| Applicab                          | le standard              |   |                         |                           |  |                              |                         |    |    |  |
|-----------------------------------|--------------------------|---|-------------------------|---------------------------|--|------------------------------|-------------------------|----|----|--|
| Operating Temperature Ra          |                          |   | -55 to +105°C (Note1)   | Storage Temperature Range |  | erature Range                | -10 °C to +60°C (Note3) |    |    |  |
| Rating                            | Operating Humidity Range |   | 20% to 80% (Note2)      | Storage                   | Humi   | dity Range                   | 40% to 70% (Note3)      |    |    |  |
|                                   | Applicable Connector     |   | DF51%-28DS-2C(##)       | Current                   |  |                              | AWG 24 : 2.0A           |    |    |  |
|                                   |                          |   |                         |                           |  |                              | AWG 26 : 1.5A           |    |    |  |
|                                   | Applicable Con           | tact  | DF11-EP2428PC(A)/PCF(A) |                           |  |                              | AWG 28 : 1.0A           |    |    |  |
|                                   |                          |   | UL •                    |                           | C-UL Voltage   |                              | 30 V AC/DC              |    |    |  |
|                                   | Voltage                  |   | 250 V AC/DC             | Rating                    | Rating Current   |                              | AWG 24 to 28 : 1.0A     |    |    |  |
|                                   | Specifications           |   |                         |                           |  |                              |                         |    |    |  |
| Item                              |                          | Test method   |                         |                           | Requirements   |                              |                         | QT | АТ |  |
| Construc                          | ction                    | •   |                         |                           |  |                              |                         |    |    |  |
| General Examination               |                          | Visually and by measuring instrument.                             |                         |                           | According to drawing.  |                              |                         | X  | Х  |  |
| Marking                           |                          | Confirmed visually.   |                         |                           |  |                              |                         |    | Х  |  |
| Electric (                        | Characteristics          | <u> </u>  |                         |                           |  |                              |                         |    |    |  |
| Insulation Resistance             |                          | 500 V DC.   |                         |                           |  | 1000 MΩ MIN.                 |                         |    | _  |  |
| Voltage Proof                     |                          | 650 V AC for 1 min.   |                         |                           | No flashover or breakdown.                                       |                              |                         | Х  | _  |  |
| Mechani                           | cal Characteris          | stics   |                         |                           |  |                              |                         |    |    |  |
| Mechanical Operation              |                          | 30 times insertion and extraction.                                |                         |                           | No damage, crack or looseness of parts. 🖄                        |                              |                         | Χ  | _  |  |
| (Sn Plating)                      |                          | 50 %  |                         |                           |  |                              |                         |    |    |  |
| Mechanical Operation (Au Plating) |                          | 50 times insertion and extraction.                                |                         |                           |  |                              |                         | Х  | _  |  |
| Mating and unmating               |                          | It takes out and inserts with a conformity connector.             |                         |                           | 1.Insertion Force : 120.2N MAX.                                  |                              |                         |    | _  |  |
| Force                             |                          | Í   |                         |                           | 2.Extraction Force: 7.2N MIN.                                    |                              |                         |    |    |  |
| (Sn Plating)                      |                          |   |                         |                           |  |                              |                         | X  |    |  |
| Mating and unmating Force         |                          | It takes out and inserts with a conformity connector.             |                         |                           | 1.Insertion Force : 76.9N MAX.<br>2.Extraction Force : 7.0N MIN. |                              |                         |    | _  |  |
| (Au Plating)                      |                          |   |                         |                           |  | 2.LAGGGOTT OICE . 1.UN WIIN. |                         |    |    |  |
| Vibration                         |                          | Frequency 10 to 55 Hz, single amplitude 0.75 mm, at               |                         |                           | No damage, crack or looseness of parts. A                        |                              |                         |    | _  |  |
|                                   |                          | 10 cycles for 3 direction.  |                         |                           |  |                              |                         |    |    |  |
| Shock                             |                          | Acceleration 490 m/s <sup>2</sup> duration of pulse 11 ms at 3    |                         |                           |  |                              |                         | Χ  | _  |  |
|                                   |                          | times for 3 direct  | ctions.                 |                           |  |                              |                         |    |    |  |
| Contact extraction force          |                          | Pull out the cable after housing fixation.                        |                         |                           | 11.8N MIN  |                              |                         |    | _  |  |
| Environn                          | nental Charact           |   |                         |                           |  |                              |                         |    |    |  |
| Damp Heat                         |                          | Exposed at 40 ± 2°C , humidity 90 to 95 %, 96 h.                  |                         |                           | 1.Insulation resistance: 500 MΩ MIN. Δ                           |                              |                         | Χ  | _  |  |
| (Steady State)                    |                          | (After leaving the room temperature for 1 to 2h.)                 |                         |                           | 2.No damage, crack or looseness of parts.                        |                              |                         |    |    |  |
| Rapid Change Of                   |                          | Temperature -55°C→ +105°C   |                         |                           | 1.Insulation resistance: 1000 MΩ MIN.                            |                              |                         |    | _  |  |
| Temperature                       |                          | Time 30min→ 30min   |                         |                           | 2.No damage, crack or looseness of parts.                        |                              |                         |    |    |  |
|                                   |                          | Under 5 Cycles. (The transferring time of the tank is 2 to 3 MIN) |                         |                           |  |                              |                         |    |    |  |
|                                   |                          | (After leaving the room temperature for 1 to 2h.)                 |                         |                           |  |                              |                         |    |    |  |
| Dry Heat                          |                          | Exposed at 105±2°C, 96h   |                         |                           |  |                              |                         | Χ  | _  |  |
| Cold                              |                          | Exposed at -55±3°C, 96h   |                         |                           |  |                              |                         | Χ  |    |  |
| Remarks                           |                          |   |                         |                           |  |                              |                         |    |    |  |

Note 1:Include the temperature rising by current.

Note 2:No condensing

Note 3:Apply to the condition of long term storage for unused products before mount on pcb,

After mounted on pcb, operating temperature and humidity range is applied for interim storage during transportation.

|            | COUNT      | T DESCRIPTION OF REVISIONS                         | DESIGNED    |                 | CHECKED          | DATE         |  |
|------------|------------|--|-------------|-----------------|------------------|--------------|--|
| $\sqrt{3}$ | 6          | DIS-H-00004577                                     |             | SZ. ONO         | 20190115         |              |  |
|            |            |  | APPROVE     | HS. OKAWA       | 20160601         |              |  |
|            |            |  | CHECKE      | D YN. TAKASHITA | 20160601         |              |  |
|            |            |  | DESIGNE     | D TT. OHSAKO    | 20160601         |              |  |
| Unles      | s otherwis | se specified, refer to IEC 60512.                  |             | DRAWN           | TT. OHSAKO       | 20160601     |  |
| Note       | QT:Quali   | ification Test AT:Assurance Test X:Applicable Test | DRAWING NO. |                 | ELC-366294-00-00 |              |  |
| Н          | ৈ _        | SPECIFICATION SHEET                                | PART NO.    |                 | DF51-28DEP-2C    |              |  |
| 4 6        |            | HIROSE ELECTRIC CO., LTD.                          | CODE NO.    | CL543-5083-0-00 |                  | <u>3</u> 1/1 |  |