

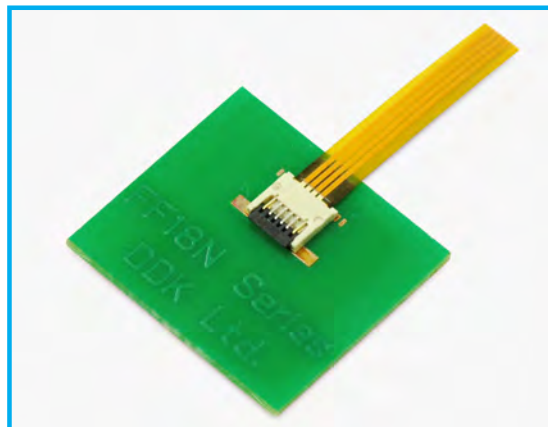
0.4 mm Pitch Ultra-low Profile FPC Connector

FF18N Series 【Upper and lower Type】

第一电子工业株式会社

OUTLINE

FF18N series is a connector with a cable lock mechanism to provide positive retention of the FPC. This LIF connector has a both upper and lower contacts to interface with the FPC at a 0.4mm pitch. The ultra-low profile connector has a 0.66mm height, making it one of the smallest board mounted FPC ZIF connectors on the market.



FEATURE

- The FF18N's dual contact design allows for design versatility by having both upper and lower contacts.
- DDK's original cam-type back-lock system provides reliable operation and ensures retention from inadvertent upward pulling of the FPC.
- The FF18N ZIF connector utilizes a cable lock mechanism to provide positive retention of the FPC.
- 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.
- Available in pin counts for this low profile connector are 4 and 10 pins.
- Contacts utilize a nickel barrier to prevent solder wicking
- High-temperature resin for lead free reflow process
- FF18N 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 cable lock tabs electrify next contacts, please do not use the cable lock tabs as ground tabs.

APPLICATIONS

Touch panel, LCD back-light, camera modules, side-key connections and other accessories

SPECIFICATIONS

Rated Voltage	50V AC (r.m.s.)
Rated Current	0.4A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 M Ω min. at 500V DC
Contact Resistance	50m Ω max.
Durability	10 Cycles
Operating Temperature Range	-55°C ~ + 85°C

MATERIAL/FINISH



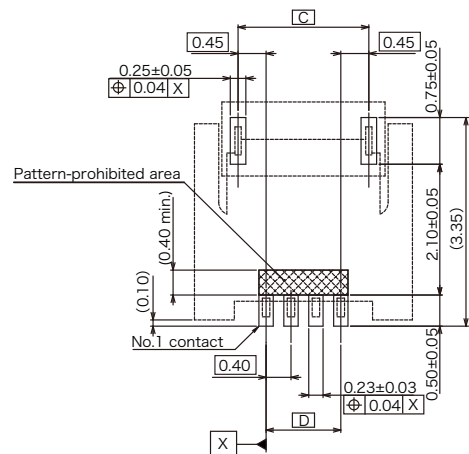
Item	Material / Finish
Contact	Copper Alloy /Au(Flash) over Ni Plating
Housing	LCP Resin (UL94V-0) / Ivory
Lock Lever	PPS Resin (UL94V-0) / Black

© Specifications and/or dimensions in this catalog are subject to change without notice.
Please verify the latest specifications with our drawings.

FF18N- A-R11A-3H

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Recommended P.C.B Pattern lay-out and metal mask Dimension



Technical drawing of a mechanical part, showing a cross-section and a side view.

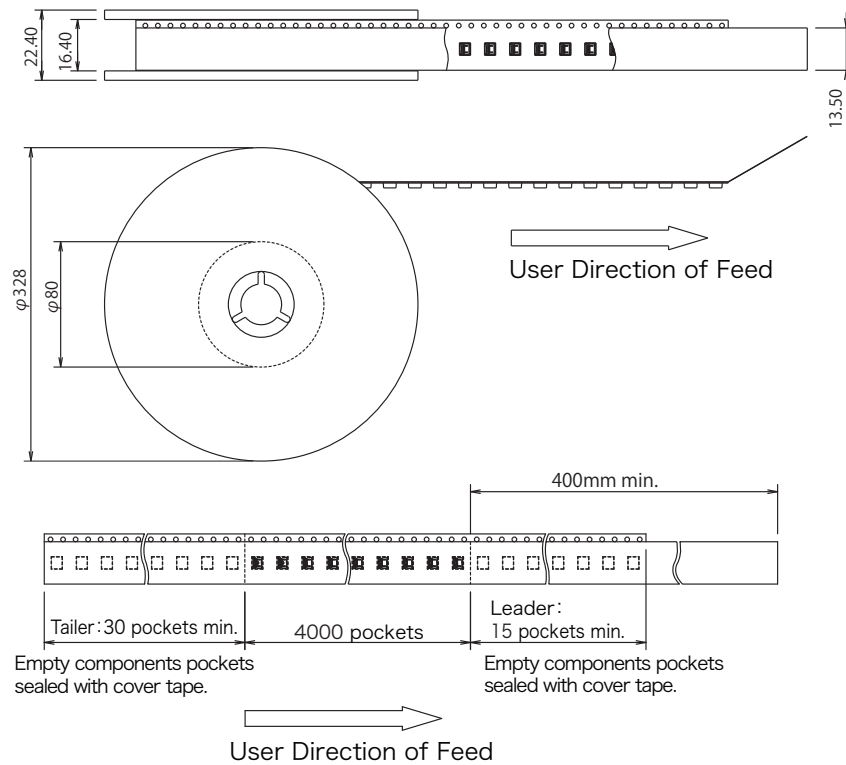
Cross-section dimensions:

- Top surface: 0.45 ± 0.05
- Internal radii: $R0.15$, $R0.20$
- Central hole diameter: $D \pm 0.03$
- Bottom surface: $E \pm 0.05$
- Internal features: 0.27 ± 0.30 , 0.40 ± 0.03 , 0.70 ± 0.07
- Stiffener height: (2.50 min.)
- Stiffener base thickness: 0.12 ± 0.03

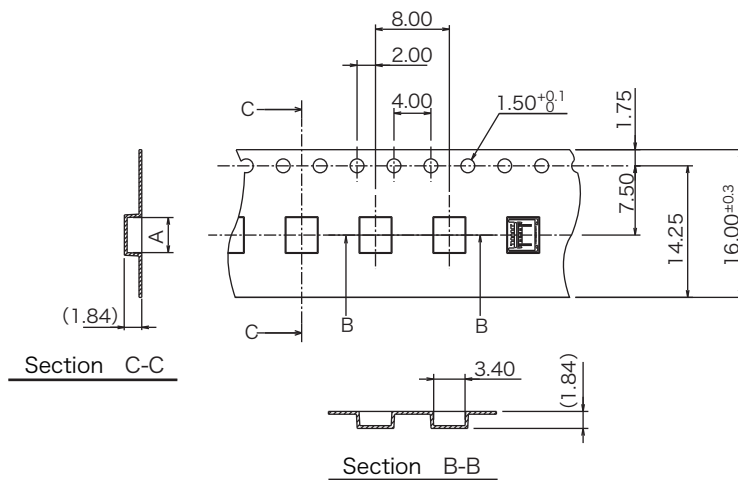
Part Number	Number of Contact	A	B	C	D	E
FF18N- 4A-R11A-3H	4	3.50	2.65	2.10	1.20	2.60

► Packing Specifications

■ Reel Dimensions



■ Emboss Tape Dimensions



Part Number	Number of Contact	A
FF18N- 4A-R11A-3H	4	3.80

■ Quantity : 4000pcs. / Reel

▶ Operating Instruction and Cautions

1. Connector mounting Instruction

Connectors are delivered with a 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 closed condition.
Please close the lock-lever with inserting FPC, otherwise
the contact gap become narrower and FPC insertion force will
rise. (picture ②)

Please do not load (0.5N×pin Min.) from the top of the lock
lever. (figure ①) And please do not load (0.5N×pin Min) toward
the opposite direction of the lock lever, (figure ②)
otherwise the lock lever may be broken or contacts may be
deformed.

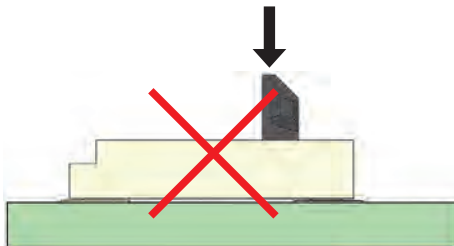
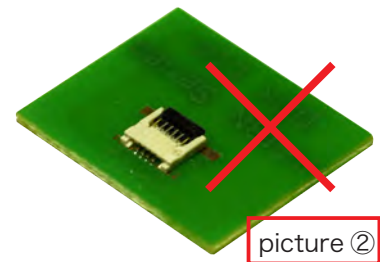
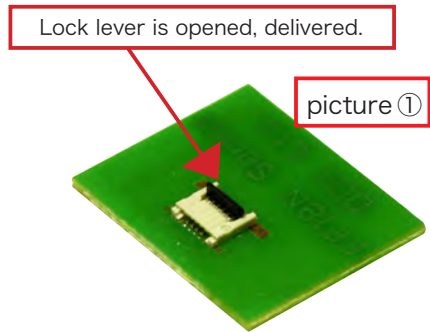


figure ①

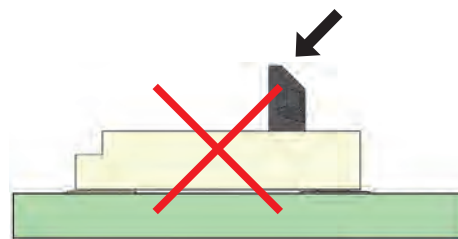


figure ②

While FPC mated with connector, cable lock tabs conduct to both ends of contacts.
Please do not ground the cable lock tab pad on the mounting board. (figure: ③)

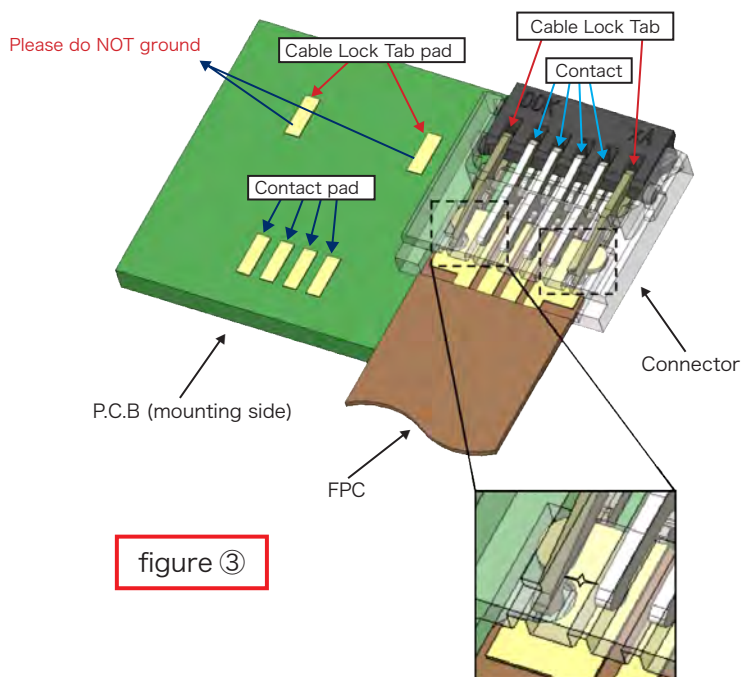


figure ③

▶ Operating Instruction and Cautions

2. FPC Insertion

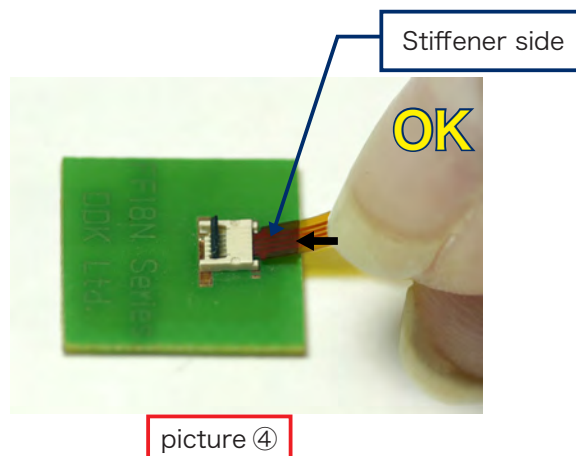
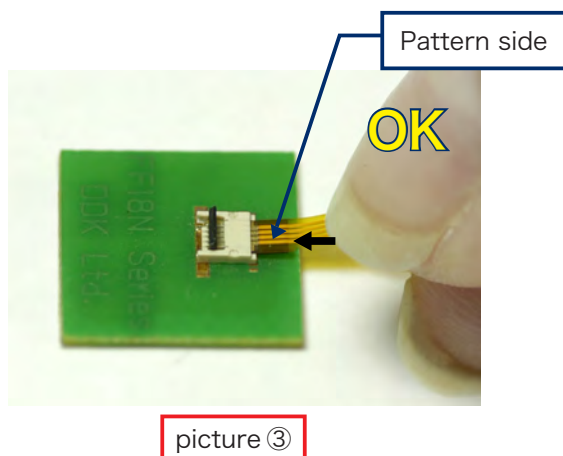
Please insert FPC to the pattern side up.(picture ③) when using upper contacts.

Please insert FPC to the stiffener side up.(picture ④) when using lower contacts.

Please insert FPC straight to the connector.

Due to the semi-retaining mechanism,
some insertion force is necessary when inserting FPC.

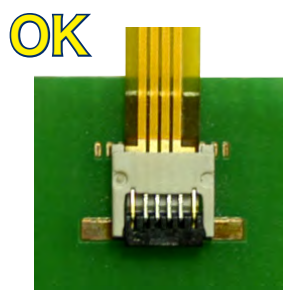
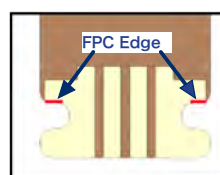
Please make sure whether FPC is inserted fully.



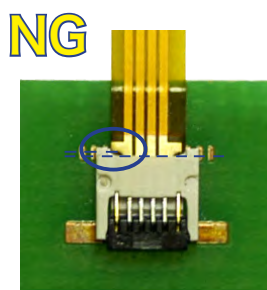
3. Correct FPC Insertion Position

As illustrated (picture ⑤), you can check short insertion(picture ⑥) and diagonal insertion(picture ⑦) by checking the position of connector housing and FPC positioning edge.

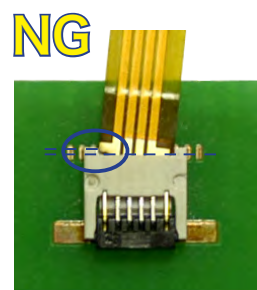
If the FPC positioning edge is exposed from the connector housing,
it may be short insertion or diagonal insertion. Please re-insert FPC fully.



Correct insertion



Short insertion



Diagonal insertion

▶ Operating Instruction and Cautions

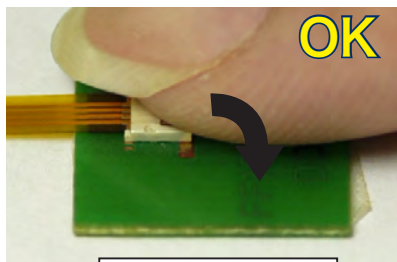
4. Closing Lock Lever

Please rotate down the lock lever until firmly closed. (picture ⑧)

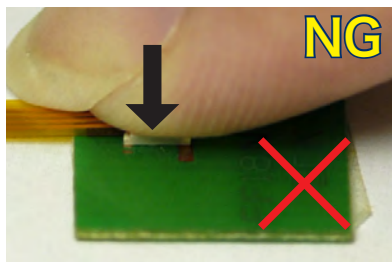
Please do not load excessive force(3N Min) on the housing(picture ⑨)

and please do not close the lock lever by tip of a nail.(picture ⑩)

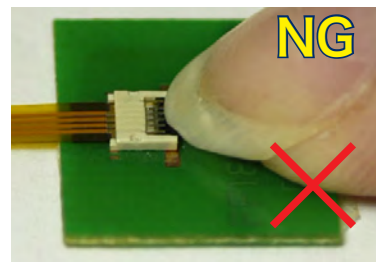
It may cause breakage of the lock lever.



picture ⑧



picture ⑨

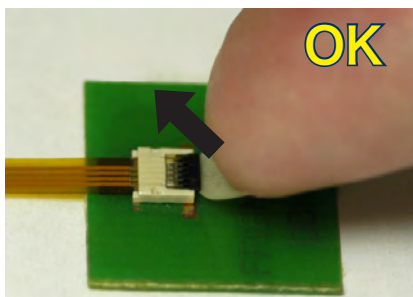


Picture ⑩

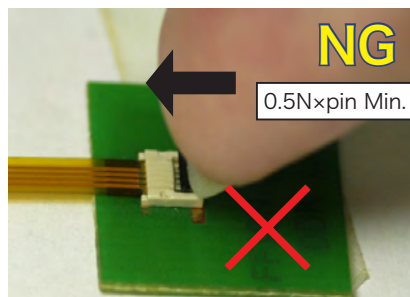
5. Removing FPC

Please lift the lock lever like flipping up in the direction of arrow.(picture ⑪)

Please do not load excessive force (0.5N×pin Min.) on the lock lever.(picture ⑫)



picture ⑪



picture ⑫

6. E S D (Electrostatic Discharge)

This connector is not taken ESD measure.

7. Disposal of Connector

Please dispose the connector as industrial waste.