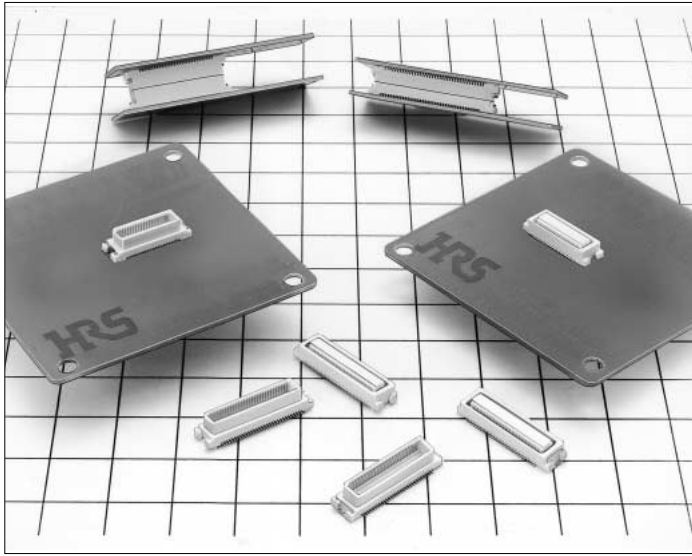


# 0.5mm Pitch Board to Board Connector

## DF17 Series



### ■Features

1. DF17 series are the connector which has been developed mainly for the mobile phone.

Connector Problems Involving in Mobile phone  
Example:

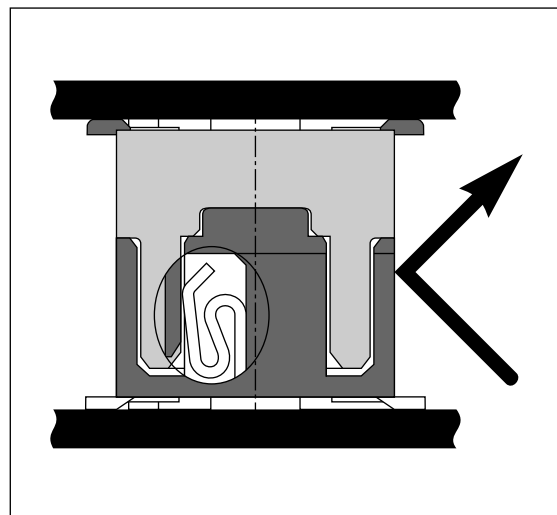
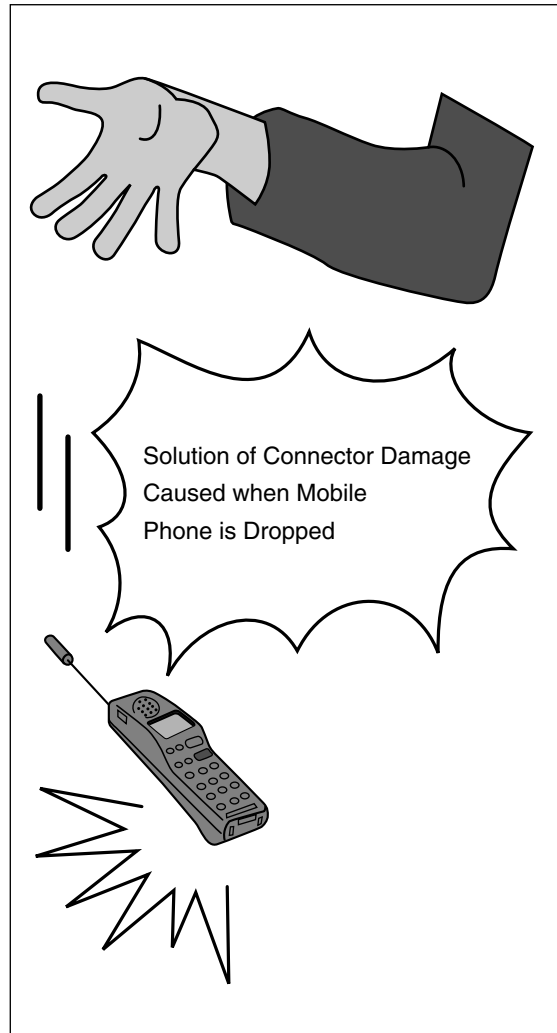
The following problems can be solved;

"Connector Damage Caused when Mobile phone is Dropped"

"Electrical Discontinuity in Printed Circuit Board is Fixed (Fastened by screws)"

Especially, in regard to the resistance to the drop shock, Hirose has developed a new connector structure utilizing its unique technology, and greatly enhanced the resistance to the drop shock.

In broad variation development, the connector can be utilized in wide fields of LCD equipment, miniature information terminal equipment and so on, in addition to mobile phones.



2. Performance Enhancement

The receptacle is designed in a BOX structure and has also enhanced shock-proof, pinch-proof and scoop-proof performance.

In addition, the receptacle contact has employed the high scoop-proof bellows type.

3. With Metal Fitting available

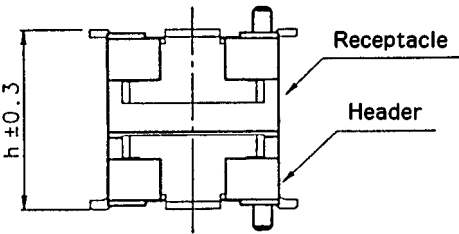
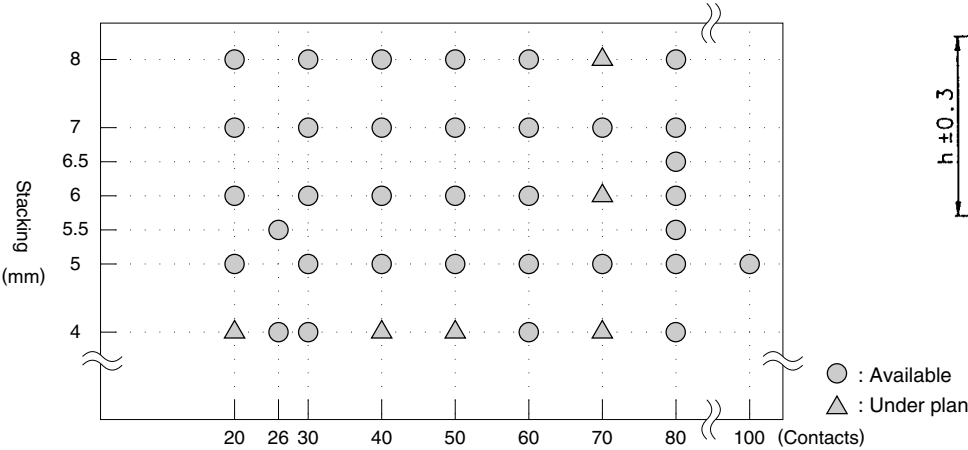
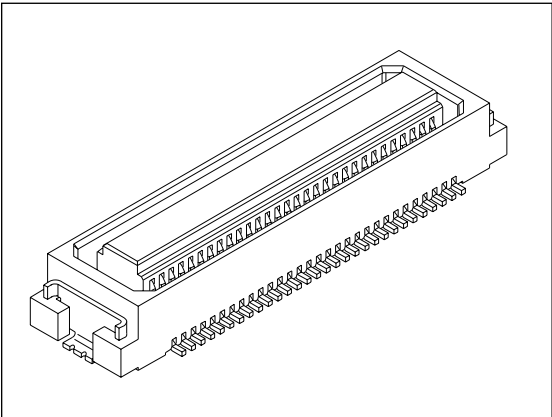
In order to grade up the strength against the mechanical stress, the metal fitting specification is also available.

4. Broad Variations in Contact Number

The connectors are lined up per 10 contacts between 20 and 80 contacts to take countermeasures for multi-signalization.

5. Stacking Height 4 to 8mm

The stacking height can be selected (per millimeter) between 4mm and 8mm in combination of the receptacle with the header.



| Header \ Receptacle |     | DF17#(□)-*DS-0.5V |       |
|---------------------|-----|-------------------|-------|
|                     |     | 3.0               | 4.0   |
| DF17#(□)-*DP-0.5V   | 2.0 | 5mm               | 6mm   |
|                     | 2.5 | 5.5mm             | 6.5mm |
|                     | 4.0 | 7mm               | 8mm   |

| Receptacle | DF17(3.0H)-*DS-0.5V |
|------------|---------------------|
| Header     | DF17(1.0H)-*DP-0.5V |
|            | 4mm                 |

Note : The stacking height doesn't include the solder paste thickness.

■ Applications

Mobile phones, LCD, miniature equipment and so on

■Product Specifications

|        |                                  |                |                                                         |                                   |                                                     |                                  |
|--------|----------------------------------|----------------|---------------------------------------------------------|-----------------------------------|-----------------------------------------------------|----------------------------------|
| Rating | Current rating<br>Voltage rating | 0.3A<br>50V AC | Operating Temperature Range<br>Operating Humidity Range | -35 to 85°C (Note 1)<br>40 to 80% | Storage Temperature Range<br>Storage Humidity Range | -10 to 60°C(Note 2)<br>40 to 70% |
|--------|----------------------------------|----------------|---------------------------------------------------------|-----------------------------------|-----------------------------------------------------|----------------------------------|

| Item                            | Specification                                                         | Condition                                                                                 |
|---------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 1. Insulation Resistance        | 500M ohms min.                                                        | 100V DC                                                                                   |
| 2. Withstanding voltage         | No flashover or insulation breakdown.                                 | 150V AC/1 minute                                                                          |
| 3. Contact Resistance           | 60m ohms max.                                                         | 100mA                                                                                     |
| 4. Vibration                    | No electrical discontinuity of 1μs or more                            | Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions. |
| 5. Humidity (Steady state)      | Contact resistance: 60m ohms max Insulation resistance:250M ohms min  | 96 hours at temperature of 40°C and humidity of 90% to 95%                                |
| 6. Temperature Cycle            | Contact resistance: 60m ohms max:Insulation resistance: 500M ohms min | (-55°C: 30 minutes 5 to 35°C: 10 minutes 85°C: 30 minutes 5 to 35°C: 10 minutes) 5 cycles |
| 7. Operating Life               | Contact resistance: 60m ohms                                          | 50 cycles                                                                                 |
| 8. Resistance to Soldering heat | No deformation of components affecting performance.                   | Reflow: At the recommended temperature profile<br>Manual soldering: 300°C for 3 seconds   |

Note 1: Includes temperature rise caused by current flow.  
Note 2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers non conducting condition of installed connectors in storage, shipment or during transportation.

■Material

| Product    | Part          | Material        | Finish                | Remarks |
|------------|---------------|-----------------|-----------------------|---------|
| Receptacle | Insulator     | Polyamide       | White                 | UL94V-0 |
|            | Contact       | Phosphor copper | Gold plating (Note 1) | _____   |
|            | Metal Fitting | Phosphor copper | Solder plating        | _____   |
| Header     | Insulator     | Polyamide       | White                 | UL94V-0 |
|            | Contact       | Phosphor copper | Gold plating (Note 2) | _____   |
|            | Metal Fitting | Phosphor copper | Solder plating        | _____   |

Note1: DF17(0.3)-\*DS-0.5V : Contact area: gold plating/lead area: flash gold plating  
DF17(4.0)-\*DS-0.5V : Contact area: gold plating/lead area: solder plating  
DF17(4.0)-\*DP-0.5V : Contact area: gold plating/lead area: solder plating  
Note2: The header gold plated product:Contact area: gold plating/lead area: solder plating  
DF17(1.0H)-\*DS-0.5V only: Contact area: gold plating/lead area: flash gold plating

◆Ordering Information

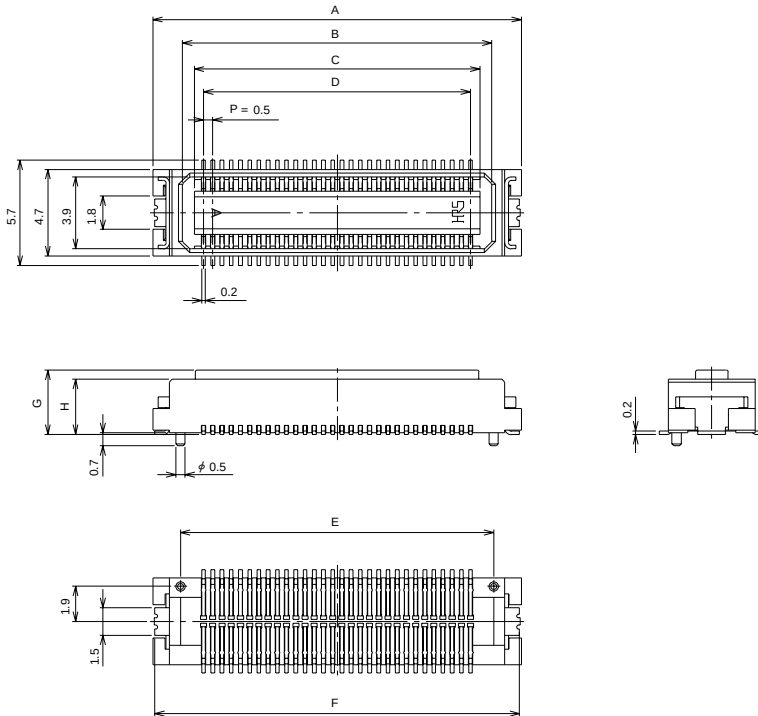
●Receptacle/Header

**DF17**   **#**   **(\*\*)**   -   **\* DS - 0.5 V**   **(\*\*)**

①   ②   ③   ④ ⑤   ⑥ ⑦   ⑧

| ① Series Name: DF17                                                                                                                                                                                                                             | <div>④ Number of Contacts<br/>20,26,30,40,50,6,70,80contacts</div> <div>⑤ Connector Type<br/>DS: Receptacle<br/>DP: Header</div> <div>⑥ Contact Pitch: 0.5mm</div> <div>⑦ Contact Type<br/>V: Straight SMT</div> |                                                                                                    |         |      |      |   |   |       |   |   |       |   |   |       |   |   |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------|------|------|---|---|-------|---|---|-------|---|---|-------|---|---|--|
| ② Type Symbol                                                                                                                                                                                                                                   |                                                                                                                                                                                                                  | ⑧ Packaging Type (50): Gold plating, embossed tape packaging<br>(51): Gold plating, tube packaging |         |      |      |   |   |       |   |   |       |   |   |       |   |   |  |
| <table><tr><th>Symbol</th><th>Fitting</th><th>Boss</th></tr><tr><td>DF17</td><td>○</td><td>○</td></tr><tr><td>DF17A</td><td>×</td><td>○</td></tr><tr><td>DF17B</td><td>○</td><td>×</td></tr><tr><td>DF17C</td><td>×</td><td>×</td></tr></table> |                                                                                                                                                                                                                  | Symbol                                                                                             | Fitting | Boss | DF17 | ○ | ○ | DF17A | × | ○ | DF17B | ○ | × | DF17C | × | × |  |
| Symbol                                                                                                                                                                                                                                          |                                                                                                                                                                                                                  | Fitting                                                                                            | Boss    |      |      |   |   |       |   |   |       |   |   |       |   |   |  |
| DF17                                                                                                                                                                                                                                            | ○                                                                                                                                                                                                                | ○                                                                                                  |         |      |      |   |   |       |   |   |       |   |   |       |   |   |  |
| DF17A                                                                                                                                                                                                                                           | ×                                                                                                                                                                                                                | ○                                                                                                  |         |      |      |   |   |       |   |   |       |   |   |       |   |   |  |
| DF17B                                                                                                                                                                                                                                           | ○                                                                                                                                                                                                                | ×                                                                                                  |         |      |      |   |   |       |   |   |       |   |   |       |   |   |  |
| DF17C                                                                                                                                                                                                                                           | ×                                                                                                                                                                                                                | ×                                                                                                  |         |      |      |   |   |       |   |   |       |   |   |       |   |   |  |
| ③ Product height<br><br>The stacking height can be determined by adding the figures in parentheses to receptacle and header.                                                                                                                    |                                                                                                                                                                                                                  |                                                                                                    |         |      |      |   |   |       |   |   |       |   |   |       |   |   |  |

## ■ Receptacle With metal fitting



### ● Stacking Height: 4mm

| Part Number              | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | F    | G   | H   |
|--------------------------|---------------|--------------------|------|------|------|------|------|------|-----|-----|
| DF17(3.0H)-26DS-0.5V(51) | 683-0253-2-51 | 26                 | 11.5 | 8.3  | 7.0  | 6.0  | 8.5  | 11.3 | 3.0 | 3.0 |
| DF17(3.0H)-30DS-0.5V(51) | 683-0268-0-51 | 30                 | 12.5 | 9.3  | 8.0  | 7.0  | 9.5  | 12.3 |     |     |
| DF17(3.0H)-60DS-0.5V(51) | 683-0361-5-51 | 60                 | 20.0 | 16.8 | 15.5 | 14.5 | 17.0 | 19.8 |     |     |

### ● Stacking Height: 5mm, 7mm

| Part Number             | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | F    | G   | H   |
|-------------------------|---------------|--------------------|------|------|------|------|------|------|-----|-----|
| DF17(3.0)-20DS-0.5V(51) | 683-0002-2-51 | 20                 | 10.0 | 6.8  | 5.5  | 4.5  | 7.0  | 9.8  | 3.5 | 3.0 |
| DF17(3.0)-26DS-0.5V(51) | 683-0241-3-51 | 26                 | 11.5 | 8.3  | 7.0  | 6.0  | 8.5  | 11.3 |     |     |
| DF17(3.0)-30DS-0.5V(51) | 683-0003-5-51 | 30                 | 12.5 | 9.3  | 8.0  | 7.0  | 9.5  | 12.3 |     |     |
| DF17(3.0)-40DS-0.5V(51) | 683-0004-8-51 | 40                 | 15.0 | 11.8 | 10.5 | 9.5  | 12.0 | 14.8 |     |     |
| DF17(3.0)-50DS-0.5V(51) | 683-0005-0-51 | 50                 | 17.5 | 14.3 | 13.0 | 12.0 | 14.5 | 17.3 |     |     |
| DF17(3.0)-60DS-0.5V(51) | 683-0006-3-51 | 60                 | 20.0 | 16.8 | 15.5 | 14.5 | 17.0 | 19.8 |     |     |
| DF17(3.0)-70DS-0.5V(51) | 683-0007-6-51 | 70                 | 22.5 | 19.3 | 18.0 | 17.0 | 19.5 | 22.3 |     |     |
| DF17(3.0)-80DS-0.5V(51) | 683-0008-9-51 | 80                 | 25.0 | 21.8 | 20.5 | 19.5 | 22.0 | 24.8 |     |     |

### ● Stacking Height: 6mm, 8mm

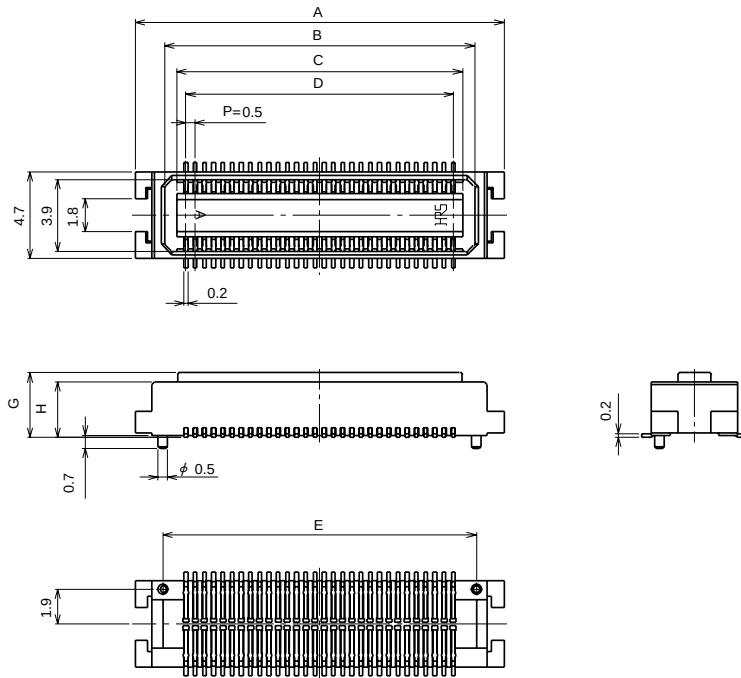
| Part Number             | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | F    | G   | H   |
|-------------------------|---------------|--------------------|------|------|------|------|------|------|-----|-----|
| DF17(4.0)-20DS-0.5V(51) | 683-0042-7-51 | 20                 | 10.0 | 6.8  | 5.5  | 4.5  | 7.0  | 9.8  | 4.5 | 4.0 |
| DF17(4.0)-30DS-0.5V(51) | 683-0043-0-51 | 30                 | 12.5 | 9.3  | 8.0  | 7.0  | 9.5  | 12.3 |     |     |
| DF17(4.0)-40DS-0.5V(51) | 683-0044-2-51 | 40                 | 15.0 | 11.8 | 10.5 | 9.5  | 12.0 | 14.8 |     |     |
| DF17(4.0)-50DS-0.5V(51) | 683-0045-5-51 | 50                 | 17.5 | 14.3 | 13.0 | 12.0 | 14.5 | 17.3 |     |     |
| DF17(4.0)-60DS-0.5V(51) | 683-0046-8-51 | 60                 | 20.0 | 16.8 | 15.5 | 14.5 | 17.0 | 19.8 |     |     |
| DF17(4.0)-70DS-0.5V(51) | 683-0047-0-51 | 70                 | 22.5 | 19.3 | 18.0 | 17.0 | 19.5 | 22.3 |     |     |
| DF17(4.0)-80DS-0.5V(51) | 683-0048-3-51 | 80                 | 25.0 | 21.8 | 20.5 | 19.5 | 22.0 | 24.8 |     |     |

Note 1. In regard to this product, the embossed tape packaging is the standard packaging. (1000 pcs./ reel.)

If the (50) tube packaging is required, please contact HRS company.

Note 2. If the without boss specification is required, please contact HRS sales department.

## ■ Receptacle Without metal fitting



### ● Stacking Height: 4mm

| Part Number               | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | G   | H   |
|---------------------------|---------------|--------------------|------|------|------|------|------|-----|-----|
| DF17A(3.0H)-26DS-0.5V(51) | 683-0254-5-51 | 26                 | 11.5 | 8.3  | 7.0  | 6.0  | 8.5  | 3.0 | 3.0 |
| DF17A(3.0H)-30DS-0.5V(51) | 683-0269-2-51 | 30                 | 12.5 | 9.3  | 8.0  | 7.0  | 9.5  |     |     |
| DF17A(3.0H)-60DS-0.5V(51) | 683-0362-8-51 | 60                 | 20.0 | 16.8 | 15.5 | 14.5 | 17.0 |     |     |

### ● Stacking Height: 5mm, 7mm

| Part Number              | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | G   | H   |
|--------------------------|---------------|--------------------|------|------|------|------|------|-----|-----|
| DF17A(3.0)-20DS-0.5V(51) | 683-0012-6-51 | 20                 | 10.0 | 6.8  | 5.5  | 4.5  | 7.0  | 3.5 | 3.0 |
| DF17A(3.0)-26DS-0.5V(51) | 683-0242-6-51 | 26                 | 11.5 | 8.3  | 7.0  | 6.0  | 8.5  |     |     |
| DF17A(3.0)-30DS-0.5V(51) | 683-0013-9-51 | 30                 | 12.5 | 9.3  | 8.0  | 7.0  | 9.5  |     |     |
| DF17A(3.0)-40DS-0.5V(51) | 683-0014-1-51 | 40                 | 15.0 | 11.8 | 10.5 | 9.5  | 12.0 |     |     |
| DF17A(3.0)-50DS-0.5V(51) | 683-0015-4-51 | 50                 | 17.5 | 14.3 | 13.0 | 12.0 | 14.5 |     |     |
| DF17A(3.0)-60DS-0.5V(51) | 683-0016-7-51 | 60                 | 20.0 | 16.8 | 15.5 | 14.5 | 17.0 |     |     |
| DF17A(3.0)-70DS-0.5V(51) | 683-0017-0-51 | 70                 | 22.5 | 19.3 | 18.0 | 17.0 | 19.5 |     |     |
| DF17A(3.0)-80DS-0.5V(51) | 683-0018-2-51 | 80                 | 25.0 | 21.8 | 20.5 | 19.5 | 22.0 |     |     |

### ● Stacking Height: 6mm, 8mm

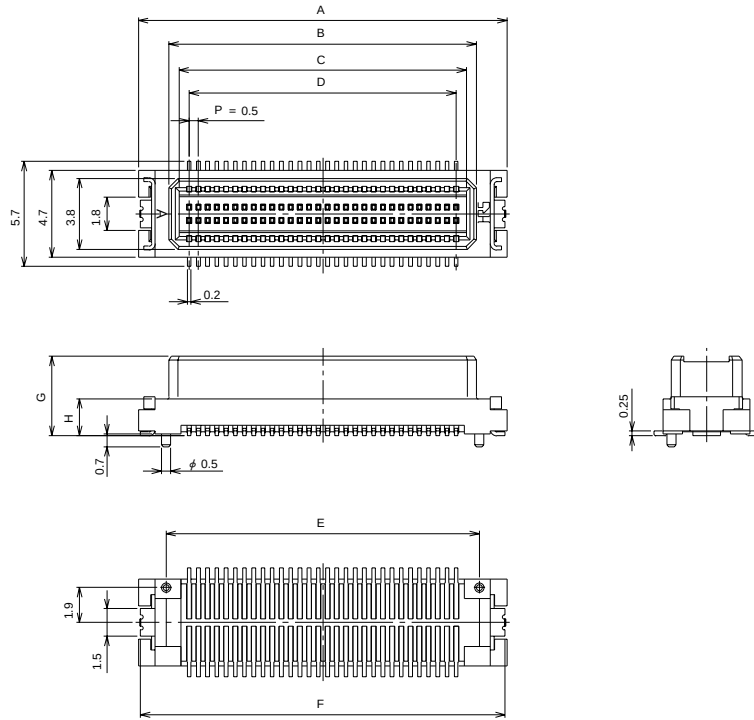
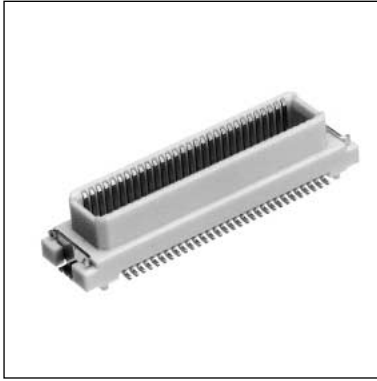
| Part Number              | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | G   | H   |
|--------------------------|---------------|--------------------|------|------|------|------|------|-----|-----|
| DF17A(4.0)-20DS-0.5V(51) | 683-0052-0-51 | 20                 | 10.0 | 6.8  | 5.5  | 4.5  | 7.0  | 4.5 | 4.0 |
| DF17A(4.0)-30DS-0.5V(51) | 683-0053-3-51 | 30                 | 12.5 | 9.3  | 8.0  | 7.0  | 9.5  |     |     |
| DF17A(4.0)-40DS-0.5V(51) | 683-0054-6-51 | 40                 | 15.0 | 11.8 | 10.5 | 9.5  | 12.0 |     |     |
| DF17A(4.0)-50DS-0.5V(51) | 683-0055-9-51 | 50                 | 17.5 | 14.3 | 13.0 | 12.0 | 14.5 |     |     |
| DF17A(4.0)-60DS-0.5V(51) | 683-0056-1-51 | 60                 | 20.0 | 16.8 | 15.5 | 14.5 | 17.0 |     |     |
| DF17A(4.0)-70DS-0.5V(51) | 683-0057-4-51 | 70                 | 22.5 | 19.3 | 18.0 | 17.0 | 19.5 |     |     |
| DF17A(4.0)-80DS-0.5V(51) | 683-0058-7-51 | 80                 | 25.0 | 21.8 | 20.5 | 19.5 | 22.0 |     |     |

Note 1. In regard to this product, the embossed tape packaging is the standard packaging. (1000 pcs./ reel.)

If the (50) tube packaging is required, please contact HRS company.

Note 2. If the without boss specification is required, please contact HRS sales department.

## ■ Header With metal fitting



### ● Stacking Height: 4mm

| Part Number              | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | F    | G   | H   |
|--------------------------|---------------|--------------------|------|------|------|------|------|------|-----|-----|
| DF17(1.0H)-26DP-0.5V(51) | 683-0257-3-51 | 26                 | 11.5 | 8.2  | 7.1  | 6.0  | 8.5  | 11.3 | 3.3 | 1.0 |
| DF17(1.0H)-30DP-0.5V(51) | 683-0272-7-51 | 30                 | 12.5 | 9.2  | 8.1  | 7.0  | 9.5  | 12.3 |     |     |
| DF17(1.0H)-60DP-0.5V(51) | 683-0365-6-51 | 60                 | 20.0 | 16.7 | 15.6 | 14.5 | 17.0 | 19.8 |     |     |

### ● Stacking Height: 5mm, 6mm

| Part Number             | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | F    | G   | H   |
|-------------------------|---------------|--------------------|------|------|------|------|------|------|-----|-----|
| DF17(2.0)-20DP-0.5V(51) | 683-0082-1-51 | 20                 | 10.0 | 6.7  | 5.6  | 4.5  | 7.0  | 9.8  | 4.3 | 2.0 |
| DF17(2.0)-30DP-0.5V(51) | 683-0083-4-51 | 30                 | 12.5 | 9.2  | 8.1  | 7.0  | 9.5  | 12.3 |     |     |
| DF17(2.0)-40DP-0.5V(51) | 683-0084-7-51 | 40                 | 15.0 | 11.7 | 10.6 | 9.5  | 12.0 | 14.8 |     |     |
| DF17(2.0)-50DP-0.5V(51) | 683-0085-0-51 | 50                 | 17.5 | 14.2 | 13.1 | 12.0 | 14.5 | 17.3 |     |     |
| DF17(2.0)-60DP-0.5V(51) | 683-0086-2-51 | 60                 | 20.0 | 16.7 | 15.6 | 14.5 | 17.0 | 19.8 |     |     |
| DF17(2.0)-70DP-0.5V(51) | 683-0087-5-51 | 70                 | 22.5 | 19.2 | 18.1 | 17.0 | 19.5 | 22.3 |     |     |
| DF17(2.0)-80DP-0.5V(51) | 683-0088-8-51 | 80                 | 25.0 | 21.7 | 20.6 | 19.5 | 22.0 | 24.8 |     |     |

### ● Stacking Height: 7mm, 8mm

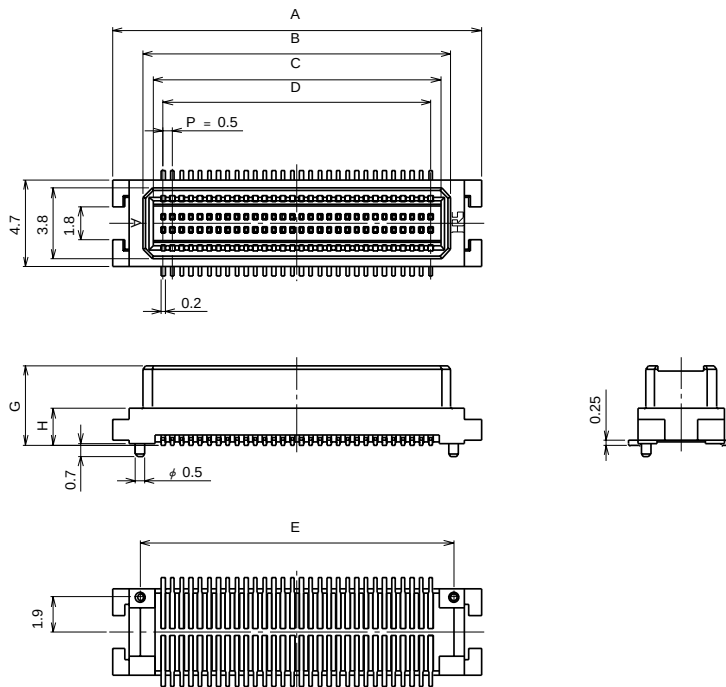
| Part Number             | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | F    | G   | H   |
|-------------------------|---------------|--------------------|------|------|------|------|------|------|-----|-----|
| DF17(4.0)-20DP-0.5V(51) | 683-0122-4-51 | 20                 | 10.0 | 6.7  | 5.6  | 4.5  | 7.0  | 9.8  | 6.3 | 4.0 |
| DF17(4.0)-30DP-0.5V(51) | 683-0123-7-51 | 30                 | 12.5 | 9.2  | 8.1  | 7.0  | 9.5  | 12.3 |     |     |
| DF17(4.0)-40DP-0.5V(51) | 683-0124-0-51 | 40                 | 15.0 | 11.7 | 10.6 | 9.5  | 12.0 | 14.8 |     |     |
| DF17(4.0)-50DP-0.5V(51) | 683-0125-2-51 | 50                 | 17.5 | 14.2 | 13.1 | 12.0 | 14.5 | 17.3 |     |     |
| DF17(4.0)-60DP-0.5V(51) | 683-0126-5-51 | 60                 | 20.0 | 16.7 | 15.6 | 14.5 | 17.0 | 19.8 |     |     |
| DF17(4.0)-70DP-0.5V(51) | 683-0127-8-51 | 70                 | 22.5 | 19.2 | 18.1 | 17.0 | 19.5 | 22.3 |     |     |
| DF17(4.0)-80DP-0.5V(51) | 683-0128-0-51 | 80                 | 25.0 | 21.7 | 20.6 | 19.5 | 22.0 | 24.8 |     |     |

Note 1. In regard to this product, the embossed tape packaging is the standard packaging. (1000 pcs./reel.)

If the (50) tube packaging is required, please contact HRS company.

Note 2. If the without boss specification is required, please contact HRS sales department.

## ■Header Without metal fitting



### ● Stacking Height: 4mm

| Part Number               | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | G   | H   |
|---------------------------|---------------|--------------------|------|------|------|------|------|-----|-----|
| DF17A(1.0H)-26DP-0.5V(51) | 683-0258-6-51 | 26                 | 11.5 | 8.2  | 7.1  | 6.0  | 8.5  | 3.0 | 3.0 |
| DF17A(1.0H)-30DP-0.5V(51) | 683-0273-0-51 | 30                 | 12.5 | 9.2  | 8.1  | 7.0  | 9.5  |     |     |
| DF17A(1.0H)-60DP-0.5V(51) | 683-0366-9-51 | 60                 | 20.0 | 16.7 | 15.6 | 14.5 | 17.0 |     |     |

### ● Stacking Height: 5mm, 6mm

| Part Number              | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | G   | H |
|--------------------------|---------------|--------------------|------|------|------|------|------|-----|---|
| DF17A(2.0)-20DP-0.5V(51) | 683-0092-5-51 | 20                 | 10.0 | 6.7  | 5.6  | 4.5  | 7    | 4.3 | 2 |
| DF17A(2.0)-30DP-0.5V(51) | 683-0093-8-51 | 30                 | 12.5 | 9.2  | 8.1  | 7    | 9.5  |     |   |
| DF17A(2.0)-40DP-0.5V(51) | 683-0094-0-51 | 40                 | 15.0 | 11.7 | 10.6 | 9.5  | 12   |     |   |
| DF17A(2.0)-50DP-0.5V(51) | 683-0095-3-51 | 50                 | 17.5 | 14.2 | 13.1 | 12   | 14.5 |     |   |
| DF17A(2.0)-60DP-0.5V(51) | 683-0096-6-51 | 60                 | 20.0 | 16.7 | 15.6 | 14.5 | 17   |     |   |
| DF17A(2.0)-70DP-0.5V(51) | 683-0097-9-51 | 70                 | 22.5 | 19.2 | 18.1 | 17   | 19.5 |     |   |
| DF17A(2.0)-80DP-0.5V(51) | 683-0098-1-51 | 80                 | 25.0 | 21.7 | 20.6 | 19.5 | 22   |     |   |

### ● Stacking Height: 7mm, 8mm

| Part Number              | CL No.        | Number of Contacts | A    | B    | C    | D    | E    | G   | H |
|--------------------------|---------------|--------------------|------|------|------|------|------|-----|---|
| DF17A(4.0)-20DP-0.5V(51) | 683-0132-8-51 | 20                 | 10.0 | 6.7  | 5.6  | 4.5  | 7    | 6.3 | 4 |
| DF17A(4.0)-30DP-0.5V(51) | 683-0133-0-51 | 30                 | 12.5 | 9.2  | 8.1  | 7    | 9.5  |     |   |
| DF17A(4.0)-40DP-0.5V(51) | 683-0134-3-51 | 40                 | 15.0 | 11.7 | 10.6 | 9.5  | 12   |     |   |
| DF17A(4.0)-50DP-0.5V(51) | 683-0135-6-51 | 50                 | 17.5 | 14.2 | 13.1 | 12   | 14.5 |     |   |
| DF17A(4.0)-60DP-0.5V(51) | 683-0136-9-51 | 60                 | 20.0 | 16.7 | 15.6 | 14.5 | 17   |     |   |
| DF17A(4.0)-70DP-0.5V(51) | 683-0137-1-51 | 70                 | 22.5 | 19.2 | 18.1 | 17   | 19.5 |     |   |
| DF17A(4.0)-80DP-0.5V(51) | 683-0138-4-51 | 80                 | 25.0 | 21.7 | 20.6 | 19.5 | 22   |     |   |

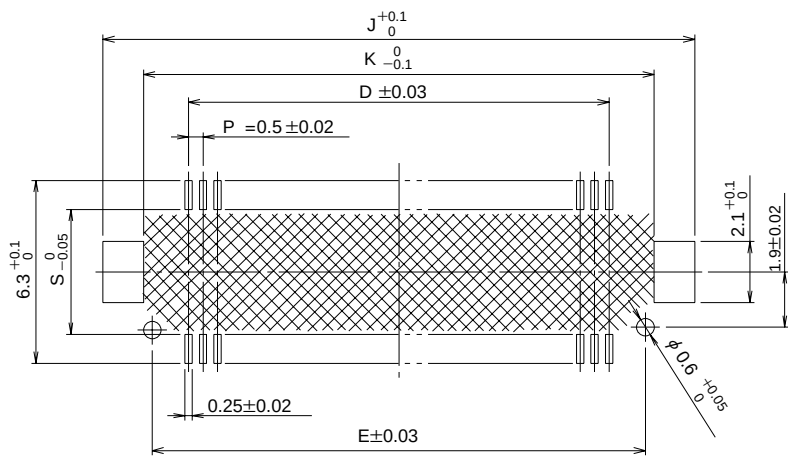
Note 1. In regard to this product, the embossed tape packaging is the standard packaging. (1000 pcs./reel.)

If the (50) tube packaging is required, please contact HRS company.

Note 2. If the without boss specification is required, please contact HRS sales department.

■ PCB mounting pattern with Metal Fitting

- Receptacle
- Header



| Number of Contacts | D    | E    | J    | K    |
|--------------------|------|------|------|------|
| 20                 | 4.5  | 7.0  | 10.4 | 7.6  |
| 30                 | 7.0  | 9.5  | 12.9 | 10.1 |
| 40                 | 9.5  | 12.0 | 15.4 | 12.6 |
| 50                 | 12.0 | 14.5 | 17.9 | 15.1 |
| 60                 | 14.5 | 17.0 | 20.4 | 17.6 |
| 70                 | 17.0 | 19.5 | 22.9 | 20.1 |
| 80                 | 19.5 | 22.0 | 25.4 | 22.6 |

| S            |     |
|--------------|-----|
| ● Receptacle | 4.3 |
| ● Header     | 4   |

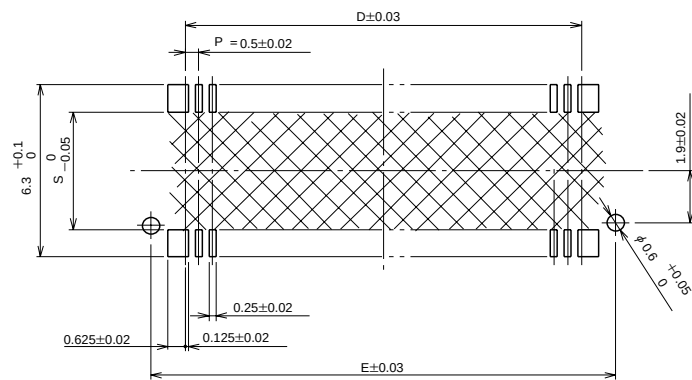
\* The recommended solder paste thickness is 150μm.

- Note 1.  If the pattern is included in the shaded area, and not treated with resist, it could touch the connector contact.
- Note 2. If the boss isn't included, the boss hole shown in the above figure isn't required.



■PCB mounting pattern without Metal Fitting

- Receptacle
- Header



| Number of Contacts | D    | E    |
|--------------------|------|------|
| 20                 | 4.5  | 7.0  |
| 30                 | 7.0  | 9.5  |
| 40                 | 9.5  | 12.0 |
| 50                 | 12.0 | 14.5 |
| 60                 | 14.5 | 17.0 |
| 70                 | 17.0 | 19.5 |
| 80                 | 19.5 | 22.0 |

| S            |     |
|--------------|-----|
| ● Receptacle | 4.3 |
| ● Header     | 4   |

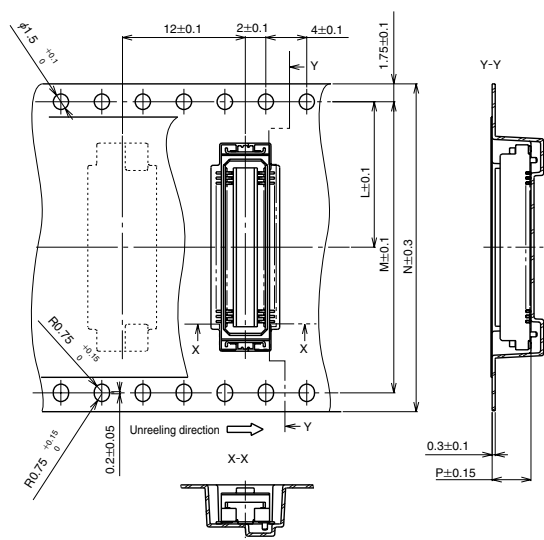
\* The recommended solder paste thickness is 150μm.

- Note 1.  If the pattern is included in the shaded area, and not treated with resist, it could touch the connector contact.
- Note 2. If the boss isn't included, the boss hole shown in the above figure isn't required.

■ Packaging Specification

● Embossed Carrier Tape Dimensions

■ Receptacle



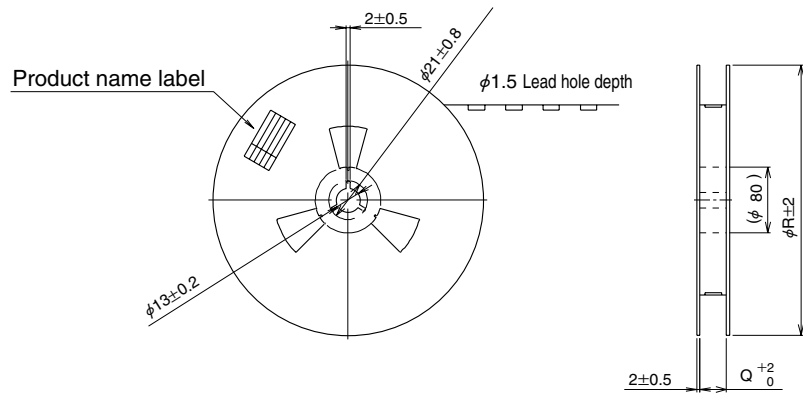
| Connector            | L    | N  | P   | Q    | R   |
|----------------------|------|----|-----|------|-----|
| DF17#(3.0)-20DS-0.5V | 11.5 | 24 | 3.8 | 24.4 | 330 |
| DF17#(3.0)-30DS-0.5V | 11.5 | 24 | 3.8 | 24.4 | 330 |
| DF17#(3.0)-40DS-0.5V | 11.5 | 24 | 3.8 | 24.4 | 330 |

| Connector            | L    | M    | N  | P   | Q    | R   |
|----------------------|------|------|----|-----|------|-----|
| DF17#(3.0)-50DS-0.5V | 14.2 | 28.4 | 32 | 3.8 | 32.4 | 330 |
| DF17#(3.0)-60DS-0.5V | 14.2 | 28.4 | 32 | 3.8 | 32.4 | 330 |
| DF17#(3.0)-70DS-0.5V | 20.2 | 40.4 | 44 | 3.8 | 44.4 | 330 |
| DF17#(3.0)-80DS-0.5V | 20.2 | 40.4 | 44 | 3.8 | 44.4 | 330 |

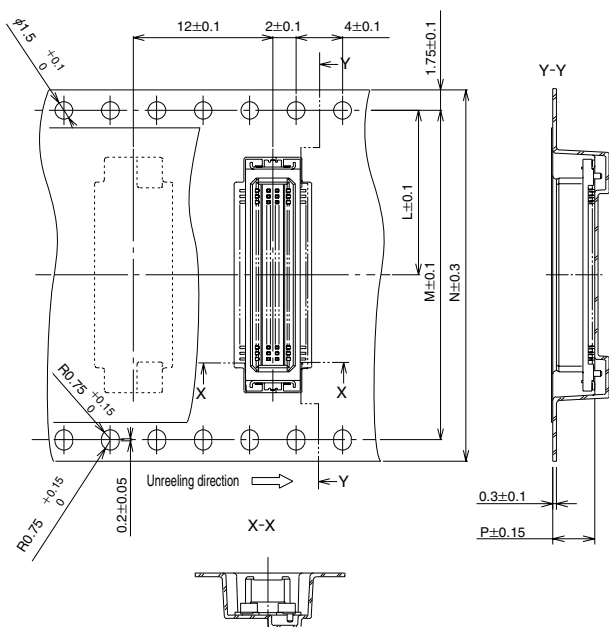
| Connector            | L    | N  | P   | Q    | R   |
|----------------------|------|----|-----|------|-----|
| DF17#(4.0)-20DS-0.5V | 11.5 | 24 | 4.8 | 24.4 | 330 |
| DF17#(4.0)-30DS-0.5V | 11.5 | 24 | 4.8 | 24.4 | 330 |
| DF17#(4.0)-40DS-0.5V | 11.5 | 24 | 4.8 | 24.4 | 330 |

| Connector            | L    | M    | N  | P   | Q    | R   |
|----------------------|------|------|----|-----|------|-----|
| DF17#(4.0)-50DS-0.5V | 14.2 | 28.4 | 32 | 4.8 | 32.4 | 330 |
| DF17#(4.0)-60DS-0.5V | 14.2 | 28.4 | 32 | 4.8 | 32.4 | 330 |
| DF17#(4.0)-70DS-0.5V | 20.2 | 40.4 | 44 | 4.8 | 44.4 | 330 |
| DF17#(4.0)-80DS-0.5V | 20.2 | 40.4 | 44 | 4.8 | 44.4 | 330 |

● Reel Dimensions



■ Header



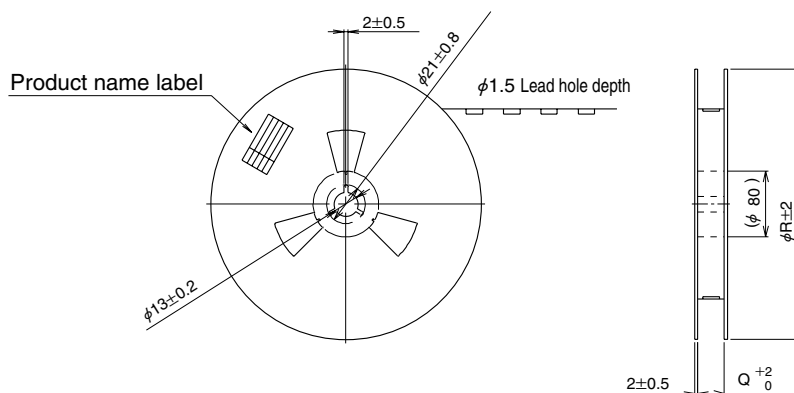
| Connector            | L    | N  | P   | Q    | R   |
|----------------------|------|----|-----|------|-----|
| DF17#(2.0)-20DP-0.5V | 11.5 | 24 | 4.6 | 24.4 | 330 |
| DF17#(2.0)-30DP-0.5V | 11.5 | 24 | 4.6 | 24.4 | 330 |
| DF17#(2.0)-40DP-0.5V | 11.5 | 24 | 4.6 | 24.4 | 330 |

| Connector            | L    | M    | N  | P   | Q    | R   |
|----------------------|------|------|----|-----|------|-----|
| DF17#(2.0)-50DP-0.5V | 14.2 | 28.4 | 32 | 4.6 | 32.4 | 330 |
| DF17#(2.0)-60DP-0.5V | 14.2 | 28.4 | 32 | 4.6 | 32.4 | 330 |
| DF17#(2.0)-70DP-0.5V | 20.2 | 40.4 | 44 | 4.6 | 44.4 | 330 |
| DF17#(2.0)-80DP-0.5V | 20.2 | 40.4 | 44 | 4.6 | 44.4 | 330 |

| Connector            | L    | N  | P   | Q    | R   |
|----------------------|------|----|-----|------|-----|
| DF17#(4.0)-20DP-0.5V | 11.5 | 24 | 6.6 | 24.4 | 380 |
| DF17#(4.0)-30DP-0.5V | 11.5 | 24 | 6.6 | 24.4 | 380 |
| DF17#(4.0)-40DP-0.5V | 11.5 | 24 | 6.6 | 24.4 | 380 |

| Connector            | L    | M    | N  | P   | Q    | R   |
|----------------------|------|------|----|-----|------|-----|
| DF17#(4.0)-50DP-0.5V | 14.2 | 28.4 | 32 | 6.6 | 32.4 | 380 |
| DF17#(4.0)-60DP-0.5V | 14.2 | 28.4 | 32 | 6.6 | 32.4 | 380 |
| DF17#(4.0)-70DP-0.5V | 20.2 | 40.4 | 44 | 6.6 | 44.4 | 380 |
| DF17#(4.0)-80DP-0.5V | 20.2 | 40.4 | 44 | 6.6 | 44.4 | 380 |

## ● Reel Dimensions



■ Precautions for Use

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Recommended Temperature Profile (SMT)        | <div><div><div>Temperature</div><div>250℃</div><div>200℃</div><div>150℃</div><div>100℃</div><div>50℃</div><div>0℃</div></div><div><div>0SSEC</div><div>50SSEC</div><div>100SSEC</div><div>150SSEC</div><div>200SSEC</div><div>Time</div></div><div><div>IR reflow condition</div><div><div>Preheating area</div><div>150℃</div><div>for 100 to 120 seconds</div></div><div><div>Soldering area</div><div>235℃±5℃ for 10 seconds max.</div><div>220℃ min for 10 to 30 seconds</div></div></div><div><div>240℃ max.</div><div>220℃</div><div>Preheating area</div><div>Soldering area</div></div></div> <p>Note 1. Maximum twice action is allowed under the same condition. However, the interval between the first and second actions must be maintained at the room temperature.</p> <p>Note 2. The temperature indicates the board surface temperature of the connector lead area.</p> |
| 2. Recommended Manual Soldering Condition (SMT) | Soldering iron temperature: 290±10℃<br>Soldering time: Within 2 seconds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3. Recommended Screen Thickness (SMT)           | 0.15mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4. Board Warp(SMT)                              | Max 0.2mm in the connector center area, based on the both connector edges                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 5. Cleaning Condition                           | Refer to the "Nylon Connector Use Hand book".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 6. Cautions                                     | <div><div>■ The header is designed in a structure where contacts are exposed. Touching it with bare hands would cause contact failure or electrostatic element damage.</div><div>■ Where no board is mounted, the insertion or extraction will cause damage or contact deformation.</div><div>■ Avoid retaining the board with the connector only, and fix the board by any other means than the connector.</div><div>■ Excessive scoop insertion or extraction may result in damage.</div><div>■ In the manual soldering process, don't carry out the flux coating which will cause a flux blister on the connector.</div><div>■ The color phase of this product may be slightly different from that of the formed product according to the manufacturing lot. However, the difference doesn't affect the performance.</div></div>                                                      |