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| DESCRIPTION OF REVISIONS |  | BY | CHKD | DATE | COUNT | DESCRIPTION OF REVISIONS |  | BY | CHKD | DATE |
|--------------------------|--|----|------|------|-------|--------------------------|--|----|------|------|
| △                        |  |    |      |      | △     |                          |  |    |      |      |
| △                        |  |    |      |      | △     |                          |  |    |      |      |

|                     |                             |                           |  |                           |                       |
|---------------------|-----------------------------|---------------------------|--|---------------------------|-----------------------|
| APPLICABLE STANDARD |                             |                           |  |                           |                       |
| RATING              | OPERATING TEMPERATURE RANGE | - 3 5 °C TO 8 5 °C(NOTE1) |  | STORAGE TEMPERATURE RANGE | - 1 0 °C TO 6 0 °C    |
|                     | VOLTAGE                     | 3 0 V A C                 |  | APPLICABLE CONNECTOR      | DF30*-34DP-0. 4V (**) |
|                     | CURRENT                     | 0. 3 A                    |  |                           |                       |

| SPECIFICATIONS                                                    |                                                                                                      |                                                                                                                            |                                       |                                    |                                    |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------------------|------------------------------------|
| ITEM                                                              | TEST METHOD                                                                                          | REQUIREMENTS                                                                                                               | QT                                    | AT                                 |                                    |
| CONSTRUCTION                                                      |                                                                                                      |                                                                                                                            |                                       |                                    |                                    |
| GENERAL EXAMINATION                                               | VISUALLY AND BY MEASURING INSTRUMENT.                                                                | ACCORDING TO DRAWING.                                                                                                      | X                                     | X                                  |                                    |
| MARKING                                                           | CONFIRMED VISUALLY.                                                                                  |                                                                                                                            | X                                     | X                                  |                                    |
| ELECTRICAL CHARACTERISTICS                                        |                                                                                                      |                                                                                                                            |                                       |                                    |                                    |
| CONTACT RESISTANCE                                                | 1 0 0 mA (DC OR 1000 Hz).                                                                            | 1 0 0 mΩ MAX.                                                                                                              | X                                     | -                                  |                                    |
| INSULATION RESISTANCE                                             | 1 0 0 V DC.                                                                                          | 5 0 MΩ MIN.                                                                                                                | X                                     | -                                  |                                    |
| VOLTAGE PROOF                                                     | 1 0 0 V AC FOR 1 min.                                                                                | NO FLASHOVER OR BREAKDOWN.                                                                                                 | X                                     | -                                  |                                    |
| MECHANICAL CHARACTERISTICS                                        |                                                                                                      |                                                                                                                            |                                       |                                    |                                    |
| MECHANICAL OPERATION                                              | 5 0 TIMES INSERTIONS AND EXTRACTIONS.                                                                | ① CONTACT RESISTANCE: 1 0 0 mΩ MAX.<br>② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS.                                         | X                                     | -                                  |                                    |
| VIBRATION                                                         | FREQUENCY 1 0 TO 5 5 Hz, SINGLE AMPLITUDE 0. 7 5 mm, 1 0 CYCLES OF EACH 3 AXIAL DIRECTION FOR 5 min. | ① NO ELECTRICAL DISCONTINUITY OF 1 μs.<br>② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS.                                      | X                                     | -                                  |                                    |
| SHOCK                                                             | 4 9 0 m/s <sup>2</sup> DURATION OF PULSE 1 1 ms AT 3 TIMES FOR 3 DIRECTIONS.                         | ① NO ELECTRICAL DISCONTINUITY OF 1 μs.<br>② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS.                                      | X                                     | -                                  |                                    |
| ENVIRONMENTAL CHARACTERISTICS                                     |                                                                                                      |                                                                                                                            |                                       |                                    |                                    |
| DAMP HEAT (STEADY STATE)                                          | EXPOSED AT 4 0 ± 2 °C, 9 0 TO 9 5 %, 9 6 h.                                                          | ① CONTACT RESISTANCE: 1 0 0 mΩ MAX.<br>② INSULATION RESISTANCE: 2 5 MΩ MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | X                                     | -                                  |                                    |
| RAPID CHANGE OF TEMPERATURE                                       | TEMPERATURE -55→ 5 TO 35→85→ 5 TO 35 °C<br>TIME 30→10 TO 15→30→10 TO 15 min<br>UNDER 5 CYCLES.       | ① CONTACT RESISTANCE: 1 0 0 mΩ MAX.<br>② INSULATION RESISTANCE: 5 0 MΩ MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | X                                     | -                                  |                                    |
| CORROSION SALT MIST                                               | EXPOSED IN 5% SALT WATER SPRAY FOR 48 h.<br>(TEST STANDARD:IEC60068)                                 | ① CONTACT RESISTANCE: 1 0 0 mΩ MAX.<br>② NO HEAVY CORROSION.                                                               | X                                     | -                                  |                                    |
| SULPHUR DIOXIDE                                                   | EXPOSED IN 25 PPM FOR 96h.<br>(TEST STANDARD:IEC60068)                                               | ① CONTACT RESISTANCE: 1 0 0 mΩ MAX.<br>② NO HEAVY CORROSION.                                                               | X                                     | -                                  |                                    |
| REMARKS<br>NOTE1: INCLUDE THE TEMPERATURE RISING BY CURRENT.      |                                                                                                      | DRAWN<br>F.MATSUKI<br>'05.01.28                                                                                            | DESIGNED<br>T. Takahashi<br>'05.01.31 | CHECKED<br>T. Sakata<br>'05.01.31  | APPROVED<br>T. Sakata<br>'05.01.31 |
| Unless otherwise specified, refer to IEC60512.                    |                                                                                                      | RELEASED                                                                                                                   |                                       |                                    |                                    |
| Note QT: Qualification Test AT: Assurance Test X: Applicable Test |                                                                                                      |                                                                                                                            |                                       |                                    |                                    |
| HRS HIROSE ELECTRIC CO., LTD.                                     |                                                                                                      | SPECIFICATION SHEET                                                                                                        |                                       | PART NO.<br>DF30FC-34DS-0. 4V (81) |                                    |
| CODE NO.(OLD)<br>CL                                               | DRAWING NO.<br>ELC4-303465-03                                                                        | CODE NO.<br>CL684-1113-5-81                                                                                                | 1/1                                   |                                    |                                    |

| 1     |                          | 2  |      |          | 3     |                          | 4  |      |      |
|-------|--------------------------|----|------|----------|-------|--------------------------|----|------|------|
| COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE     | COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE |
| 4     | RE-H-06664               | YM | TS   | 04.12.17 |       |                          |    |      | . .  |
|       |                          |    |      |          |       |                          |    |      | . .  |
|       |                          |    |      |          |       |                          |    |      | . .  |

■ NOTES WHEN MATING DF30 SERIES CONNECTORS.

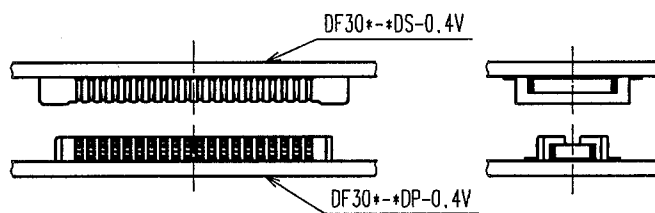


FIGURE-1

PLEASE LOCATE EACH CONNECTOR IN PARALLEL WHEN YOU PUT THEM IN MATING POSITION.

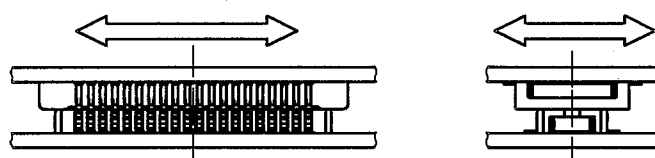


FIGURE-2

THE INSULATOR WILL BE DAMAGED AND THE CONTACTS WILL BE DEFORMED IF THE CONNECTORS ARE LOCATED INCLINED AND MATED BY EXCESSIVE FORCE.

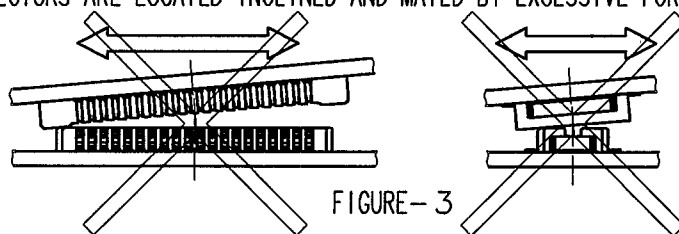


FIGURE-3

WHEN YOU LOCATE TWO CONNECTORS IN A PROPER POSITION, THEY WILL GO DOWN SLIGHTLY AT A LOWER LEVEL AND YOU WILL FIND THAT THEY GET LOCATED CORRECTLY. PLEASE MATE EACH CONNECTOR IN PARALLEL AFTER YOU CONFIRMED THAT THEY GO DOWN LOWER TO SOME EXTENT.

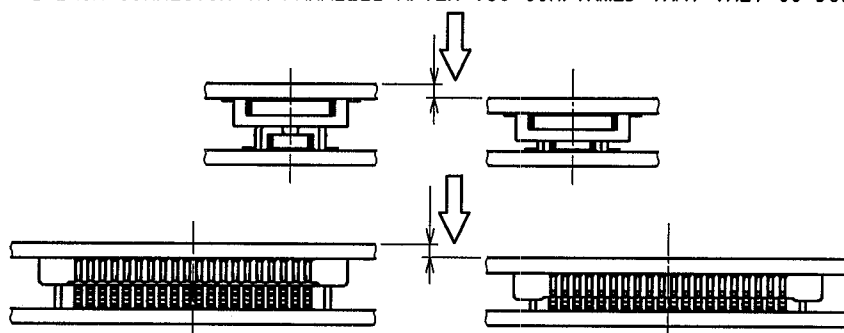


FIGURE-4

THE MATED CONDITIONS CAN BE RELEASED BY A DROP IMPACT OR THE APPLIED FORCE CAUSED BY FPC-HANDLING. FIX THE CONNECTORS BY APPLYING PRESSURE IN THE MATING DIRECTION WITH THE DEVICE OR A BUFFER MATERIAL.

|                             |  |                                |                                     |                                 |                               |          |
|-----------------------------|--|--------------------------------|-------------------------------------|---------------------------------|-------------------------------|----------|
| CODE NO. (OLD)              |  | DRAWN<br>Y.MICHIDA<br>04.12.16 | DESIGNED<br>A.TAKAHASHI<br>04.12.16 | CHECKED<br>T.SAKATA<br>04.12.16 | APPROVED<br>T.OMA<br>04.12.16 | RELEASED |
| NOTES WHEN MATING           |  |                                |                                     |                                 |                               |          |
| DRAWING NO.<br>EDSC4-830174 |  | PART NO.<br>DF30 Series        |                                     |                                 |                               |          |
| SCALE<br>FREE : 1           |  | CODE NO.<br>CL684              |                                     |                                 |                               |          |
| UNITS<br>mm                 |  | 1/3                            |                                     |                                 |                               |          |

| 1     |                          | 2  |      |      | 3     |                          | 4  |      |      |
|-------|--------------------------|----|------|------|-------|--------------------------|----|------|------|
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| △     |                          |    |      |      | △     |                          |    |      | . .  |
| △     |                          |    |      |      | △     |                          |    |      | . .  |
| △     |                          |    |      |      | △     |                          |    |      | . .  |

■ NOTES WHEN EXTRACTING

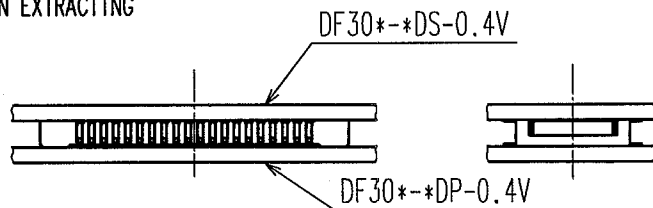


FIGURE-5

WHEN YOU EXTRACT CONNECTORS, PLEASE EXTRACT IN PARALLEL.

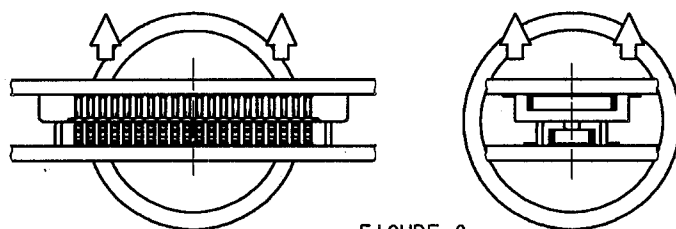


FIGURE-6

⚠ IF YOU'RE UNABLE TO EXTRACT IN PARALLEL DUE TO SET STRUCTURE OR SPACE, PLEASE EXTRACT AS FIGURE-7 (IN LONGER DIMENSION). PLEASE BE CAREFUL NOT TO DAMAGE CONTACTS AT SIDES, WHERE STRESS IS LIKELY TO GATHER WHEN CONNECTORS ARE MOUNTED ON SOFT FPC.

⚠ ESPECIALLY, PLEASE DO NOT EXTRACT FROM THE CORNER AS FIGURE-8. IT GIVES CRITICAL STRESS TO THE CONTACTS ON THE CROSS CORNER.

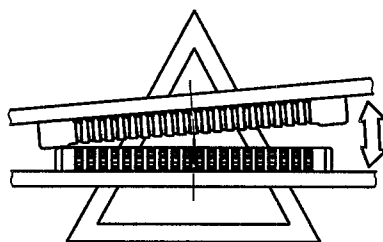


FIGURE-7

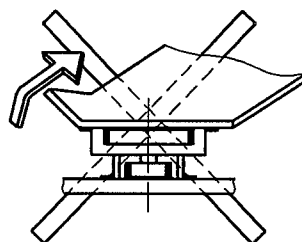


FIGURE-8

⚠ PLEASE DO NOT EXTRACT AS FIGURE-9. THE STRESS CONCENTRATES ON ONE ROW, AND MIGHT DAMAGE CONNECTORS TO MALFUNCTION.

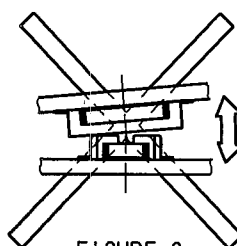


FIGURE-9

|                                                                                                              |  |                                |                                     |                                 |                               |          |
|--------------------------------------------------------------------------------------------------------------|--|--------------------------------|-------------------------------------|---------------------------------|-------------------------------|----------|
| CODE NO. (OLD)                                                                                               |  | DRAWN<br>Y.MICHIDA<br>04.12.16 | DESIGNED<br>A.TAKAHASHI<br>04.12.16 | CHECKED<br>T.SAKATA<br>04.12.16 | APPROVED<br>T.OMA<br>04.12.16 | RELEASED |
| NOTES WHEN EXTRACTING                                                                                        |  |                                |                                     |                                 |                               |          |
| DRAWING NO.<br>EDSC4-830174                                                                                  |  | PART NO.<br>DF30 Series        |                                     |                                 |                               |          |
| UNITS<br>mm                                                                                                  |  | CODE NO.<br>CL684              |                                     |                                 |                               |          |
|  HIROSE ELECTRIC CO.,LTD. |  | 2/3                            |                                     |                                 |                               |          |

| 1 |       |                          |    |      | 2    |   |       | 3                        |    |      | 4    |   |   |
|---|-------|--------------------------|----|------|------|---|-------|--------------------------|----|------|------|---|---|
|   | COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE |   | COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE |   |   |
| △ |       |                          |    |      |      | △ |       |                          |    |      |      | . | . |
| △ |       |                          |    |      |      | △ |       |                          |    |      |      | . | . |
| △ |       |                          |    |      |      | △ |       |                          |    |      |      | . | . |

⚠ WHEN FPC IS SOFT, STRESS IS CONCENTRATED ON THE CONTACTS AT CORNERS.  
 PLEASE PAY ATTENTION TO THIS POINT AND DO NOT UNMATE CONNECTORS FROM CORNERS AS FIGURE-10.  
 THIS GIVES SERIOUS DAMAGE ON CONTACTS, AND OCCURS SOLDER PEEL-OFF OR CONTACT COME-OFF.

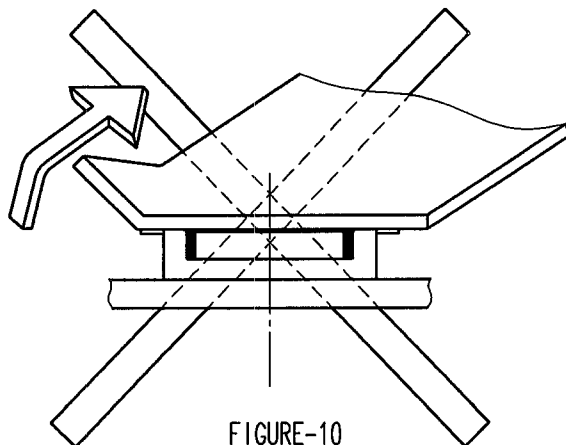


FIGURE-10

IF YOU MOUNT PLUG CONNECTOR ON FPC, CONTACTS MIGHT COME OFF FROM HOUSING MOLD.

CONTACT MIGHT COME OFF FROM HOUSING MOLD.

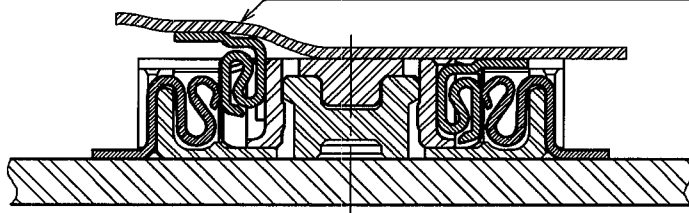


FIGURE-11

IN CASE YOU MOUNT RECEPTACLE CONNECTOR ON FPC, THERE IS NO RISK OF CONTACT COME-OFF.  
 HIROSE RECOMMEND THAT RECEPTACLE IS MOUNTED ON FPC.

IN ORDER TO AVOID THIS RISK, IT IS RECOMMENDED  
 THAT YOU MOUNT RECEPTACLE CONNECTOR ON FPC.

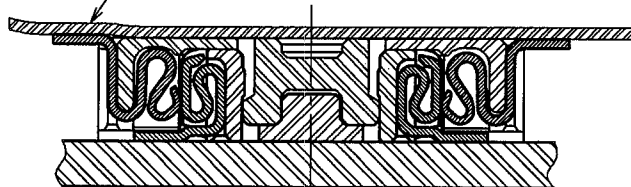


FIGURE-12

|                                            |  |                          |             |          |          |          |
|--------------------------------------------|--|--------------------------|-------------|----------|----------|----------|
| CODE NO. (OLD)                             |  | DRAWN                    | DESIGNED    | CHECKED  | APPROVED | RELEASED |
|                                            |  | Y.MICHIDA                | A.TAKAHASHI | T.SAKATA | T.OMA    |          |
| NOTES WHEN EXTRACTING (SUPPLEMENTARY DATA) |  | 04.12.16                 | 04.12.16    | 04.12.16 | 04.12.16 |          |
| DRAWING NO.<br>EDSC4-830174                |  | PART NO.<br>DF30 Series  |             |          |          |          |
| SCALE<br>FREE : 1                          |  | CODE NO.<br>CL684        |             |          |          |          |
| UNITS<br>mm                                |  | 3/3                      |             |          |          |          |
| HRS                                        |  | HIROSE ELECTRIC CO.,LTD. |             |          |          |          |

FORM NO. 228