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

# **FF52 Series** [Upper Contact]

## 第一电子工业株式会社

#### OUTLINE

The FF52 connector series utilizes a cable lock mechanism to provide positive retention of the FPC. This LIF connector has a dedicated upper contact 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 LIF connectors on the market.



#### **FEATURES**

- DDK's original cam-type back-lock system provides reliable operation and ensures retention from inadvertent upward pulling of the FPC.
- $\cdot$  The FF52 connector has an ultra-low height of 0.5mm.
- · Each individual contact is rated to 0.2A current.
- $\cdot$  The FPC is mechanically retained within the FF52 with DDK's cable-lock design.
- These ZIF connectors are delivered with the lock lever opened for maximum production efficiency.
- · Contacts utilize a nickel barrier to prevent solder wicking.
- · The housing and lock lever are made of heat-resistant resin making possible lead-free reflow soldering.
- FF52 ZIF connectors are delivered in a tape and reel package for automated machine processes.

#### Note: $\ensuremath{\mathbbmu}$ Please do not close the lock lever without inserting the FPC.

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

#### **APPPLICATIONS**

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	$50M\Omega$ 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				

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Dimensions

# ● 0.3mm Pitch FPC Connector [Upper Contact]

# $\underbrace{FF52}_{\mathbb{T}} - \underbrace{\square}_{\mathbb{Z}} \underbrace{A}_{\mathbb{S}} - \underbrace{R1}_{\mathbb{F}} \underbrace{1}_{\mathbb{S}} A - \underbrace{3H}_{\mathbb{S}}$

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	1) Series	FF52				
	② Number of Contact	Refer to the table 1				
	③ Contact Position	A : Upper Contact, Applicable FPC Thickness0.12±0.02mm				
	④ Contact Style	R : Right Angle				
	⑤ Contact Tail Length	1 : 0.30mm & 0.35mm				
	6 Contact Plating	1:Au(Flash) over Ni				
	⑦ Lock Lever style	A : Standard				
	⑧ Material	3H : Halogen Free				



Recommended P.C.B pattern lay-out (Shall be located zig zag from No.1 contacts.)



Applicable for FPC recommended dimension



#### Table-1

Part Number	Number of Contact	А	В	С	D	E
FF52- 8A-R11A-3H	8	4.60	3.00	2.10	3.55	3.50
FF52-15A-R11A-3H	15	6.70	5.10	4.20	5.65	5.60
FF52-17A-R11A-3H	17	7.30	5.70	4.80	6.25	6.20
FF52-19A-R11A-3H	19	8.50	6.90	6.00	7.45	7.40

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FF52 Series

## ▶Packing Specifications

#### Reel Dimensions



#### Emboss Tape Dimensions





Part Number	Number of Contact	А	В	С	D	E	F	G
FF52- 8A-R11A-3H	8	4.75	22.4	16.4	13.5	7.5	14.25	16.0
FF52-15A-R11A-3H	15	6.85						
FF52-17A-R11A-3H	17	7.45	30.4	24.4	21.5	11.5	22.3	24.0
FF52-19A-R11A-3H	19	8.65						

Quantity : 5,000pcs./Reel

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# FF52 Series

# 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)
- 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)

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.

picture 2



figure 1

no FPC inserting

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





figure 3

figure 2



#### Lock lever is opened when delivery.

## • 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

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#### Operating Instruction and Cautions

# 2. FPC Insertion

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



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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 🛈

• Please do not close the lock lever by tip of finger nail. (picture (1))





# 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 (3))



picture 😰



picture 🕄

# 6. ESD(Electrostatic Discharge)

This connector does not protect the circuit from ESD.

# 7. Disposal of connector

• Please dispose the connector as industrial waste.

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