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TO

| DESCRIPTION OF REVISIONS | | BY | CHKD | DATE | COUNT | DESCRIPTION OF REVISIONS | | BY | CHKD | DATE |
|---|-----------------------------|--|------|----------|--|--------------------------|-----------|----------|------|------|
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| △ | | | | | △ | | | | | |
| 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*-20DP-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. ② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | | | X | - | |
| VIBRATION | | FREQUENCY 1 0 TO 5 5 Hz, SINGLE AMPLITUDE 0.75 mm, 1 0 CYCLES OF EACH 3 AXIAL DIRECTION FOR 5 min. | | | ① NO ELECTRICAL DISCONTINUITY OF 1 μs. ② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | | | X | - | |
| SHOCK | | 4 9 0 m/s ² DURATION OF PULSE 1 1 ms AT 3 TIMES FOR 3 DIRECTIONS. | | | ① NO ELECTRICAL DISCONTINUITY OF 1 μs. 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. ② INSULATION RESISTANCE: 2 5 MΩ MIN. ③ NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | | | X | - | |
| RAPID CHANGE OF TEMPERATURE | | TEMPERATURE -55→ 5 TO 35→85→ 5 TO 35 °C TIME 30→10 TO 15→30→10 TO 15 min UNDER 5 CYCLES. | | | ① CONTACT RESISTANCE: 1 0 0 mΩ MAX. ② INSULATION RESISTANCE: 5 0 MΩ MIN. ③ NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | | | X | - | |
| CORROSION SALT MIST | | EXPOSED IN 5% SALT WATER SPRAY FOR 48 h. (TEST STANDARD:IEC60068) | | | ① CONTACT RESISTANCE: 1 0 0 mΩ MAX. ② NO HEAVY CORROSION. | | | X | - | |
| SULPHUR DIOXIDE | | EXPOSED IN 25 PPM FOR 96h. (TEST STANDARD:IEC60068) | | | ① CONTACT RESISTANCE: 1 0 0 mΩ MAX. ② NO HEAVY CORROSION. | | | X | - | |
| REMARKS | | | | DRAWN | DESIGNED | CHECKED | APPROVED | RELEASED | | |
| NOTE1: INCLUDE THE TEMPERATURE RISING BY CURRENT. | | | | T.Nishi | K. Misonokawa | S. Yamada | S. Yamada | | | |
| Unless otherwise specified, refer to IEC60512. | | | | 04.06.11 | 04.06.11 | 04.06.11 | 04.06.11 | | | |
| Note QT: Qualification Test AT: Assurance Test X: Applicable Test | | | | | | | | | | |
| HRS HIROSE ELECTRIC CO., LTD. | | SPECIFICATION SHEET | | | PART NO. DF30FC-20DS-0.4V(81) | | | | | |
| CODE NO.(OLD) | | DRAWING NO. | | | CODE NO. | | | 1/1 | | |
| CL | | ELC4-303461-04 | | | CL684-1109-8-81 | | | | | |

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| 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 | △ | | | . . |
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■ NOTES WHEN MATING DF30 SERIES CONNECTORS.

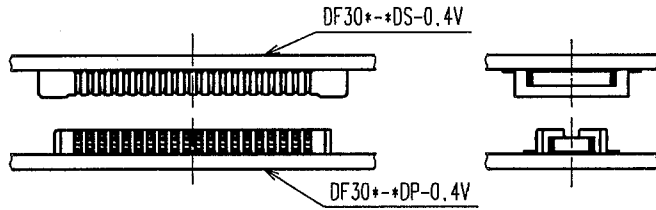


FIGURE-1

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

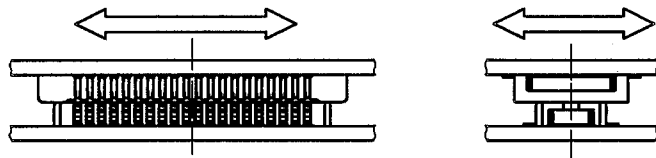


FIGURE-2

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

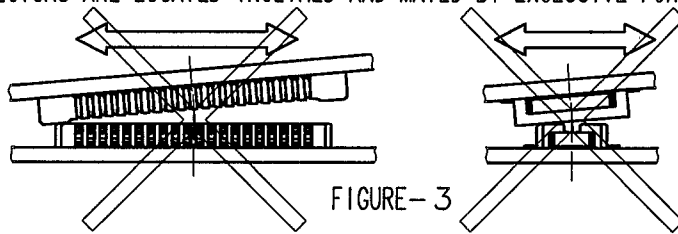


FIGURE-3

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.

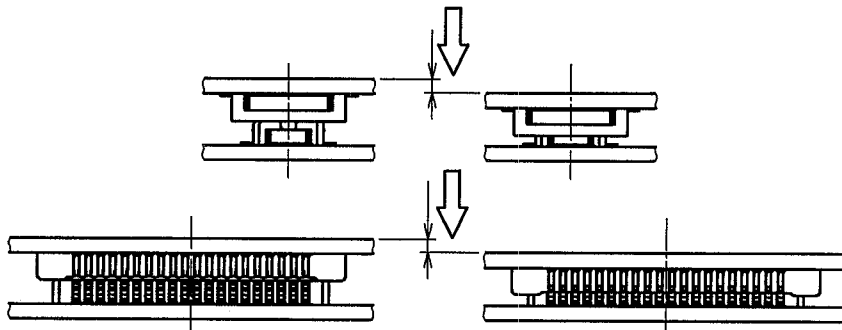


FIGURE-4

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 | DESIGNED | CHECKED | APPROVED | RELEASED |
| | | Y.MICHIDA | A.TAKAHASHI | T.SAKATA | T.OMA | |
| NOTES WHEN MATING | | 04.12.16 | 04.12.16 | 04.12.16 | 04.12.16 | |
| SCALE FREE : 1 UNITS mm | DRAWING NO. | PART NO. | | | | |
| | EDSC4-830174 | DF30 Series | | | | |
| HRS HIROSE ELECTRIC CO.,LTD. | CODE NO. | | | | | |
| | CL684 | | | | 1/3 | |

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■ NOTES WHEN EXTRACTING

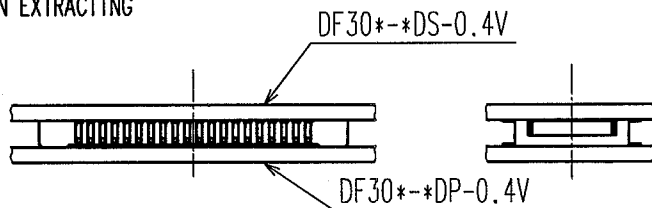


FIGURE-5

WHEN YOU EXTRACT CONNECTORS, PLEASE EXTRACT IN PARALLEL.

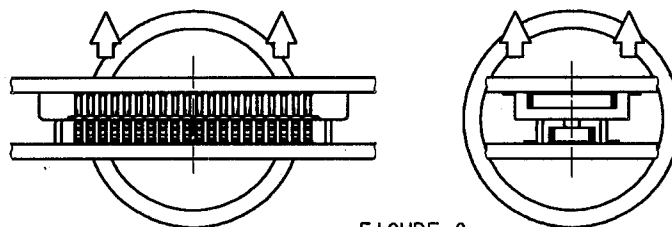


FIGURE-6

⚠ 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.

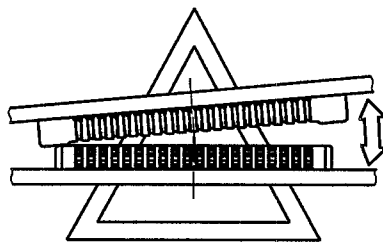


FIGURE-7

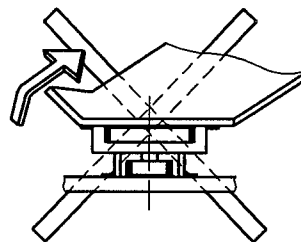


FIGURE-8

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

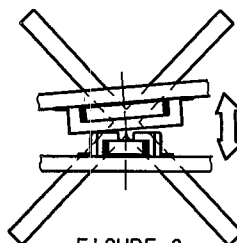


FIGURE-9

| | | | | | | |
|--------------------------------|-------------------------------------|-------------|-------------|----------|----------|----------|
| CODE NO. (OLD) | | DRAWN | DESIGNED | CHECKED | APPROVED | RELEASED |
| | | Y.MICHIDA | A.TAKAHASHI | T.SAKATA | T.OMA | |
| NOTES WHEN EXTRACTING | | 04.12.16 | 04.12.16 | 04.12.16 | 04.12.16 | |
| SCALE FREE : 1 UNITS mm | DRAWING NO. | PART NO. | | | | |
| | EDSC4-830174 | DF30 Series | | | | |
| | HRS HIROSE ELECTRIC CO.,LTD. | CODE NO. | CL684 | 2/3 | | |

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| △ | | | | | △ | | | | . . | |

⚠ 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.

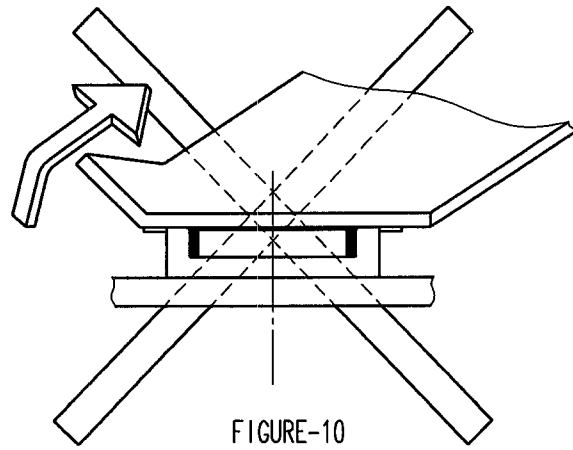


FIGURE-10

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

CONTACT MIGHT COME OFF FROM HOUSING MOLD.

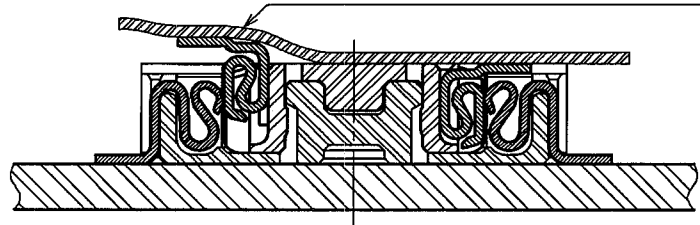


FIGURE-11

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.

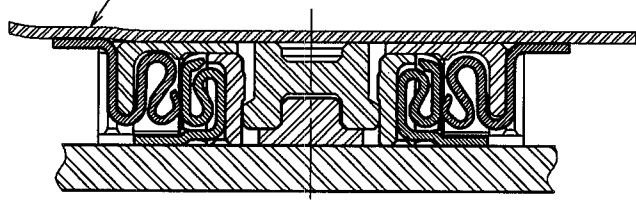


FIGURE-12

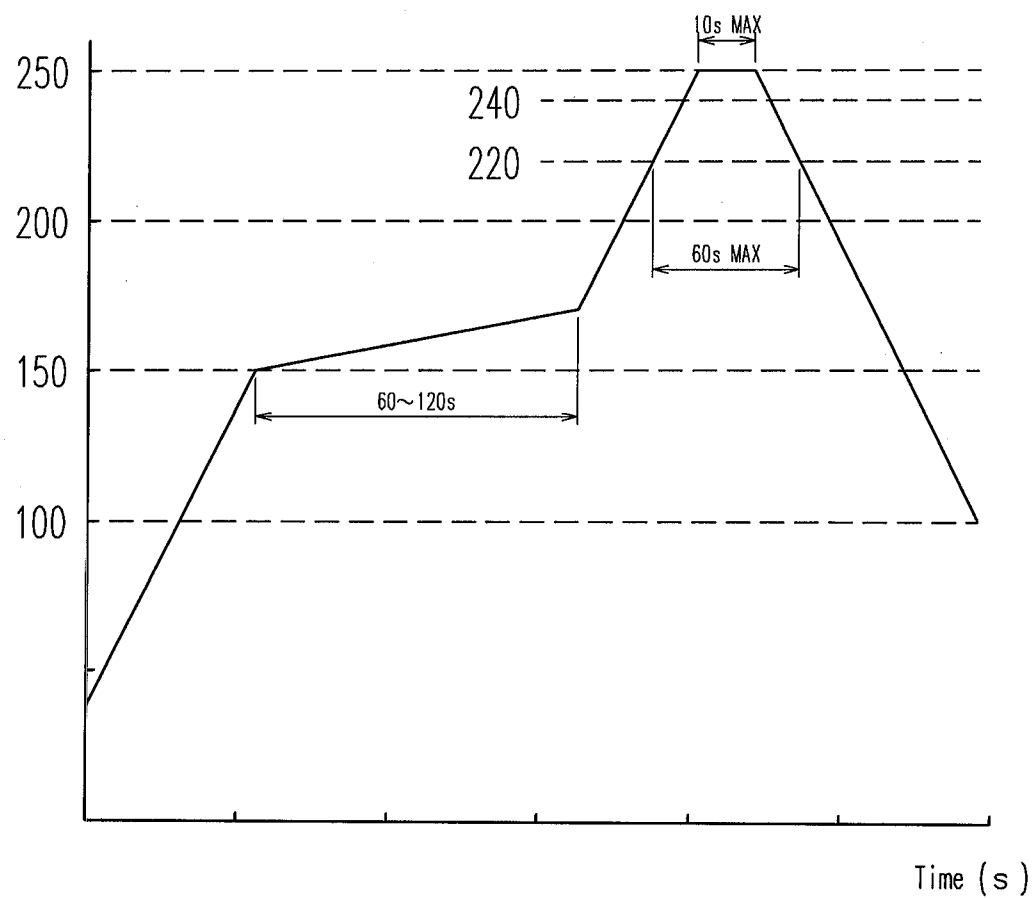
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|--|--------------|-----------|-------------|----------|--------------|----------|
| CODE NO. (OLD) | | DRAWN | DESIGNED | CHECKED | APPROVED | RELEASED |
| | | Y.MICHIDA | A.TAKAHASHI | T.SAKATA | T.OMA | |
| NOTES WHEN EXTRACTING (SUPPLEMENTARY DATA)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



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| △ | | | | | △ | | | | .. | | |

Temperatuer (°C)



NOTE 1.REFLOW SYSTEM : IR REFLOW (AIR OR N₂ GAS)
2.PERFORMING REFLOW : TWICE MAX

| NO. | MATERIAL | FINISH, REMARKS | NO. | MATERIAL | FINISH, REMARKS |
|----------------|----------|-----------------|------------------|-----------|-----------------|
| CODE NO. (OLD) | | | DRAWN | DESIGNED | CHECKED |
| | | | T.NISHI | W.Fukuchi | J. Jomika |
| | | | 03.08.19 | 03.08.19 | 03.08.20 |
| | | | | | APPROVED |
| | | | | | J. Ona |
| | | | | | RELEASED |
| | | | | | |
| DRAWING NO. | | | PART NO. | | |
| EDC4-830116 | | | DF30-*DS/DP-0.4V | | |
| SCALE | | | CODE NO. | | |
| FREE | | | CL684 | | |
| UNITS | | | | | |
| mm | | | | | |

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