

|                                                                                                                                                                                                                                                                                           |                             |                                                                                                                                                                                                                  |                           |                                                                                                                        |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------|
| APPLICABLE STANDARD                                                                                                                                                                                                                                                                       |                             |                                                                                                                                                                                                                  |                           |                                                                                                                        |                          |
| RATING                                                                                                                                                                                                                                                                                    | OPERATING TEMPERATURE RANGE | -35 °C TO +85 °C (NOTE1)                                                                                                                                                                                         | STORAGE TEMPERATURE RANGE |                                                                                                                        | -10 °C TO +60 °C (NOTE3) |
|                                                                                                                                                                                                                                                                                           | OPERATING HUMIDITY RANGE    | 40% TO 80% (NOTE2)                                                                                                                                                                                               | STORAGE HUMIDITY RANGE    |                                                                                                                        | 40% TO 70% (NOTE3)       |
|                                                                                                                                                                                                                                                                                           | VOLTAGE                     | 250 V AC                                                                                                                                                                                                         | APPLICABLE CONNECTOR      |                                                                                                                        | DF1E-*S-2. 5C            |
|                                                                                                                                                                                                                                                                                           | CURRENT                     | AWG20 TO 24: 3A<br>AWG26: 2A<br>AWG28: 1A<br>AWG30: 0. 5A                                                                                                                                                        | UL, CSA                   | VOLTAGE                                                                                                                | AC 30V                   |
|                                                                                                                                                                                                                                                                                           |                             | CURRENT                                                                                                                                                                                                          |                           | AWG20 TO 22: 3A<br>AWG24 TO 28: 1A<br>AWG30: 0. 5A                                                                     |                          |
| 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                      |
| ELECTRIC CHARACTERISTICS                                                                                                                                                                                                                                                                  |                             |                                                                                                                                                                                                                  |                           |                                                                                                                        |                          |
| CONTACT RESISTANCE MILLIVOLT LEVEL METHOD.                                                                                                                                                                                                                                                |                             | 20 mV MAX, 1 mA(DC OR 1000 Hz).                                                                                                                                                                                  |                           | 30 mΩ MAX.                                                                                                             | X —                      |
| INSULATION RESISTANCE                                                                                                                                                                                                                                                                     |                             | 500 V DC.                                                                                                                                                                                                        |                           | 1000 MΩ MIN.                                                                                                           | X —                      |
| VOLTAGE PROOF                                                                                                                                                                                                                                                                             |                             | 650 V AC FOR 1 min.                                                                                                                                                                                              |                           | NO FLASHOVER OR BREAKDOWN.                                                                                             | X —                      |
| MECHANICAL CHARACTERISTICS                                                                                                                                                                                                                                                                |                             |                                                                                                                                                                                                                  |                           |                                                                                                                        |                          |
| MECHANICAL OPERATION                                                                                                                                                                                                                                                                      |                             | 30TIMES INSERTIONS AND EXTRACTIONS.                                                                                                                                                                              |                           | ① CONTACT RESISTANCE: 30 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.                                                                                                                                        |                           |                                                                                                                        | X —                      |
| ENVIRONMENTAL CHARACTERISTICS                                                                                                                                                                                                                                                             |                             |                                                                                                                                                                                                                  |                           |                                                                                                                        |                          |
| RAPID CHANGE OF TEMPERATURE                                                                                                                                                                                                                                                               |                             | TEMPERATURE -55→ 5 TO 35→+85→ 5 TO 35 °C<br>TIME 30→ 5 MAX→ 30→ 5 MAX min<br>UNDER 5 CYCLES.                                                                                                                     |                           | ① CONTACT RESISTANCE: 30 mΩ MAX.<br>② INSULATION RESISTANCE: 1000 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: 30 mΩ MAX.<br>② INSULATION RESISTANCE: 500 MΩ MIN.<br>③ NO DAMAGE, CRACK OR LOOSENESS OF PARTS.  | X —                      |
| RESISTANCE TO SOLDERING HEAT                                                                                                                                                                                                                                                              |                             | 1) AUTOMATIC SOLDERING (FLOW)<br>SOLDER TEMPERATURE, 260 °C FOR IMMERSION,DURATION, 10 sec.<br>2) MANUAL SOLDERING<br>SOLDERING IRON TEMPERATURE : 300 °C,<br>SOLDERING TIME : 3 sec.<br>NO STRENGTH ON CONTACT. |                           | NO DEFORMATION OF CASE OF EXCESSIVE LOOSENESS OF THE TERMINALS.                                                        | X —                      |
| SOLDERABILITY                                                                                                                                                                                                                                                                             |                             | SOLDERED AT SOLDER TEMPERATURE, 235 °C FOR INSERTION DURATION, 5 s.                                                                                                                                              |                           | SOLDER SHALL COVER A MINIMUM OF 95 % OF THE SURFACE BEING IMMersed                                                     | X —                      |
| REMARKS                                                                                                                                                                                                                                                                                   |                             |                                                                                                                                                                                                                  |                           |                                                                                                                        |                          |
| NOTE1: INCLUDE THE TEMPERATURE RISING BY CURRENT.<br>NOTE2:NO CONDENSING.<br>NOTE3:APPLY TO THE CONDITION OF LONG TERM STORAGE FOR UNUSED PRODUCTS<br>BEFORE PCB ON BOARD. AFTER PCB BOARD,OPERATING TEMPERATURE AND HUMIDITY RANGE IS APPLIED FOR INTERIM STORAGE DURING TRANSPORTATION. |                             |                                                                                                                                                                                                                  |                           |                                                                                                                        |                          |
|                                                                                                                                                                                                                                                                                           | COUNT                       | DESCRIPTION OF REVISIONS                                                                                                                                                                                         | DESIGNED                  | CHECKED                                                                                                                | DATE                     |
| △                                                                                                                                                                                                                                                                                         |                             |                                                                                                                                                                                                                  |                           |                                                                                                                        |                          |
| Unless otherwise specified, refer to IEC 60512.                                                                                                                                                                                                                                           |                             |                                                                                                                                                                                                                  | APPROVED                  | KI. AKIYAMA                                                                                                            | 15. 05. 29               |
|                                                                                                                                                                                                                                                                                           |                             |                                                                                                                                                                                                                  | CHECKED                   | TS. FUKUSHIMA                                                                                                          | 15. 05. 29               |
|                                                                                                                                                                                                                                                                                           |                             |                                                                                                                                                                                                                  | DESIGNED                  | TS. KUMAZAWA                                                                                                           | 15. 05. 29               |
|                                                                                                                                                                                                                                                                                           |                             |                                                                                                                                                                                                                  | DRAWN                     | MI. SAKIMURA                                                                                                           | 15. 05. 28               |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                                                                                                                                                                                                                            |                             |                                                                                                                                                                                                                  | DRAWING NO.               |                                                                                                                        | ELC-161951-35-00         |
| HRS                                                                                                                                                                                                                                                                                       | SPECIFICATION SHEET         |                                                                                                                                                                                                                  | PART NO.                  | DF1E-*P-2. 5DS (35)                                                                                                    |                          |
|                                                                                                                                                                                                                                                                                           | HIROSE ELECTRIC CO., LTD.   |                                                                                                                                                                                                                  | CODE NO.                  | CL541                                                                                                                  | △ 1/1                    |