

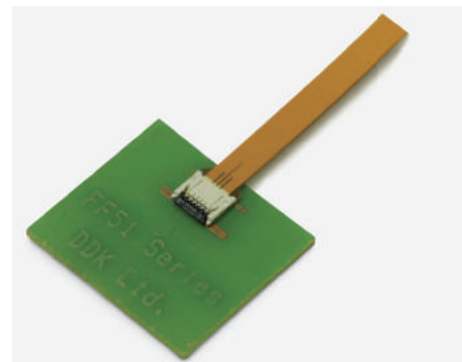
# 0.35 mm Pitch Ultra-low Profile FPC Back-lock Connector

## FF51 Series 【Upper Contact】

第一电子工业株式会社

### OUTLINE

FF51 series is a connector with a cable lock mechanism to provide positive retention of the FPC. This LIF connector has an lower contacts to interface with the FPC at a 0.35mm pitch. The ultra-low profile connector has a 0.5mm height, making it one of the smallest board mounted FPC ZIF connectors on the market.



### FEATURES

- The FF51 connector has an ultra-low height of 0.5mm.
- DDK's original cam-type back-lock system provides reliable operation and ensures retention from inadvertent upward pulling of the FPC.
- The FF51 ZIF connector utilizes a cable lock mechanism to provide positive retention of the FPC.
- This connectors utilizes an upper connect.
- Back-lock mechanism ensures retention from inadvertent from upward pulling of the FPC.
- These ZIF connectors are delivered with the lock lever opened for maximum production efficiency.
- This connector is available with 4 contacts.
- Contacts utilize a nickel barrier to prevent solder wicking.
- High-temperature resin for lead free reflow process.
- FF51 ZIF connectors are delivered in a tape and reel package for automated machine processes.

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

※ Since the cable lock tabs electrically conductive on both ends, please do not use the cable lock tabs as ground tabs.

### APPLICATIONS

LCD Back-light module, Touch Panel, Accessary module

### SPECIFICATIONS

Rated Voltage	50V AC (r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) /1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	80m Ω max.

### MATERIAL/FINISH



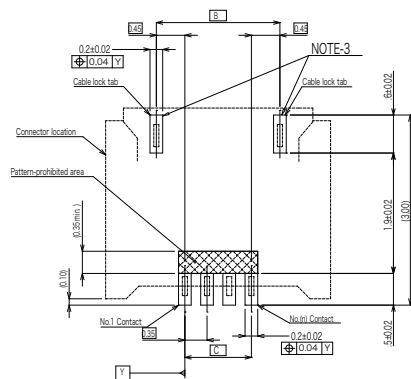
Item	Material / Finish
Contact	Copper Alloy / Au (Flash) over Ni
Housing	LCP Resin (UL94V-0) / Ivory
Lock Lever	PPS Resin (UL94V-0) / Black

© Specifications and/or dimensions in this catalogue are subject to change without notice.  
Your catalogue checking the latest specifications with our drawings would be highly appreciated.

**FF51-A-R11A-3H**

①      ②      ③      ④      ⑤      ⑥      ⑦      ⑧

① Series	FF51
② Number of Contact	Refer to the table 1
③ Contact Position	A : Upper Contact, Applicable FPC Thickness : 0.12±0.02mm
④ Contact Style	R : Right Angle
⑤ Contact Tail Length	1 : 0.30mm
⑥ Contact Plating	1 : Au (Flash) over Ni
⑦ Lock Lever Style	A : Standard
⑧ Material	3H : Halogen Free

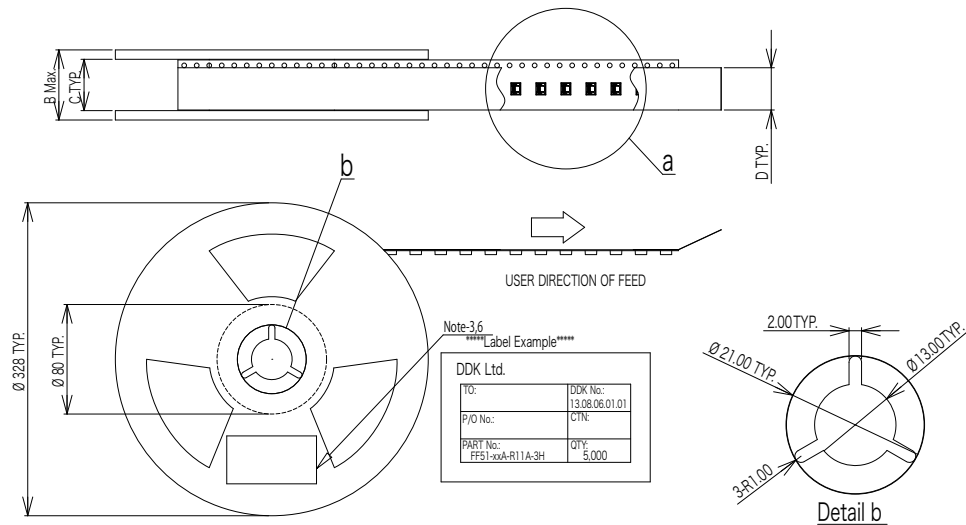
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Applicable for FPC recommended dimension

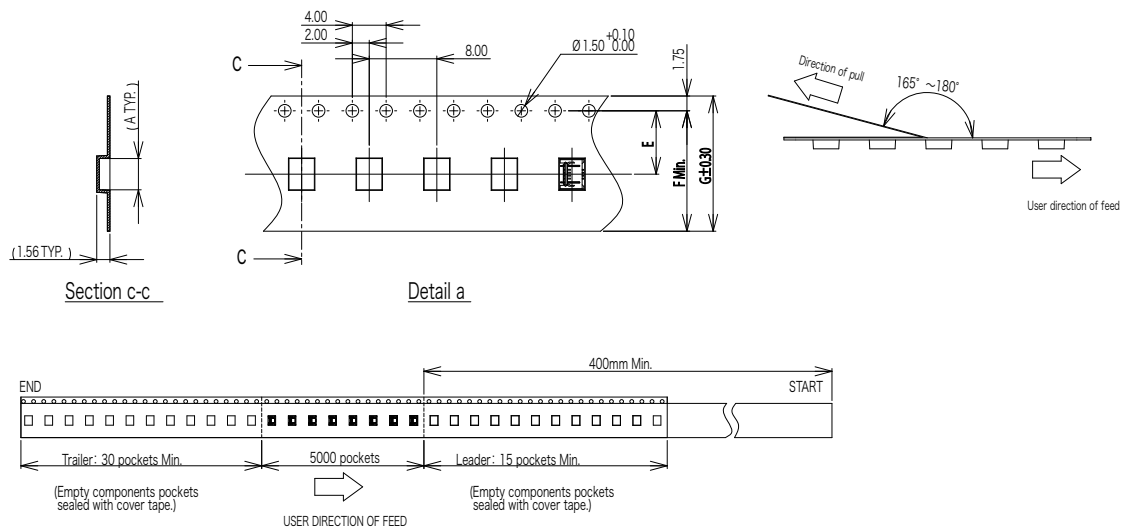
Part Number	Number of Contact	A	B	C	D	E
FF51- 4A-R11A-3H	4	3.55	1.95	1.05	2.50	2.45

## ► Packing Specifications

### ■ Reel Dimensions



### ■ Emboss Tape Dimensions



Part Number	Number of Contact	A	B	C	D	E	F	G
FF51- 4A-R11A-3H	4	3.70	22.4	16.4	13.5	7.5	14.3	16.0

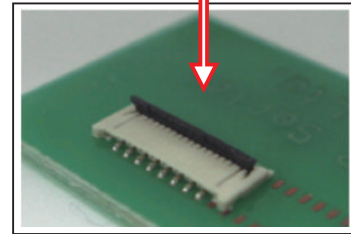
### ■ Quantity : 5,000pcs./Reel

## ▶ Operating Instruction and Cautions

### 1. Connector mounting Instruction

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

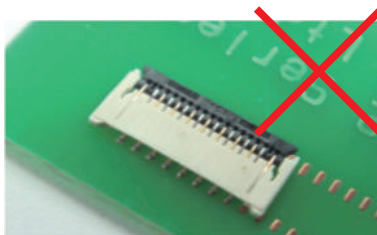
Lock lever is opened when delivery.



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. (picture ②)

no FPC inserting



Lock lever closed

picture ②

- 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)  
Otherwise, the lock lever may be broken or contacts may be deformed.

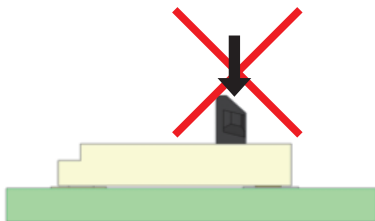


figure ①

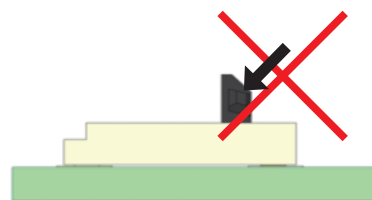


figure ②

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

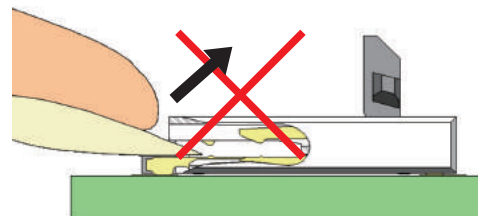


figure ③

## ▶ Operating Instructions and Cautions

Cable lock tabs conduct to both ends of contacts.

Please do not ground the cable lock tab pad on the mounting board. (figure ④)

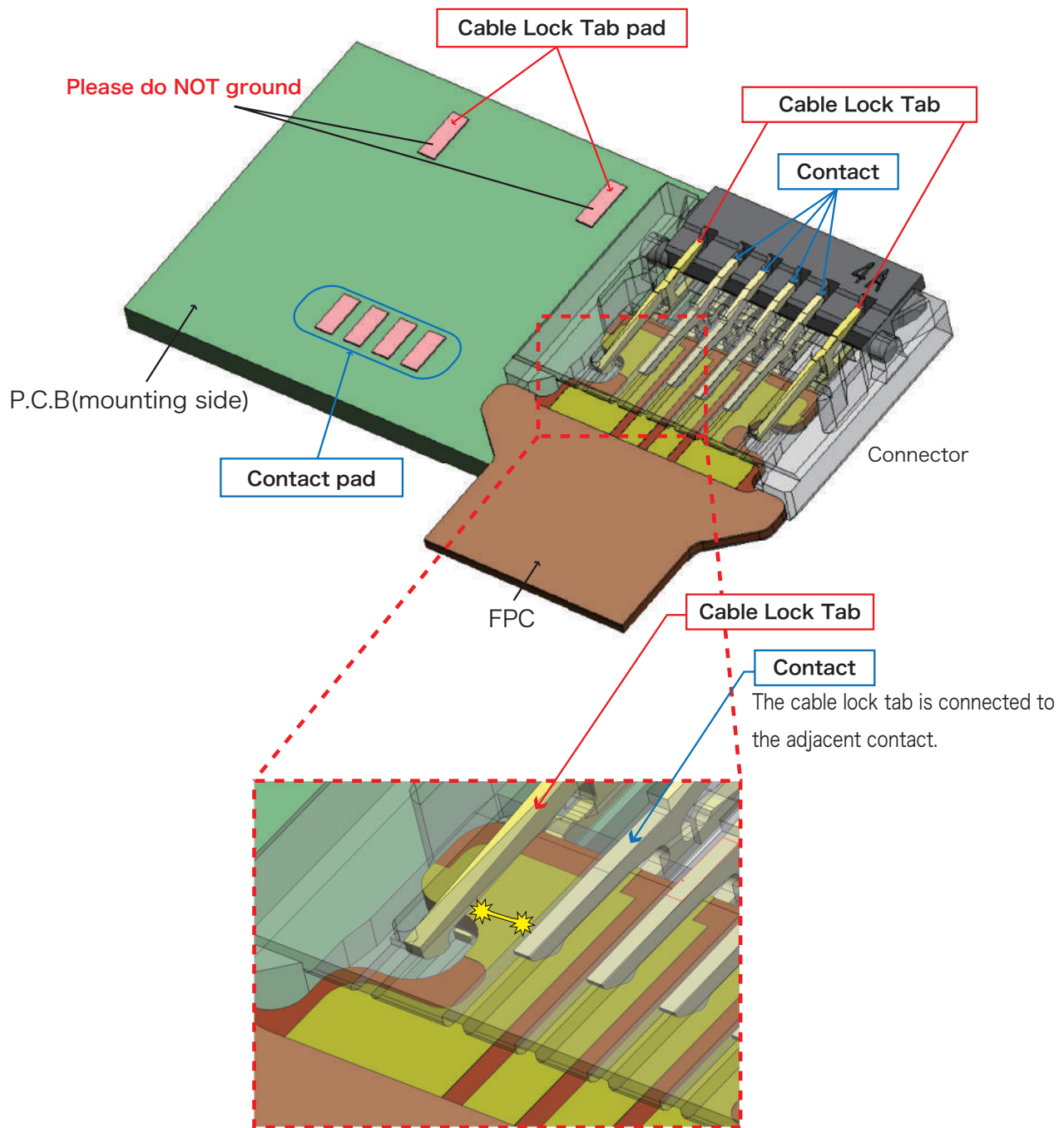
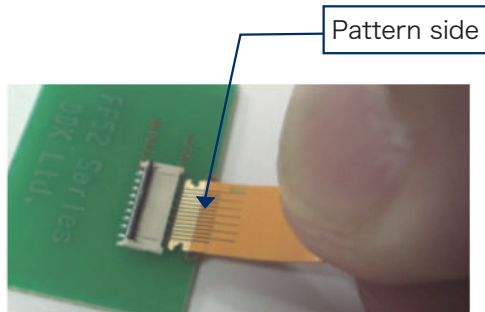


figure ④

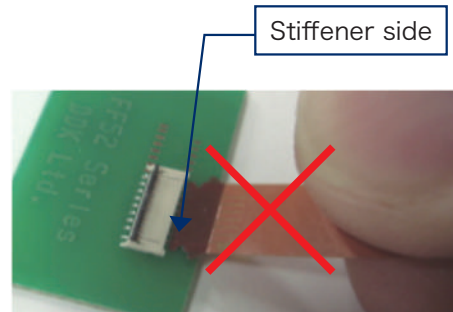
## ▶ Operating Instruction and Cautions

### 2. FPC Insertion

- Please insert the FPC with the pattern side up.(correct: picture ③ , wrong : picture ④)

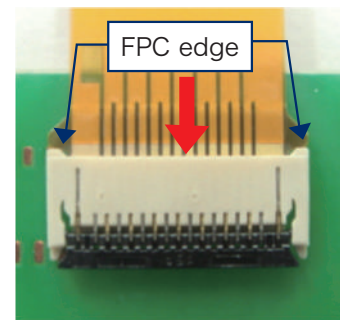


picture ③



picture ④

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



picture ⑤

### 3. Correct FPC Insertion Position

- Check line enables a visual verification of the mating position.(figure ⑤) .  
It prevents shallow and diagonal insertion. (picture ⑥、⑦、⑧)

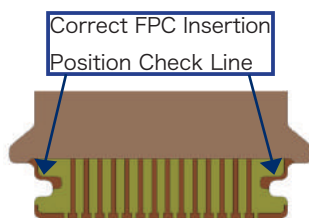
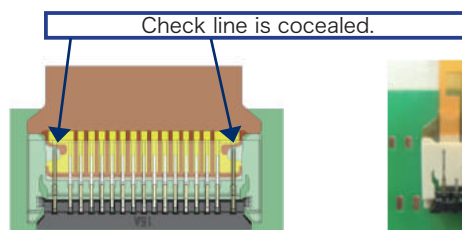
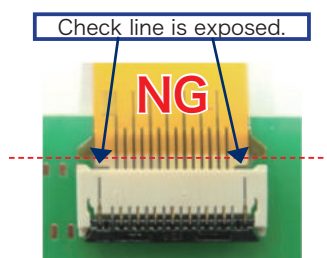
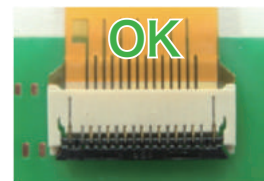


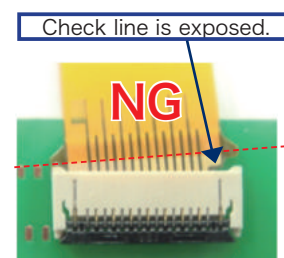
figure ⑤



picture ⑥ : Standard insertion



picture ⑦ : Shallow insertion



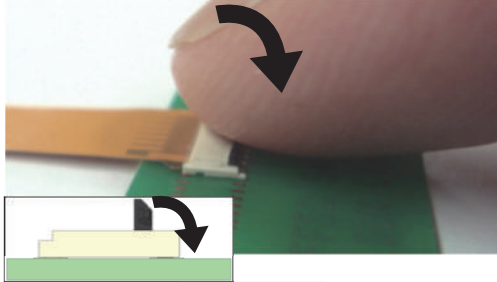
picture ⑧ : Diagonal insertion



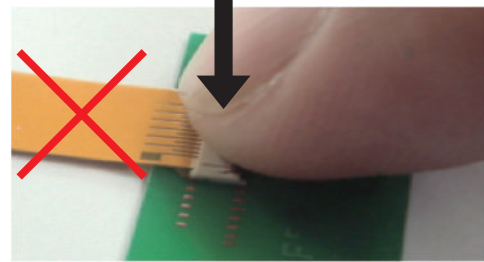
## ▶ Operating Instruction and Cautions

### 4. Closing Lock Lever

- Please rotate down the lock lever until firmly closed.(picture ⑨ )  
Please do not load excessive force on the housing.(picture ⑩ )

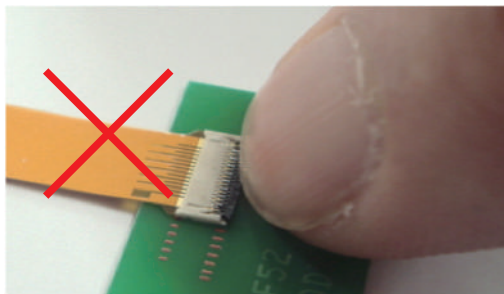


picture ⑨



picture ⑩

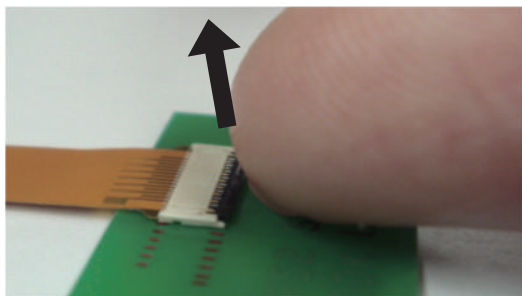
- Please do not close the lock lever by tip of finger nail. (picture ⑪)



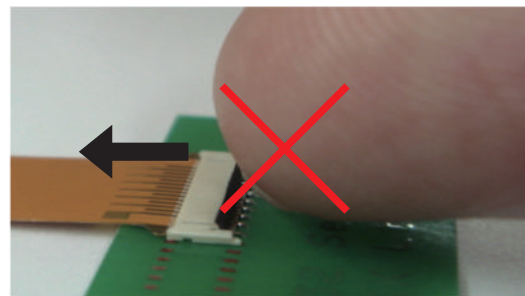
picture ⑪

### 5. Removing FPC

- Please lift the lock lever by flipping up in the direction of arrow.(picture ⑫ )  
Please do not load excessive force on the lock lever.(picture ⑬ )



picture ⑫



picture ⑬

### 6. ESD(Electrostatic Discharge)

- This connector does not protect the circuit from ESD.

### 7. Disposal of connector

- Please dispose the connector as industrial waste.