May.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.
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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| △ | | | | | | △ | | | | | |
| △ | | | | | | △ | | | | | |

| APPLICABLE STANDARD | | | | |
|---|---|---|---|---|
| RATING | OPERATING TEMPERATURE RANGE | −35 °C TO 85 °C(NOTE1) | STORAGE TEMPERATURE RANGE | −10 °C TO 60 °C |
| | VOLTAGE | 30 V AC | APPLICABLE CONNECTOR | DF30*-70DP-0.4V(**) |
| | CURRENT | 0.3 A | | |

# SPECIFICATIONS

| ITEM | TEST METHOD | REQUIREMENTS | QT | AT |
|---|---|---|---|---|
| **CONSTRUCTION** | | | | |
| GENERAL EXAMINATION | VISUALLY AND BY MEASURING INSTRUMENT. | ACCORDING TO DRAWING. | × | × |
| MARKING | CONFIRMED VISUALLY. | | × | × |
| **ELECTRICAL CHARACTERISTICS** | | | | |
| CONTACT RESISTANCE | 100 mA (DC OR 1000 Hz). | 100 mΩ MAX. | × | — |
| INSULATION RESISTANCE | 100 V DC. | 50 MΩ MIN. | × | — |
| VOLTAGE PROOF | 100 V AC FOR 1 min. | NO FLASHOVER OR BREAKDOWN. | × | — |
| **MECHANICAL CHARACTERISTICS** | | | | |
| MECHANICAL OPERATION | 50 TIMES INSERTIONS AND EXTRACTIONS. | ① CONTACT RESISTANCE: 100 mΩ MAX.<br>② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | × | — |
| VIBRATION | FREQUENCY 10 TO 55 Hz, SINGLE AMPLITUDE 0.75 mm, 10 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. | × | — |
| SHOCK | 490 $m/s^2$ DURATION OF PULSE 11 ms AT 3 TIMES FOR 3 DIRECTIONS. | ① NO ELECTRICAL DISCONTINUITY OF 1 μs.<br>② NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | × | — |
| **ENVIRONMENTAL CHARACTERISTICS** | | | | |
| DAMP HEAT (STEADY STATE) | EXPOSED AT 40±2 °C, 90 TO 95 %, 96 h. | ① CONTACT RESISTANCE: 100 mΩ MAX.<br>② INSULATION RESISTANCE: 25 MΩ MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | × | — |
| 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: 100 mΩ MAX.<br>② INSULATION RESISTANCE: 50 MΩ MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS, OF PARTS. | × | — |
| CORROSION SALT MIST | EXPOSED IN 5% SALT WATER SPRAY FOR 48 h.<br>(TEST STANDARD:IEC60068) | ① CONTACT RESISTANCE: 100 mΩ MAX.<br>② NO HEAVY CORROSION. | × | — |
| SULPHUR DIOXIDE | EXPOSED IN 25 PPM FOR 96h.<br>(TEST STANDARD:IEC60068) | ① CONTACT RESISTANCE: 100 mΩ MAX.<br>② NO HEAVY CORROSION. | × | — |

REMARKS
NOTE1: INCLUDE THE TEMPERATURE RISING BY CURRENT.

Unless otherwise specified, refer to IEC60512.

| DRAWN | DESIGNED | CHECKED | APPROVED | RELEASED |
|---|---|---|---|---|
| F.MATSUKI '05.01.28 | '05.01.31 | '05.01.31 | '05.01.31 | |

Note QT: Qualification Test AT: Assurance Test ×: Applicable Test

| HRS HIROSE ELECTRIC CO., LTD. | SPECIFICATION SHEET | PART NO. DF30FC-70DS-0.4V(81) |
|---|---|---|

| CODE NO.(OLD) | DRAWING NO. | CODE NO. | |
|---|---|---|---|
| CL | ELC4-303467-03 | CL684-1115-0-81 | 1/1 |

FORM No.231-1

| TO |
|---|
| |
| |
| |
| |

NC

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

■NOTES WHEN MATING DF30 SERIES CONNECTORS.

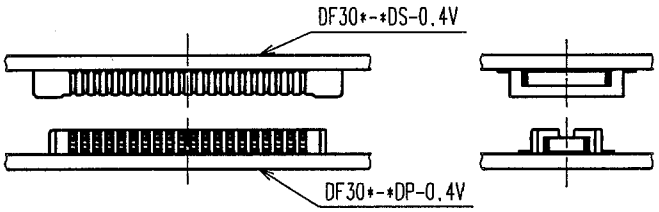



FIGURE-1

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

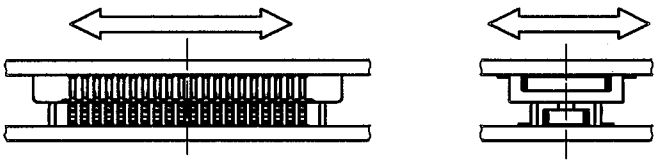


FIGURE-2

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

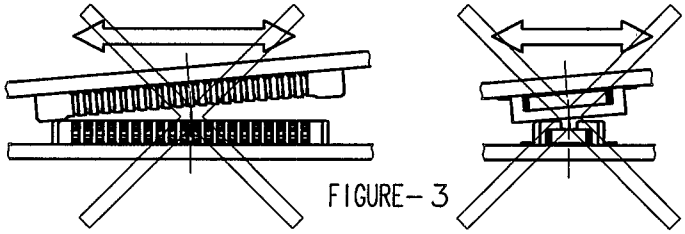


FIGURE-3

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

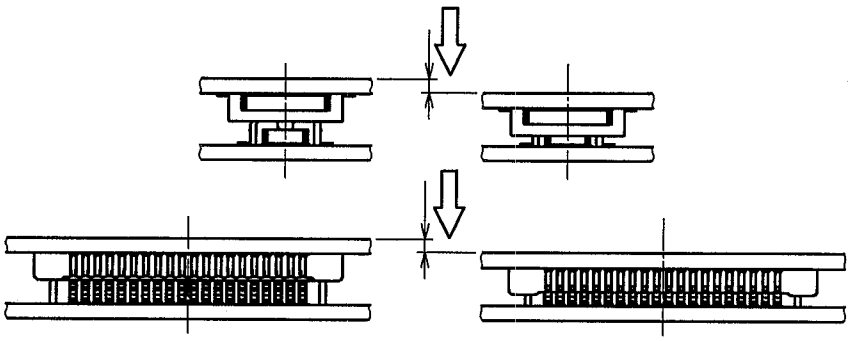


FIGURE-4

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 DEVISE OR A BUFFER MATERIAL.

| CODE NO.(OLD) | DRAWN | DESIGNED | CHECKED | APPROVED | RELEASED |
|---|---|---|---|---|---|
| NOTES WHEN MATING | 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 |

1/3

FORM NO.228

TO

May.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.
In case of consideration for using Automotive equipment / device which demand high reliability, kindly contact our sales window correspondents.

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

■NOTES WHEN EXTRACTING

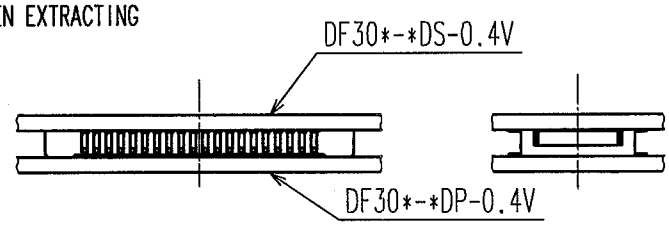



FIGURE-5

WHEN YOU EXTRACT CONNECTORS, PLEASE EXTRACT IN PARALLEL.

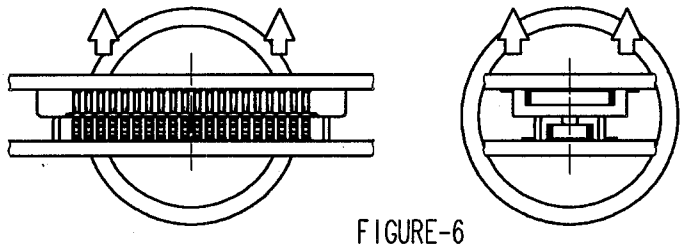


FIGURE-6

⚠1 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.

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

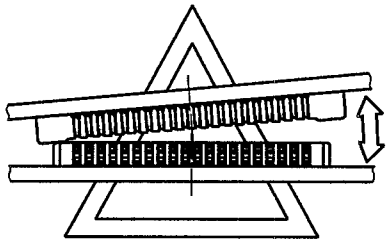


FIGURE-7

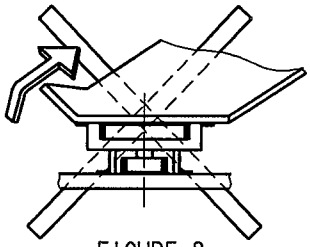


FIGURE-8

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

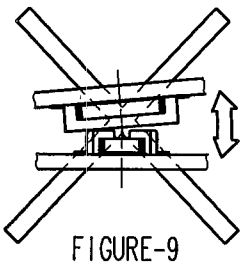


FIGURE-9

| CODE NO.(OLD) | DRAWN | DESIGNED | CHECKED | APPROVED | RELEASED |
|---|---|---|---|---|---|
| NOTES WHEN EXTRACTING | Y.MICHIDA 04.12.16 | A.TAKAHASHI 04.12.16 | T.SAKATA 04.12.16 | T.OMA 04.12.16 | |

| | | |
|---|---|---|
| SCALE FREE : 1 | DRAWING NO. EDSC4-830174 | PART NO. DF30 Series |
| UNITS mm | HRS HIROSE ELECTRIC CO.,LTD. | CODE NO. CL684 |

2/3

FORM NO.228

TO

May.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.
In case of consideration for using Automotive equipment / device which demand high reliability, kindly contact our sales window correspondents.

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

⚠1 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.

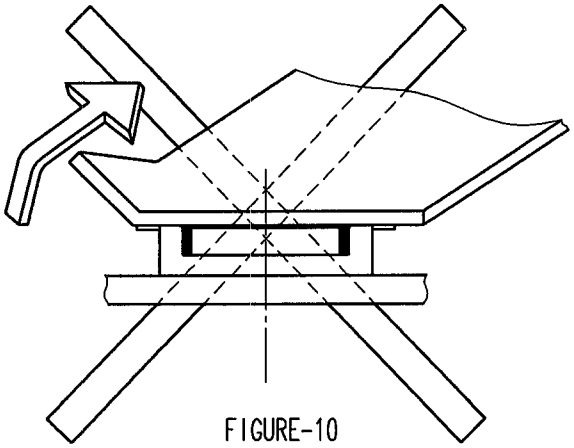


FIGURE-10

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

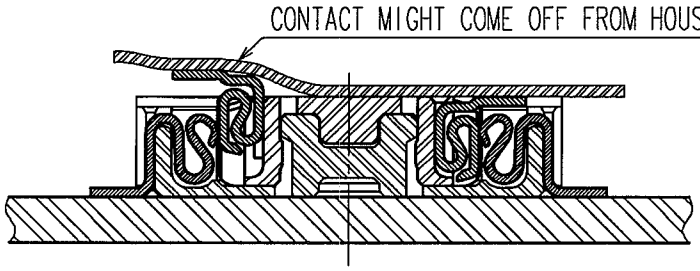



FIGURE-11

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

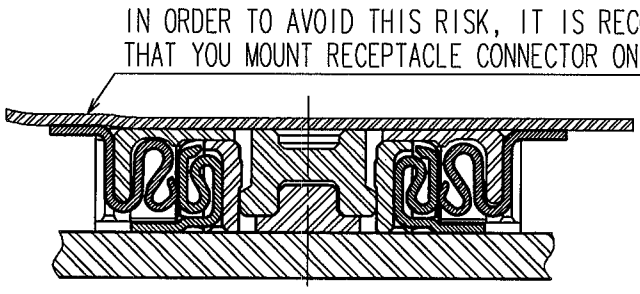



FIGURE-12

| 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 | |

| | | |
|---|---|---|
| SCALE FREE : 1<br>UNITS mm | DRAWING NO. EDSC4-830174<br>HRS HIROSE ELECTRIC CO.,LTD. | PART NO. DF30 Series<br>CODE NO. CL684 |

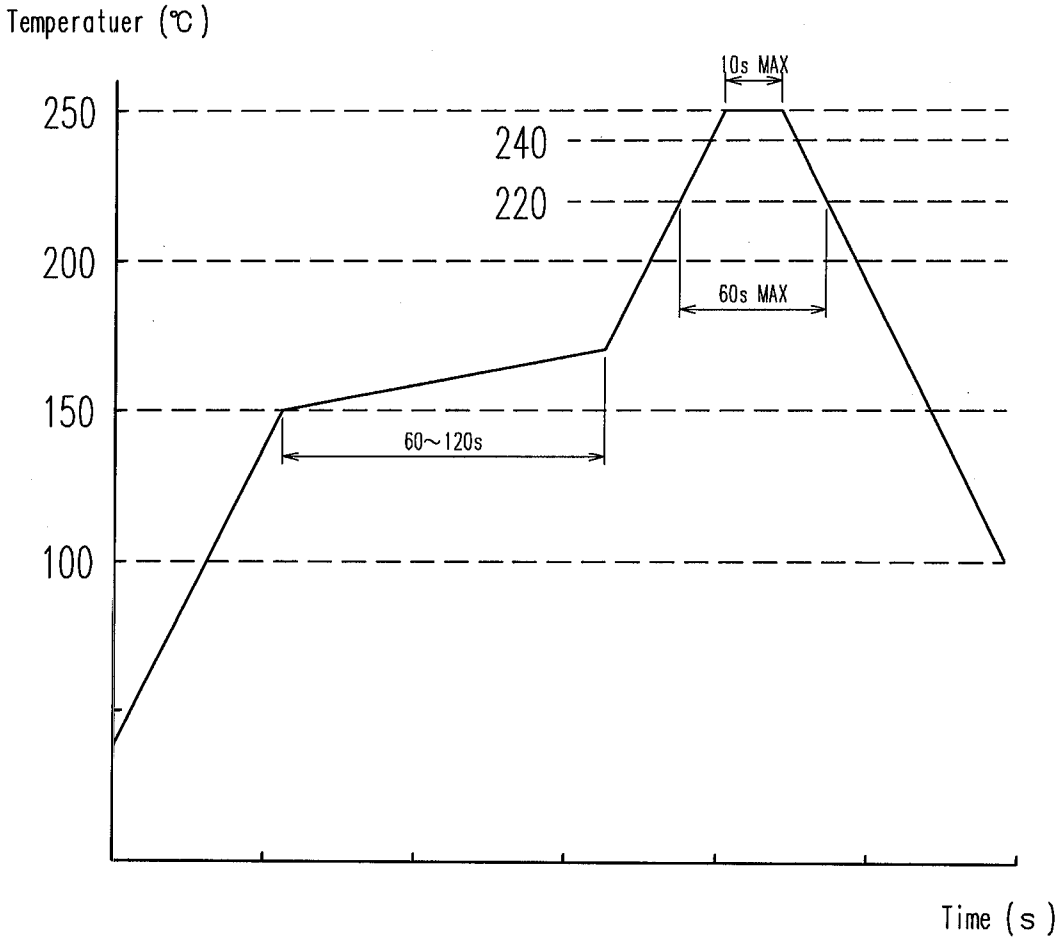
3/3

FORM NO.228

TO

May.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.
In case of consideration for using Automotive equipment / device which demand high reliability, kindly contact our sales window correspondents.

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




NOTE 1.REFLOW SYSTEM : IR REFLOW (AIR OR $N_2$ GAS)
2.PERFORMING REFLOW : TWICE MAX

| NO. | MATERIAL | FINISH, REMARKS | NO. | MATERIAL | FINISH, REMARKS |
|---|---|---|---|---|---|

| CODE NO.(OLD) | DRAWN | DESIGNED | CHECKED | APPROVED | RELEASED |
|---|---|---|---|---|---|
| RECOMMENDED TEMPERATUER PROFILE | T.NISHI 030819 | W.Fukuchi 03.08.19 | J.Tomioka 03.08.20 | T.Ono 03.08.20 | |

| SCALE | DRAWING NO. | PART NO. |
|---|---|---|
| FREE | EDC4-830116 | DF30-*DS/DP-0.4V |
| UNITS mm | HIROSE ELECTRIC CO.,LTD. | CODE NO. CL684 |

1/1

FORM NO.228

TO

May.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.
In case of consideration for using Automotive equipment / device which demand high reliability, kindly contact our sales window correspondents.