0.175 mm pitch ultra-low profile FPC Back-lock Connector

FF57 Series [Upper Contact] DDK Ltd.

OUTLINE
The FF57 series ultra-low profile FPC LIF connector has a market leading height of only 0.5mm with a depth of just 3.0mm. The cable lock mechanism provides maximum FPC circuit retention and alignment of the material. DDK's FF57 LIF 0.175mm connector mates with an FPC circuit of 0.12mm thick. The upper contact is utilized as the electrical contact for the FPC material.

FEATURES
- DDK's original cam-type "Back-lock" system ensures a reliable connection and continued retention from inadvertent upward pulling of the FPC.
- The FF57 FPC LIF connector has a pitch of 0.175mm and a mounting height of 0.5mm.
- DDK's cable lock mechanism provides positive retention of the FPC.
- Back-lock structure ensures retention from inadvertent from upward pulling of the FPC.
- 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 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 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, Accessory module

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Material / Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Voltage</td>
<td>50V AC (r.m.s.)</td>
</tr>
<tr>
<td>Rated Current</td>
<td>0.2A / Contact</td>
</tr>
<tr>
<td>Dielectric Withstand Voltage</td>
<td>200V AC(r.m.s.) /1 minute</td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>50 MΩ min. at 250V DC</td>
</tr>
<tr>
<td>Contact Resistance</td>
<td>80m Ω max.</td>
</tr>
</tbody>
</table>

MATERIAL/FINISH

<table>
<thead>
<tr>
<th>Item</th>
<th>Material / Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact</td>
<td>Copper Alloy / Au (Flash) over Ni</td>
</tr>
<tr>
<td>Housing</td>
<td>LCP Resin (UL94V-0) / Black</td>
</tr>
<tr>
<td>Lock Lever</td>
<td>PPS Resin (UL94V-0) / Black</td>
</tr>
</tbody>
</table>
FF57 Series

0.175㎜ pitch FPC LIF connector

FF57- □ □ A-R21A-B-3H

1 Series FF57
2 Number of Contact Refer to Table-1
3 Contact Position A: Upper contact
   Applicable FPC: 0.12±0.02mm
4 Connector 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 3H: Halogen-free

◆ Dimensions

Odd number of contact

◆ Recommended P.C.B. Lay out
Shall be located zig zag from No.1

◆ Applicable FPC Dimensions

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

http://www.ddknet.co.jp
0.175 mm pitch FPC LIF connector

**Dimensions**

- **Even number of contact**

![Even number of contact diagram]

**Recommended P.C.B. Lay out**

Shall be located zig zag from No.1

**Applicable FPC Dimensions**

![Applicable FPC Dimensions]

---

Table 1

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Contact</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF57-16A-R21A-B-3H</td>
<td>16</td>
<td>4.925</td>
<td>3.325</td>
<td>2.625</td>
<td>3.895</td>
<td>3.845</td>
</tr>
</tbody>
</table>

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

http://www.ddknet.co.jp
Packing Specifications

- **Reel Dimensions**

- **Emboss Tape Dimensions**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Contact</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF57-16A-R21A-B-3H</td>
<td>16</td>
<td>5.08</td>
<td>22.4</td>
<td>16.4</td>
<td>13.5</td>
<td>7.5</td>
<td>14.3</td>
<td>16.0</td>
</tr>
</tbody>
</table>

**Package Quantity**: 5,000 pcs./Reel
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.

- 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.

- Please do not insert finger nail into the entry as it may damage the connector (figure ③)
Cable lock tabs conduct to both ends of contacts.
Please do not ground the cable lock tab pad on the mounting board. (figure ④)
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 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)

![Pattern side and Stiffener side](image)

![picture ②](image) ![picture ③](image)

3. Correct FPC Insertion Position

- The frange position enables a visual verification of the mating position. (figure ⑤). It prevents shallow and diagonal insertion. (picture ⑥, ⑦)

![FPC frange](image)

![figure ⑤: normal insertion](image) ![figure ⑥: Shallow insertion](image) ![figure ⑦: Diagonal insertion](image)

- If cable lock tabs catch the FPC correctly, 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)

- 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)
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)

6. Others

- In case of hand soldering, please do not heap excessive solder on the contact tails.
  (above terminal 0.05mm max.) (figure ⑧)

7. ESD (Electrostatic Discharge)

   This connector does not protect the circuit from ESD.

8. Disposal of connector

   Please dispose the connector as industrial waste.

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

http://www.ddknet.co.jp