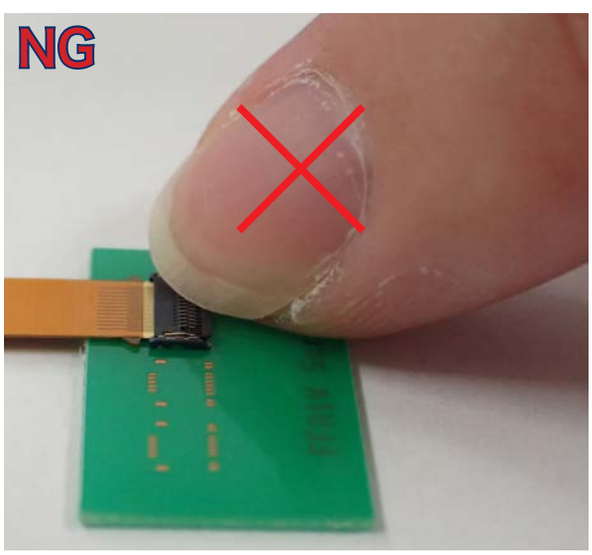


picture ④

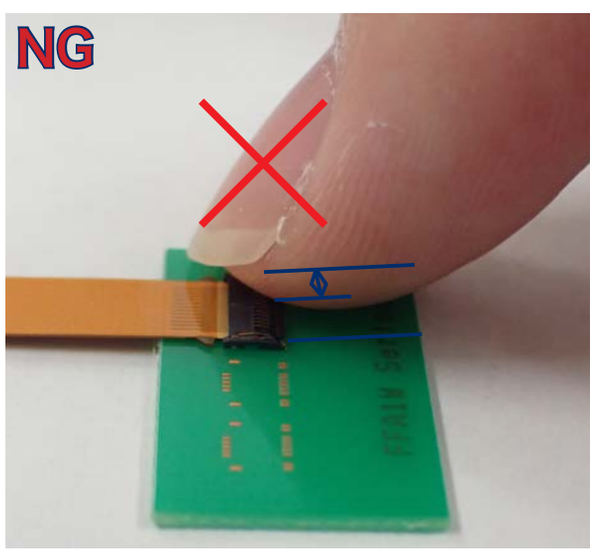


picture ⑤

・Please do not close the lock lever by tip of finger nail. (picture ⑥)
・Please hold the lock lever at least half width of it. (picture ⑦)



picture ⑥

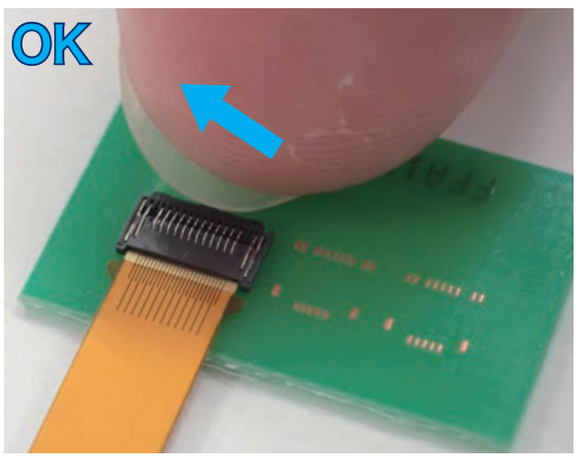


picture ⑦

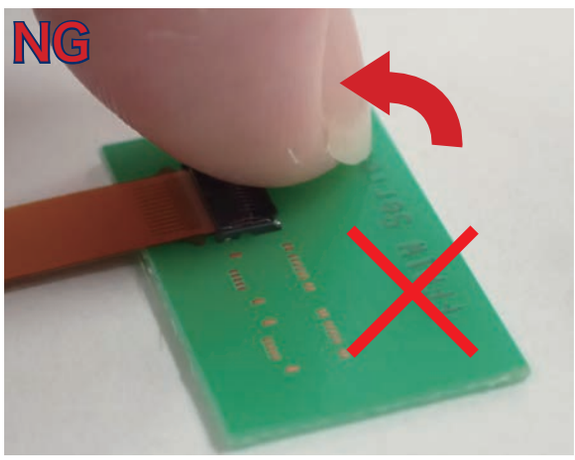
▶ Operating Instruction and Cautions

5. Removing FPC

・Please lift the lock lever by flipping up in the direction of arrow.(picture ⑧)
Please do not load excessive force on the lock lever.(picture ⑨)



picture ⑧



picture ⑨

6. Others

・In case of hand soldering, please do not heap excesssive solder on the contact tails.
(above terminal 0.05mm max.) (figure ⑦)

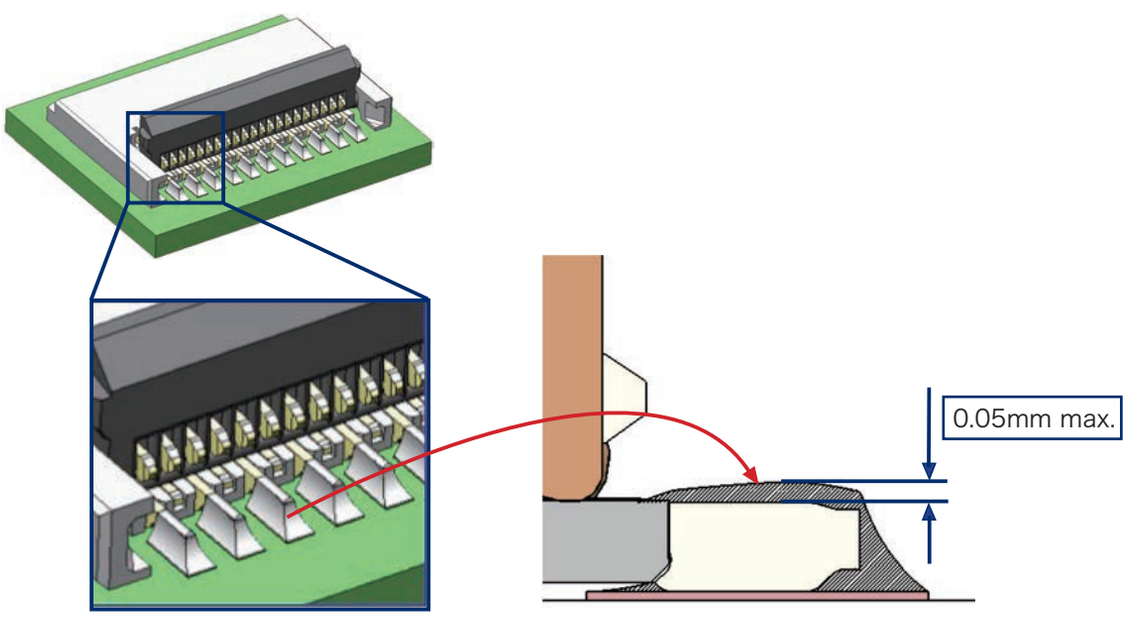


figure ⑦

7. ESD(Electrostatic Discharge)

This connector does not protect the circuit from ESD.

8. Disposal of connector

Please dispose the connector as industrial waste.