

| APPLICABLE STANDARD  |   |   |                           |                             |          |   |
|--|---|---|---------------------------|-----------------------------|----------|---|
| RATING   | OPERATING TEMPERATURE RANGE   | -45 °C TO +125 °C (NOTES 1)   | STORAGE TEMPERATURE RANGE | -10 °C TO + 60 °C (NOTES 2) |          |   |
|  | VOLTAGE   | 50 V AC   | APPLICABLE CONNECTOR      | DF12#-*DS-0.5V (81)         |          |   |
|  | CURRENT   | 0.3 A   |                           | DF12#-*DS-0.5V (86)         |          |   |
| SPECIFICATIONS   |   |   |                           |                             |          |   |
| ITEM   | TEST METHOD   | REQUIREMENTS  | QT                        | AT                          |          |   |
| <b>CONSTRUCTION</b>  |   |   |                           |                             |          |   |
| GENERAL EXAMINATION  | VISUALLY AND BY MEASURING INSTRUMENT.   | ACCORDING TO DRAWING.   | X                         | X                           |          |   |
| MARKING  | CONFIRMED VISUALLY.   |   | X                         | X                           |          |   |
| <b>ELECTRIC CHARACTERISTICS</b>  |   |   |                           |                             |          |   |
| CONTACT RESISTANCE   | 100 m A (DC OR 1000 Hz).  | 50 mΩ MAX.  | X                         | —                           |          |   |
| INSULATION RESISTANCE  | 100 V DC  | 500 MΩ MAX  | X                         | —                           |          |   |
| VOLTAGE PROOF  | 150 V AC FOR 1 min.   | NO FLASHOVER OR BREAKDOWN.  | X                         | —                           |          |   |
| <b>MECHANICAL CHARACTERISTICS</b>  |   |   |                           |                             |          |   |
| INSERTION AND WITHDRAWAL FORCES  | MEASURED BY APPLICABLE CONNECTOR.   | SIGNAL  | INSERTION FORCE (NMAX)    | WITHDRAWAL FORCE (NMIN)     | X        | — |
|  |   | 20  | 23.4                      | 2.6                         |          |   |
|  |   | 30  | 27.0                      | 3.4                         |          |   |
|  |   | 36  | 29.0                      | 4.0                         |          |   |
|  |   | 40  | 30.6                      | 4.2                         |          |   |
|  |   | 50  | 34.2                      | 5.0                         |          |   |
|  |   | 60  | 38.0                      | 6.0                         |          |   |
| MECHANICAL OPERATION   | 50 TIMES INSERTIONS AND EXTRACTIONS.  | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② NO DAMAGE, CRACK OR LOOSENESS OF PARTS.   | X                         | —                           |          |   |
| VIBRATION  | FREQUENCY 10 TO 55 Hz, SINGLE AMPLITUDE 0.75 mm, AT 2 h, FOR 3 DIRECTIONS.  | ① NO ELECTRICAL DISCONTINUITY OF 1 μs.<br>② NO DAMAGE, CRACK OR LOOSENESS OF PARTS.                                   | X                         | —                           |          |   |
| SHOCK  | 490 m/s <sup>2</sup> DURATION OF PULSE 11 ms AT 3 TIMES FOR 3 DIRECTIONS.   | ① NO ELECTRICAL DISCONTINUITY OF 1 μs.<br>② NO DAMAGE, CRACK OR LOOSENESS OF PARTS.                                   | X                         | —                           |          |   |
| <b>ENVIRONMENTAL CHARACTERISTICS</b>   |   |   |                           |                             |          |   |
| RAPID CHANGE OF TEMPERATURE  | TEMPERATURE -65 → 15 TO 35 → 125 → 15 TO 35 °C<br>TIME 30 → 10 TO 15 → 30 → 10 TO 15 min<br>UNDER 5 CYCLES.   | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② INSULATION RESISTANCE: 500 MΩ MIN.<br>③ NO DAMAGE, CRACK OR LOOSENESS OF PARTS. | X                         | —                           |          |   |
| DAMP HEAT (STEADY STATE)   | EXPOSED AT 40 ± 2 °C, 90 TO 95 %, 96 h.   | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② INSULATION RESISTANCE: 500 MΩ MIN.<br>③ NO DAMAGE, CRACK OR LOOSENESS OF PARTS. | X                         | —                           |          |   |
| CORROSION SALT MIST  | EXPOSED IN 5% SALT WATER SPRAY FOR 48 h.  | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② NO HEAVY CORROSION.   | X                         | —                           |          |   |
| SULPHUR DIOXIDE  | EXPOSED IN 10 PPM FOR 96 h.<br>(TEST STANDARD: JEIDA-39)  | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② NO HEAVY CORROSION.   | X                         | —                           |          |   |
| HEAT RESISTANCE OF SOLDERING   | [RECOMMENDED TEMPERATURE PROFILE]<br>《SOLDERING AREA》<br>MAX250°C, 220°C FOR 60 SECONDS MAX.<br>《PREHEATING AREA》<br>150 TO 180°C 90~120 SECONDS.<br>MAXIMUM TWICE ACTION IS ALLOWED UNDER THE SAME CONDITION.<br>[RECOMMENDED MANUAL SOLDELING CONDITION ]<br>SOLDERING IRON TEMPERATURE 350°C<br>SOLDERING TIME : WITHIN 3 SECONDS. | NO DEFORMATION OF CASE OF EXCESSIVE LOOSENESS OF THE TERMINALS.   | X                         | —                           |          |   |
| <b>REMARKS</b>   |   |   |                           |                             |          |   |
| NOTE1:INCLUDING THE TEMPERATURE RISE BY CURRENT.                                   |   |   |                           |                             |          |   |
| NOTE2:STORAGE IS DEFINED AS LONG-TERM STORAGE OF UNUSED PRODUCTS.                  |   |   |                           |                             |          |   |
| APPLY OPERATION TEMPERATURE RANGE TO PRODUCTS MOUNTED ON PCB WITHOUT POWER SUPPLY. |   |   |                           |                             |          |   |
| UNLESS OTHERWISE SPECIFIED, REFER TO JIS C 5402.                                   |   |   |                           |                             |          |   |
|  | COUNT   | DESCRIPTION OF REVISIONS  | DESIGNED                  | CHECKED                     | DATE     |   |
| △  |   |   |                           |                             |          |   |
|  |   |   | APPROVED                  | MO. NAKAMURA                | 06.01.30 |   |
|  |   |   | CHECKED                   | TS. MIYAZAKI                | 06.01.30 |   |
|  |   |   | DESIGNED                  | YH. MICHIDA                 | 06.01.30 |   |
|  |   |   | DRAWN                     | HK. MURAKAMI                | 06.01.30 |   |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                     |   |   | DRAWING NO.               | ELC4-163511-09              |          |   |
| <b>HRS</b>   | SPECIFICATION SHEET   |   | PART NO.                  | DF12E (3.5) -*DP-0.5V (81)  |          |   |
|  | HIROSE ELECTRIC CO., LTD.   |   | CODE NO.                  | GL537                       | △ 1/1    |   |