

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

| DESCRIPTION OF REVISIONS | BY | CHKD | DATE | COUNT | DESCRIPTION OF REVISIONS | BY | CHKD | DATE |
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| APPLICABLE STANDARD | | OPERATING TEMPERATURE RANGE | STORAGE TEMPERATURE RANGE |
|---------------------|---------|-----------------------------|---------------------------|
| | | - 3 5 °C TO 8 5 °C(NOTE1) | - 1 0 °C TO 6 0 °C |
| RATING | VOLTAGE | 3 0 V A C | 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. 7 5 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. Unless otherwise specified, refer to IEC60512. | <i>T. Nishi</i> 04.06.11 | <i>K. Nakabayashi</i> 04.06.11 | <i>S. Yamada</i> 04.06.11 | <i>S. Yamada</i> 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. | ELC4-303461-04 | CODE NO. | CL684-1109-8-81 |
| CL | | | | 1/1 |

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| 4 | RE-H-06664 | Y.M | T.S | 04.12.17 | | | | | .. |
| | | | | | | | | | .. |
| | | | | | | | | | .. |

■ NOTES WHEN MATING DF30 SERIES CONNECTORS.

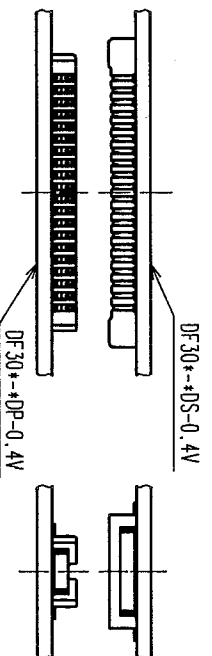


FIGURE - 1

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

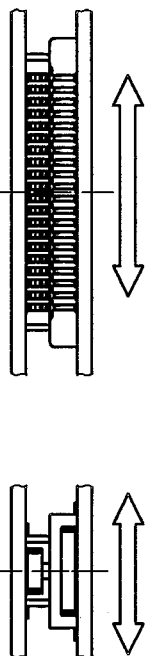


FIGURE - 2

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

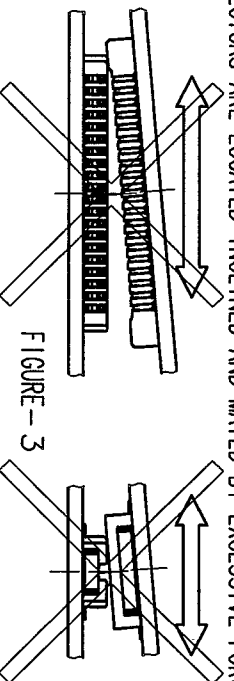


FIGURE - 3

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.

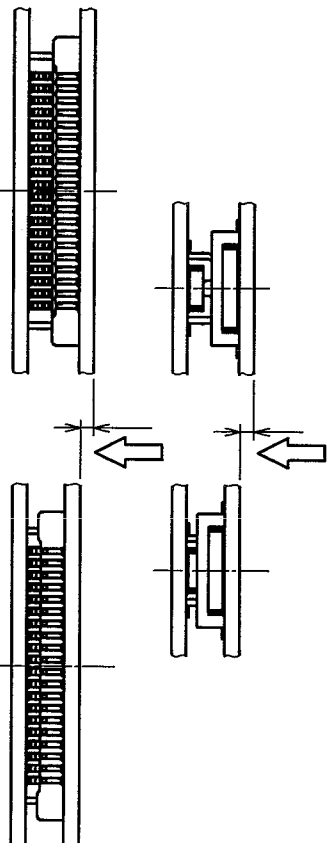


FIGURE - 4

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

CODE NO. (OLD)

DRAWN

Y.MICHIDA

DESIGNED

A.TAKAHASHI

CHECKED

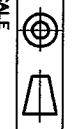
T.SAKATA

APPROVED

T.OMA

RELEASED

NOTES WHEN MATING



DRAWING NO.

EDSC4-830174

PART NO.

DF30 Series

SCALE

FREE : 1

UNITS

mm

CODE NO.

CL684

TO

1

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3

4

HRS

HIROSE ELECTRIC CO.,LTD.

1/3



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■ NOTES WHEN EXTRACTING

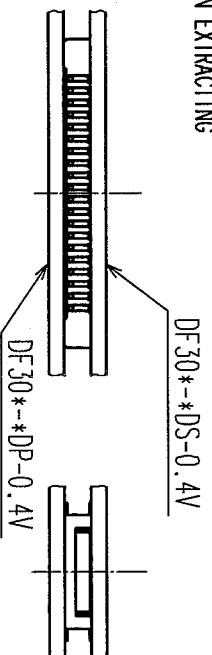


FIGURE-5

WHEN YOU EXTRACT CONNECTORS, PLEASE EXTRACT IN PARALLEL.

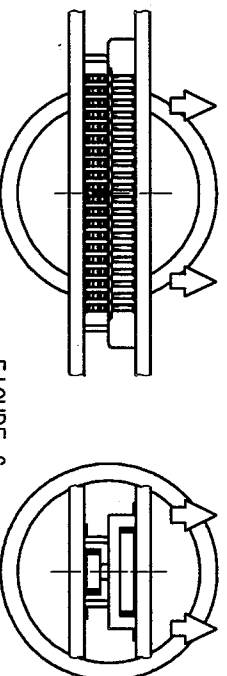


FIGURE-6

△ 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.

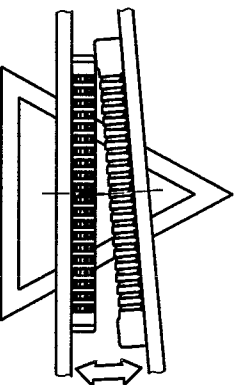


FIGURE-7

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

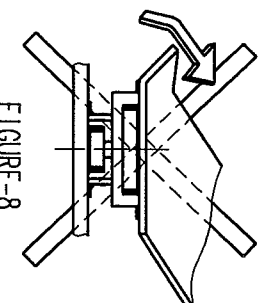


FIGURE-8

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

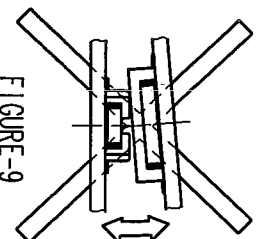
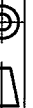


FIGURE-9

CODE NO. (OLD)

| NOTES WHEN EXTRACTING | DRAWN | DESIGNED | CHECKED | APPROVED | RELEASED |
|-----------------------|------------------------|--------------------------|-----------------------|--------------------|----------|
| | Y. MICHIDA 04.12.16 | A. TAKAHASHI 04.12.16 | T. SAKATA 04.12.16 | T. OMA 04.12.16 | |



SCALE
FREE : 1
UNITS
mm

DRAWING NO.
EDSC4-830174

PART NO.

DF30 Series

HRS

HIROSE ELECTRIC CO., LTD.

CODE NO.

CL684

TO

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|-------|--------------------------|---------|------|
| COUNT | DESCRIPTION OF REVISIONS | BY CHKO | DATE |
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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.

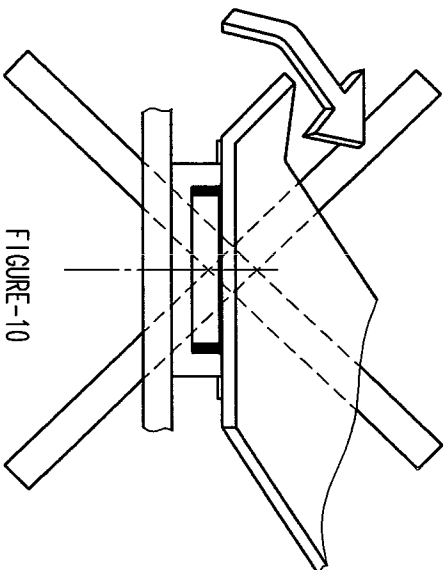


FIGURE-10

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

CONTACT MIGHT COME OFF FROM HOUSING MOLD.

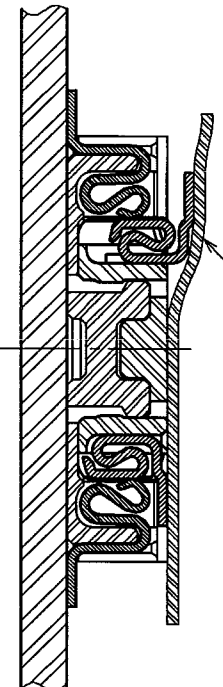


FIGURE-11

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.

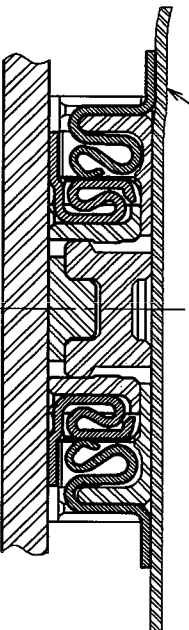


FIGURE-12

CODE NO. (OLD)

DRAWN

DESIGNED

CHECKED

APPROVED

RELEASED

NOTES WHEN EXTRACTING (SUPPLEMENTARY DATA)

Y. MICHIDA
04.12.16

A. TAKAHASHI
04.12.16

T. SAKATA
04.12.16

T. OMA
04.12.16

DRAWING NO.

PART NO.

EDSC4-830174

DF30 Series

SCALE
FREE : 1

UNITS
mm

HRS

HIROSE ELECTRIC CO., LTD.

CODE NO.

CL684

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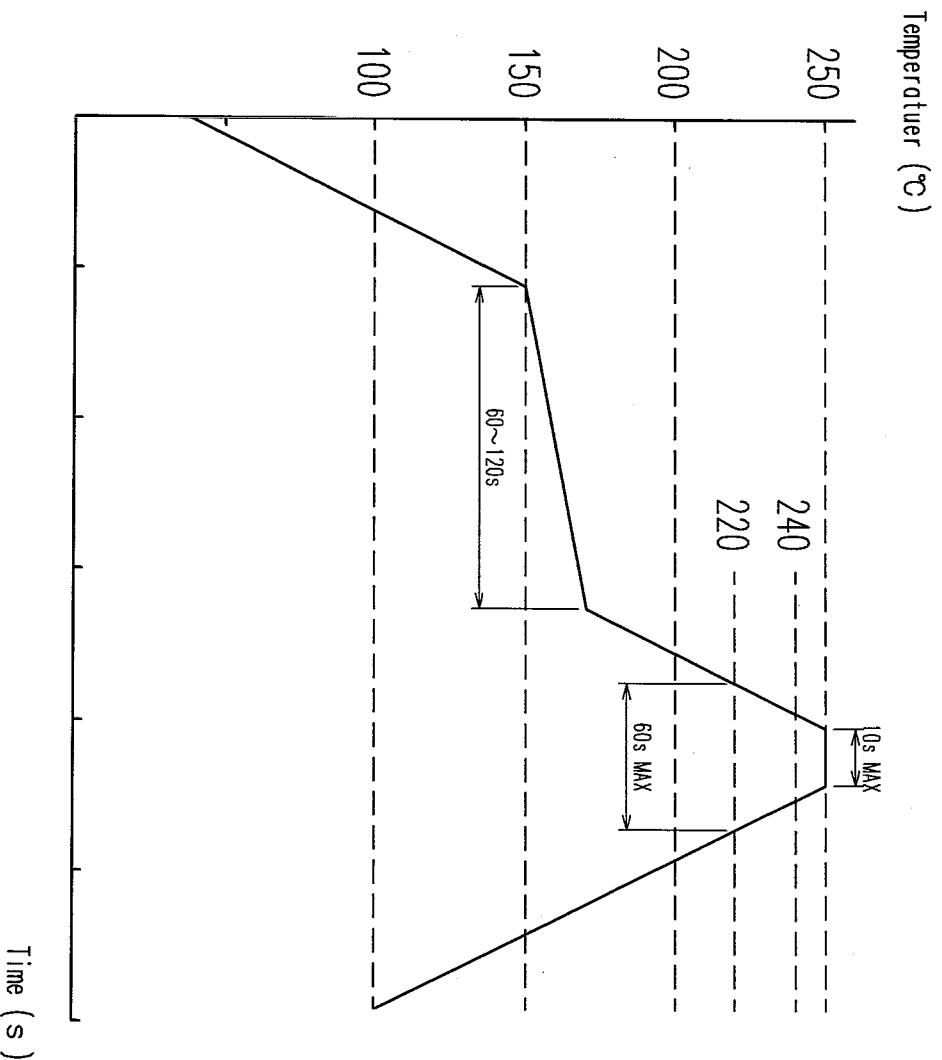
FORM NO. 228

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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) | | | |
| RECOMMENDED TEMPERATURE PROFILE | | DRAWN | DESIGNED |
| | | T. NISHI 03.08.19 | W. Takahashi 03.08.19 |
| | | CHECKED | APPROVED |
| | | <i>[Signature]</i> 03.08.20 | T. Ono 03.08.20 |
| | | RELEASED | |
| | | | |
| DRAWING NO. EDC4-830116 | | PART NO. DF30-*DS/DP-0.4V | |
| SCALE FREE | | CODE NO. | |
| UNITS mm | | CL684 | |
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| 3 | | 4 | |

