In case of consideration for using Automotive equipment/device which demand high reliability, kindly contact our sales window correspondents.

**NOTE**

1. The dimensions in parentheses are for reference.
2. Lead co-planarity including reinforced metal fittings shall be 0.1 MAX.
3. To be delivered with tape and reel packages.
4. See attached packaging specifications for details.
5. Note that a protective hole for dark work could be added for improvement.
6. This product satisfies halogen free requirements defined as 900 ppm maximum bromine, 900 ppm maximum chlorine, and 1500 ppm maximum total of chlorine and bromine.

Material of the actuator for 0 pos. is LCP, and the material of other positions is Polyamide.

n represents the number of contacts.
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NOTE (i) Per reel = 5000 connectors.
12 Refer to JIS C 0906 and JEC 00286-3
   (Packaging of components for automatic handling.)
<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>CODE NUMBER</th>
<th>NUMBER OF CONTACTS</th>
<th>DIMENSION OF CONNECTOR, FPC, PCB MOUNTING PATTERN AND STENCIL</th>
<th>DIMENSION OF DRAWING FOR PACKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>FH34SRJ-4S-0.5SH(50)</td>
<td>CL580-1238-7-50</td>
<td>4</td>
<td>A: 4 B: 4.5 C: 1.5 D: 3.53 E: 3.38 F: 3.1 G: 3.9 H: 2.5</td>
<td>J: 16 K: 7.5 L: 17.4 M: 21.4 O: 2</td>
</tr>
<tr>
<td>FH34SRJ-5S-0.5SH(50)</td>
<td>CL580-1264-7-50</td>
<td>5</td>
<td>A: 4.5 B: 2 C: 3.03 D: 3.88 E: 3.6 F: 4.4 G: 3</td>
<td>J: 16 K: 7.5 L: 17.4 M: 21.4 O: 2.5</td>
</tr>
<tr>
<td>FH34SRJ-6S-0.5SH(50)</td>
<td>CL580-1236-1-50</td>
<td>6</td>
<td>A: 5 B: 2.5 C: 3.53 D: 4.38 E: 4.1 F: 4.9 G: 3.5</td>
<td>J: 16 K: 7.5 L: 17.4 M: 21.4 O: 3</td>
</tr>
<tr>
<td>FH34SRJ-7S-0.5SH(50)</td>
<td>CL580-1200-0-50</td>
<td>7</td>
<td>A: 5.5 B: 3 C: 4.03 D: 4.88 E: 4.6 F: 5.4 G: 4</td>
<td>J: 16 K: 7.5 L: 17.4 M: 21.4 O: 3.5</td>
</tr>
<tr>
<td>FH34SRJ-8S-0.5SH(50)</td>
<td>CL580-1231-8-50</td>
<td>8</td>
<td>A: 6 B: 3.5 C: 4.53 D: 5.38 E: 5.1 F: 5.9 G: 4.5</td>
<td>J: 16 K: 7.5 L: 17.4 M: 21.4 O: 4</td>
</tr>
<tr>
<td>FH34SRJ-9S-0.5SH(50)</td>
<td>CL580-1262-1-50</td>
<td>9</td>
<td>A: 6.5 B: 4 C: 5.03 D: 5.88 E: 5.6 F: 6.4 G: 5</td>
<td>J: 16 K: 7.5 L: 17.4 M: 21.4 O: 4.5</td>
</tr>
<tr>
<td>FH34SRJ-14S-0.5SH(50)</td>
<td>CL580-1252-8-50</td>
<td>14</td>
<td>A: 9 B: 6.5 C: 7.53 D: 8.38 E: 8.1 F: 8.9 G: 7.5</td>
<td>J: 24 K: 11.5 L: 25.4 M: 29.4 O: 7</td>
</tr>
<tr>
<td>FH34SRJ-16S-0.5SH(50)</td>
<td>CL580-1259-7-50</td>
<td>16</td>
<td>A: 10 B: 7.5 C: 8.57 D: 9.38 E: 9.1 F: 9.9 G: 8.5</td>
<td>J: 24 K: 11.5 L: 25.4 M: 29.4 O: 8</td>
</tr>
<tr>
<td>FH34SRJ-20S-0.5SH(50)</td>
<td>CL580-1256-9-50</td>
<td>20</td>
<td>A: 12 B: 9.5 C: 10.57 D: 11.38 E: 11.1 F: 11.9 G: 10.5</td>
<td>J: 24 K: 11.5 L: 25.4 M: 29.4 O: 10</td>
</tr>
<tr>
<td>FH34SRJ-22S-0.5SH(50)</td>
<td>CL580-1254-3-50</td>
<td>22</td>
<td>A: 13 B: 10.5 C: 11.57 D: 12.38 E: 12.1 F: 12.9 G: 11.5</td>
<td>J: 24 K: 11.5 L: 25.4 M: 29.4 O: 11</td>
</tr>
<tr>
<td>FH34SRJ-45S-0.5SH(50)</td>
<td>CL580-1265-0-50</td>
<td>45</td>
<td>A: 24.5 B: 22 C: 23.03 D: 23.88 E: 23.6 F: 24.4 G: 23</td>
<td>J: 44 K: 20.2 L: 40.4 M: 45.4 O: 22.5</td>
</tr>
</tbody>
</table>
This connector features small, thin, and back flip design, requiring delicate and careful handling. To prevent connector/PIC breakage and contact failure (mating failure, PIC pattern breakage, etc.), read through the instructions shown below and handle the connector properly.

Each value indicating here are for reference and may differ from standard value.

[Operation and Precautions]

1. Initial condition
   Actuator does not have to be operated before inserting PIC as the connector is delivered with the actuator opened.

   **Caution**
   - Do not close the actuator before inserting PIC.
   - Closing the actuator without PIC could make the contact gap smaller, which could increase the PIC insertion force.
   - Do not insert PIC or operate actuator before mounting.

2. How to insert PIC
   Insert the PIC into the connector opening horizontally to the PCB plane.
   Insert it properly to the very end.

   **Caution**
   - Insert the PIC with the actuator opened.
   - Do not twist the PIC to up and down, right and left, or at an angle.

3. PIC insertion check (for using contacts on the top; for PIC pattern only applicable to FH4SA)
   Incorrect operation modes are presented by visual check comparing positions of housing opening end line and PIC pattern line.

   **Caution**
   - Do not insert the PIC at an angle and/or stop it before insertion is completed.
4. How to lock

- Apply load to rotate the actuator by 90 degree after inserting the EPC.

**Caution:**
- The actuator rotates around the rotational axis as shown below.
- Do not rotate the actuator to the counter direction.
- Operate the actuator by hand without using sharp tool such as Tweezers.
- To close the actuator, operate at the center of the actuator.
- To close the actuator, do not operate the actuator at one end only.
- Do not apply excess force to the housing during the operation.
5. How to unlock

Slowly flip up the actuator to release the lock.

**Caution:**
- The actuator is opened up to the movable limit, 90 degrees.
- Do not open the actuator beyond the specified degree or apply excessive force to the actuator.
- Open the actuator right above.
- Do not attempt to open further or to open it by applying horizontal force as this may cause its damage.
- Please note that the connector is back flip style connector.
- The opening for FPC insertion and the actuator face the opposite direction. Do not try to lift the actuator at the FPC insertion opening side.
- Operate the actuator by hand without using sharp tools such as tweezers.
- To open the actuator, operate at the center of the actuator.
- To open the actuator, do not operate the actuator at one end only.

6. How to remove FPC

After rotating the actuator to the fully opened position, carefully withdraw the FPC in the direction parallel to the PCB mounting surface.

**Caution:**
- For FPC removal, pull out the FPC horizontally without applying stress in vertical and longitudinal directions.
- Do not attempt to pull the FPC without unlocking the actuator.
Precautions for design:

1. During FPC wiring, ensure that stress is not applied directly to the connector. Do not bend the FPC excessively near the connector during use, or it may cause contact failure or FPC breakage. Stabilizing the FPC is recommended.
2. Keep a sufficient FPC insertion space in the stage of the layout in order to avoid incorrect FPC insertion. Appropriate FPC length and component layout are recommended for assembly ease. Too short FPC length makes assembly difficult.
3. Follow the recommended PCB mounting pattern, stencil opening design, and the FPC design.
4. Make adjustments with the FPC manufacturer for FPC bending performance and wire breakage.
5. Keep spaces for the actuator movement and its operation for PCB design and component layout.

FPC routing after connection:

Depending on the FPC routing, a load is applied to the connector, and a contact failure may occur. To prevent a failure, take the following notes into consideration during mechanism design.

Cautions:

Avoid applying forces to FPC in vertical or horizontal directions.
- In addition, avoid pulling or pushing the FPC.
- When fixing FPC after FPC cabling, avoid pulling FPC and route the wire FPC with slack.
- In this regard, the stiffener is parallel to the PCB.
- Do not mount other components touching to the FPC underneath the FPC stiffener.

Instructions for mounting on the PCB:

Wrap of PCB
- Wrap the PCB as much as possible.
- Lead compounding parts containing no leaded metal fittings can be 0.1 mm or less.
- Too much wrap of the PCB may result in a soldering failure.

Flexible board design
- Please make sure to put a stiffener on the backside of the flexible board.
- We recommend a glass epoxy material with the thickness of 0.3 mm.

Load to Connector
- Do not add 0.5N or greater external force when unplug or plug and place the connector etc. or it may get broken.
- In addition, do not insert the FPC or operate the connector before mounting.

Tightening temperature profile
- Apply the temperature profile within the specified conditions.
- In individual applications, the actual temperature may vary depending on solder paste type, volume, thickness, and PCB size/width/thickness.
- Consult your solder paste and equipment manufacturer for specific recommendations.

Instructions for FPC handling after mounting the connector:

Load to PCB
- Breaking a large PCB into several pieces
- Screwing the PCB
- Avoid handling described above so that no force is exerted on the PCB during the assembly process.
- Otherwise, the connector may become defective.

Mount of Wires:
The wrap of a 100mm wide PCB should be 0.5 mm or less. The wrap of PCB suffers stress on connector and the connector may become defective.

Other instructions:

Instructions on manual soldering
- Follow the instructions shown below when soldering the connector manually during repair work etc.
- Do not perform manual soldering with the FPC inserted into the connector.
- Do not heat the connector excessively. Be very careful not to let the soldering iron contact any parts other than connector leads. Otherwise, the connector may be damaged or melted.
- Do not supply excessive solder to the FPC. If excessive solder is supplied to the connector, solder or flux may adhere to the contacts or rotating parts of the actuator, resulting in poor contact or rotation failure of the actuator. Supplying excessive solder to the metal fittings may hinder actuator rotation resulting in breakage of the connector.

<INSTRUCTION MANUAL(4)>
[Recommended reflow temperature profile]

The temperatures mentioned above refer to the PCB surface temperature near the connector leads. In individual applications, the actual temperature may vary, depending on solder paste type, volume/thickness and board size/thickness.

Reflow method: IR reflow
Number of reflow cycles: 2 cycles MAX.

Temperature (°C):
- 25°C (60 sec.)
- 150°C
- 200°C
- 250°C (MAX)
- 250°C
- 200°C
- 150°C

Time (Seconds):
- Preheating: 90 to 120 sec.
- Soldering: 60 sec.