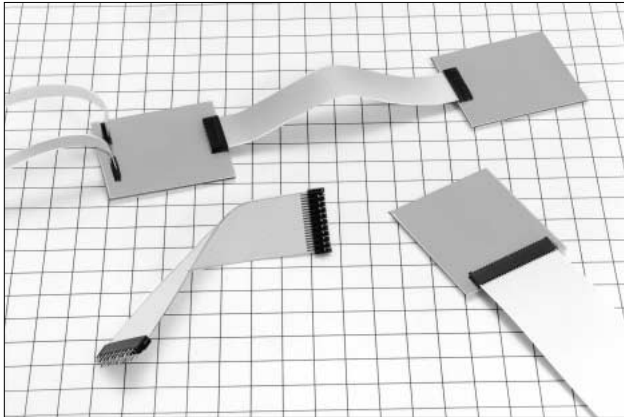


# 1mm Pitch FPC/FFC Connector

## FH 21 Series



### ■ Features

#### 1. LIF (Low Insertion Force) Mechanism

LIF mechanism secures mounting serviceability.

#### 2. Kink Mechanism

DIP post is treated with kinks, and prevent connector floating in the soldering process.

#### 3. Contact Structure on Both Sides

The contact structure on both sides does restrict directionality of FPC and FFC conductors.

### ■ Applications

HDD, facsimiles, printers, and crystal liquie modules, etc.

### ■ Product Specifications

|        |                       |   |  |
|--------|-----------------------|---|--|
| Rating | Rated Current: 0.5A   | Operating Temperature Range: -30 ~ +70°C (Note 1)                   | Storage Temperature Range: -10 ~ +50°C (Note 2)                    |
|        | Rated Voltage: 50V AC | Operating Humidity Range: Relative humidity 90% max.<br>(Not dewed) | Storage Humidity Range: Relative Humidity: 90% max.<br>(Not dewed) |

|                |                           |
|----------------|---------------------------|
| Applicable FPC | t=0.3±0.05 Solder plating |
|----------------|---------------------------|

| Item                                   | Specification  | Condition   |
|--|--|---|
| 1. Insulation Resistance               | 500MΩ min.   | Measured at 100V DC   |
| 2. Withstand voltage                   | Neither short nor breakdown should occur   | 150V AC for 1 minute  |
| 3. Contact Resistance                  | 40mΩ<br>*FPC conductor resistance included   | Measured at 100mA   |
| 4. Mechanical Operation                | Contact resistance: 40mΩ max.<br>No part should be damaged, cracked, or loosened                                       | 10 cycles   |
| 5. Vibration                           | Electrical discontinuity, 1μS max.<br>Contact resistance: 40mΩ<br>No part should be damaged, cracked, or loosened      | Frequency 10~55Hz and single amplitude 0.75mm in 3 directions for 2 hours, respectively.        |
| 6. Shock                               | Electrical discontinuity, 1μS max.<br>Contact resistance: 40mΩ max.<br>No part should be damaged, cracked, or loosened | Acceleration: 490m/s, duration: 11ms, sine half-wave in 3 directions for 3 cycles, respectively |
| 7. Moisture Resistance in Steady State | Contact resistance: 40mΩ max.<br>Insulation resistance: 50MΩ max.<br>No part should be damaged, cracked, or loosened   | Exposed to temperature 60°C and humidity 90~95% for 96 hours                                    |

Note 1. Temperature rise included when energized

Note 2. This storage indicates a long-term storage state for the unused product before the board mounted.

The operating temperature and humidity ranges are applied to the non-energized state after the connector has been installed in the board.

Note 3. The above standards represent this series. The individual formal agreement should be based on the "Specification".

## Material

| Part      | Material        | Finish         | Remarks |
|-----------|-----------------|----------------|---------|
| Insulator | PBT             | Black          | UL94V-0 |
| Contact   | Phosphor bronze | Solder plating | —       |

## Ordering Information

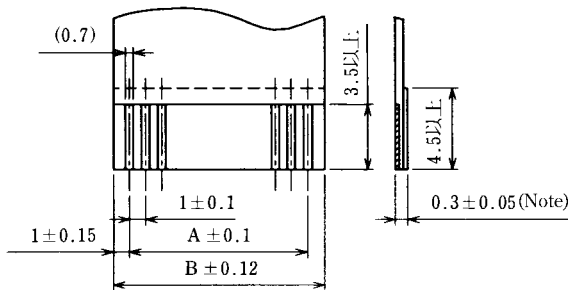
Please determine the specific product. If needed, please select and order the product from the product No. as listed in this catalog on page D17 and D18.

$\frac{\text{FH}}{\text{q}}$   $\frac{21}{\text{w}}$  -  $\frac{10}{\text{e}}$   $\frac{\text{S}}{\text{r}}$  -  $\frac{1}{\text{t}}$   $\frac{\text{DS}}{\text{y}}$

|  |   |
|--|---|
| <b>q</b> Series Name : FH  | <b>r</b> Contact Alignment: Single                                  |
| <b>w</b> Series No. : 21   | <b>t</b> Contacts Pitch: 0.3mm                                      |
| <b>e</b> Number of Contacts: 5, 6, 8, 10, 12, 14, 15, 16, 18, 20, 22, 24, 25, 28, 30 | <b>y</b> Contact Type: DS : Right angle type<br>DSA : Straight type |

## FPC·FFC Dimensions

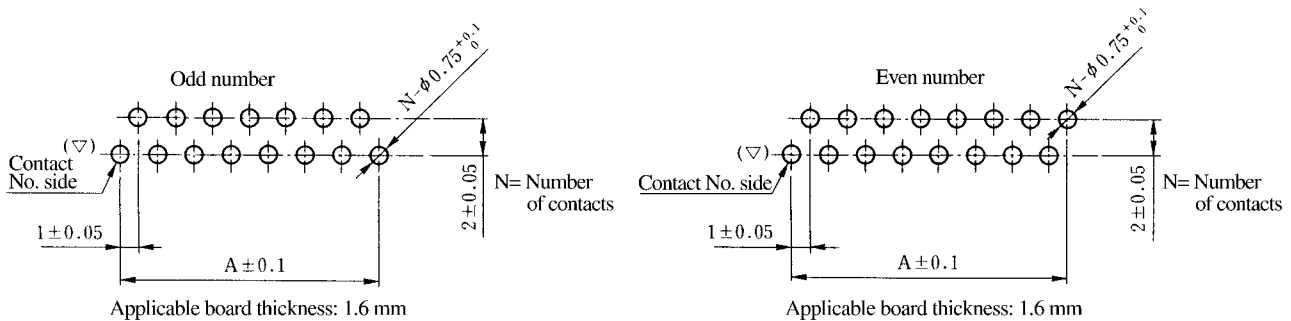
Note: In case of FPC, specify 0.25, excluding adhesive agent included in FFC.



Unit: mm

| Number of Contacts | 5   | 6   | 8   | 10   | 12   | 14   | 15   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|--------------------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| Size A             | 4.0 | 5.0 | 7.0 | 9.0  | 11.0 | 13.0 | 14.0 | 15.0 | 17.0 | 19.0 | 21.0 | 23.0 | 25.0 | 27.0 | 29.0 |
| Size B             | 6.0 | 7.0 | 9.0 | 11.0 | 13.0 | 15.0 | 16.0 | 17.0 | 19.0 | 21.0 | 23.0 | 25.0 | 27.0 | 29.0 | 31.0 |

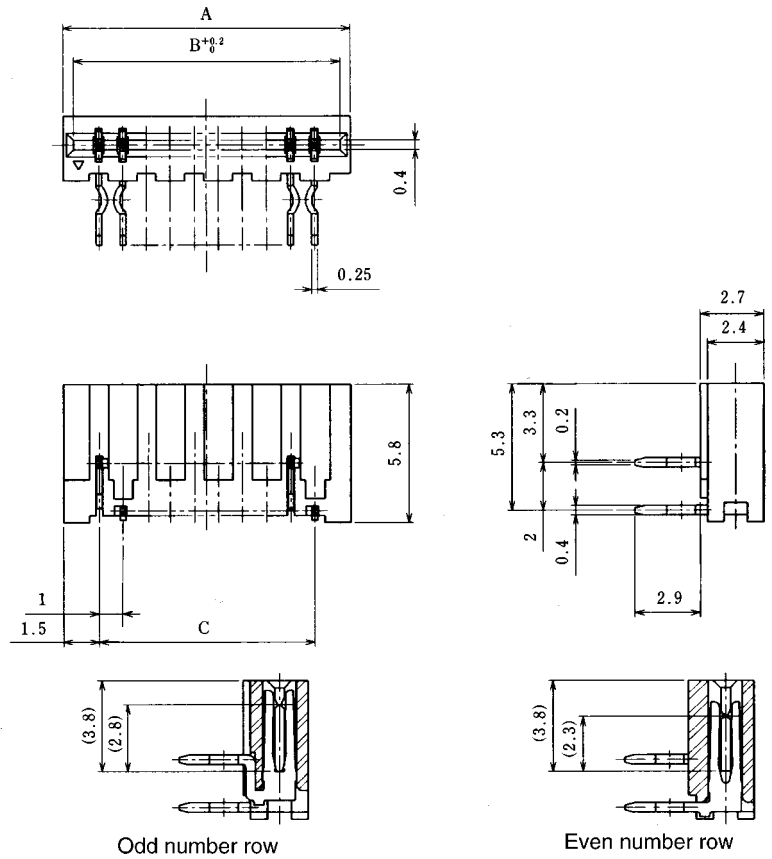
## PCB Footprints



Unit: mm

| Number of Contacts | 5   | 6   | 8   | 10  | 12   | 14   | 15   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   |
|--------------------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| Size A             | 4.0 | 5.0 | 7.0 | 9.0 | 11.0 | 13.0 | 14.0 | 15.0 | 17.0 | 19.0 | 21.0 | 23.0 | 25.0 | 27.0 | 29.0 |

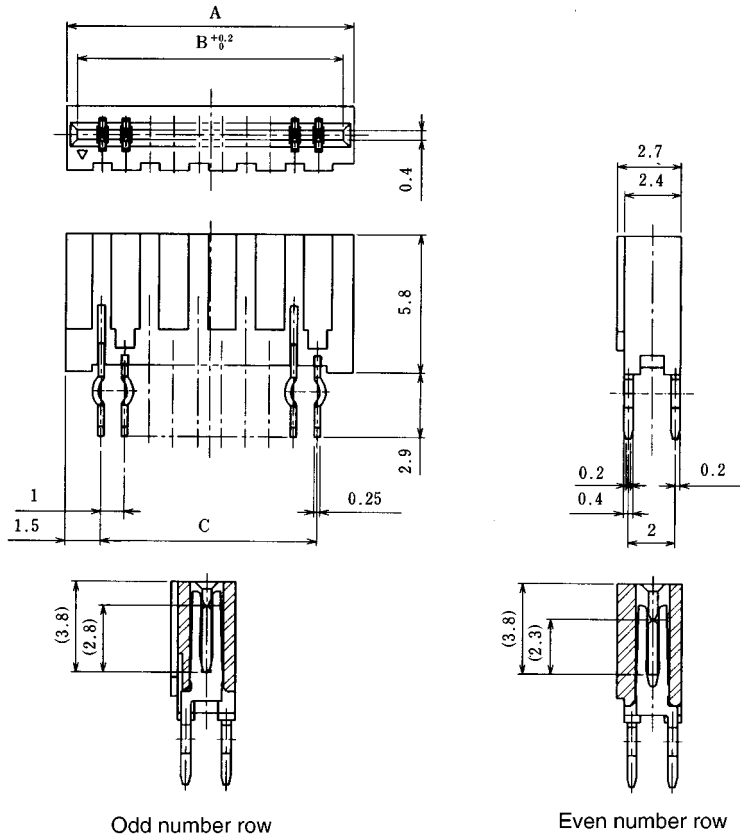
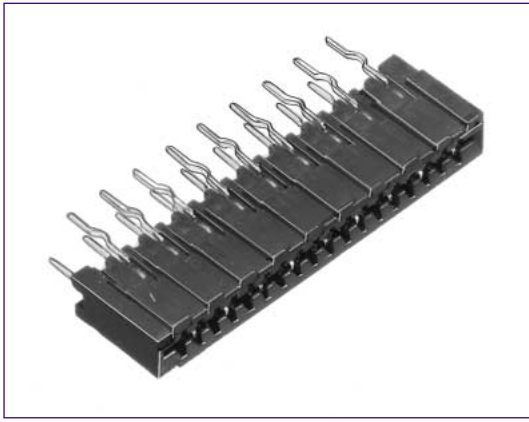
## Right Angle Type



Unit: mm

| Product No.  | HRS No.      | Number of Contacts | A  | B     | C  |
|--------------|--------------|--------------------|----|-------|----|
| FH21- 5S-1DS | CL586-0410-0 | 5                  | 7  | 6.15  | 4  |
| FH21- 6S-1DS | CL586-0411-2 | 6                  | 8  | 7.15  | 5  |
| FH21- 8S-1DS | CL586-0412-5 | 8                  | 10 | 9.15  | 7  |
| FH21-10S-1DS | CL586-0413-8 | 10                 | 12 | 11.15 | 9  |
| FH21-12S-1DS | CL586-0414-0 | 12                 | 14 | 13.15 | 11 |
| FH21-14S-1DS | CL586-0415-3 | 14                 | 16 | 15.15 | 13 |
| FH21-15S-1DS | CL586-0416-6 | 15                 | 17 | 16.15 | 14 |
| FH21-16S-1DS | CL586-0417-9 | 16                 | 18 | 17.15 | 15 |
| FH21-18S-1DS | CL586-0418-1 | 18                 | 20 | 19.15 | 17 |
| FH21-20S-1DS | CL586-0419-4 | 20                 | 22 | 21.15 | 19 |
| FH21-22S-1DS | CL586-0420-3 | 22                 | 24 | 23.15 | 21 |
| FH21-24S-1DS | CL586-0421-6 | 24                 | 26 | 25.15 | 23 |
| FH21-26S-1DS | CL586-0422-9 | 26                 | 28 | 27.15 | 25 |
| FH21-28S-1DS | CL586-0423-1 | 28                 | 30 | 29.15 | 27 |
| FH21-30S-1DS | CL586-0424-4 | 30                 | 32 | 31.15 | 29 |

## ■Straight Type



Odd number row

Even number row

Unit: mm

| Product No.   | HRS No.      | Number of Contacts | A  | B     | C  |
|---------------|--------------|--------------------|----|-------|----|
| FH21- 5S-1DSA | CL586-0425-7 | 5                  | 7  | 6.15  | 4  |
| FH21- 6S-1DSA | CL586-0426-0 | 6                  | 8  | 7.15  | 5  |
| FH21- 8S-1DSA | CL586-0427-2 | 8                  | 10 | 9.15  | 7  |
| FH21-10S-1DSA | CL586-0428-5 | 10                 | 12 | 11.15 | 9  |
| FH21-12S-1DSA | CL586-0429-8 | 12                 | 14 | 13.15 | 11 |
| FH21-14S-1DSA | CL586-0430-7 | 14                 | 16 | 15.15 | 13 |
| FH21-15S-1DSA | CL586-0431-0 | 15                 | 17 | 16.15 | 14 |
| FH21-16S-1DSA | CL586-0432-2 | 16                 | 18 | 17.15 | 15 |
| FH21-18S-1DSA | CL586-0433-5 | 18                 | 20 | 19.15 | 17 |
| FH21-20S-1DSA | CL586-0434-8 | 20                 | 22 | 21.15 | 19 |
| FH21-22S-1DSA | CL586-0435-0 | 22                 | 24 | 23.15 | 21 |
| FH21-24S-1DSA | CL586-0436-3 | 24                 | 26 | 25.15 | 23 |
| FH21-26S-1DSA | CL586-0437-6 | 26                 | 28 | 27.15 | 25 |
| FH21-28S-1DSA | CL586-0438-9 | 28                 | 30 | 29.15 | 27 |
| FH21-30S-1DSA | CL586-0439-1 | 30                 | 32 | 31.15 | 29 |