

|                     |                             |                           |                           |                         |
|---------------------|-----------------------------|---------------------------|---------------------------|-------------------------|
| APPLICABLE STANDARD |                             |                           |                           |                         |
| RATING              | OPERATING TEMPERATURE RANGE | -45°C TO +125°C (NOTES 1) | STORAGE TEMPERATURE RANGE | -10°C TO + 60°C (NOTE2) |
|                     | VOLTAGE                     | 50V AC                    | APPLICABLE CONNECTOR      | △ DF12#-*DS-0.5V (**)   |
|                     | CURRENT                     | 0.3A                      |                           |                         |

### SPECIFICATIONS

| ITEM | TEST METHOD | REQUIREMENTS | QT | AT |
|------|-------------|--------------|----|----|
|------|-------------|--------------|----|----|

#### CONSTRUCTION

|                     |                                       |                       |   |   |
|---------------------|---------------------------------------|-----------------------|---|---|
| GENERAL EXAMINATION | VISUALLY AND BY MEASURING INSTRUMENT. | ACCORDING TO DRAWING. | X | — |
| MARKING             | CONFIRMED VISUALLY.                   |                       | X | — |

#### ELECTRIC CHARACTERISTICS

|                       |                         |                            |   |   |
|-----------------------|-------------------------|----------------------------|---|---|
| CONTACT RESISTANCE    | 100m A (DC OR 1000 Hz). | 50mΩ MAX.                  | X | — |
| INSULATION RESISTANCE | 100V DC                 | 500M Ω MAX                 | X | — |
| VOLTAGE PROOF         | 150V AC FOR 1 min.      | NO FLASHOVER OR BREAKDOWN. | X | — |

#### MECHANICAL CHARACTERISTICS

| INSERTION AND WITHDRAWAL FORCES | MEASURED BY APPLICABLE CONNECTOR.  | <table border="1"> <thead> <tr> <th>SIGNAL</th> <th>INSERTION FORCE (N)MAX</th> <th>WITHDRAWAL FORCE (N)MIN</th> </tr> </thead> <tbody> <tr><td>20</td><td>23.4</td><td>2.6</td></tr> <tr><td>30</td><td>27.0</td><td>3.4</td></tr> <tr><td>32</td><td>27.6</td><td>3.6</td></tr> <tr><td>36</td><td>29.0</td><td>4.0</td></tr> <tr><td>40</td><td>30.6</td><td>4.2</td></tr> <tr><td>50</td><td>34.2</td><td>5.0</td></tr> <tr><td>60</td><td>38.0</td><td>6.0</td></tr> </tbody> </table> | SIGNAL | INSERTION FORCE (N)MAX | WITHDRAWAL FORCE (N)MIN | 20 | 23.4 | 2.6 | 30 | 27.0 | 3.4 | 32 | 27.6 | 3.6 | 36 | 29.0 | 4.0 | 40 | 30.6 | 4.2 | 50 | 34.2 | 5.0 | 60 | 38.0 | 6.0 | X | — |
|---------------------------------|--|---|--------|------------------------|-------------------------|----|------|-----|----|------|-----|----|------|-----|----|------|-----|----|------|-----|----|------|-----|----|------|-----|---|---|
|                                 |  |   | SIGNAL | INSERTION FORCE (N)MAX | WITHDRAWAL FORCE (N)MIN |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |   |   |
|                                 |  |   | 20     | 23.4                   | 2.6                     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |   |   |
|                                 |  |   | 30     | 27.0                   | 3.4                     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |   |   |
|                                 |  |   | 32     | 27.6                   | 3.6                     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |   |   |
|                                 |  |   | 36     | 29.0                   | 4.0                     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |   |   |
|                                 |  |   | 40     | 30.6                   | 4.2                     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |   |   |
| 50                              | 34.2   | 5.0   |        |                        |                         |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |   |   |
| 60                              | 38.0   | 6.0   |        |                        |                         |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |   |   |
| MECHANICAL OPERATION            | 50TIMES INSERTIONS AND EXTRACTIONS.  | ① CONTACT RESISTANCE: 50mΩ 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 1μs.<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 1μs.<br>② NO DAMAGE, CRACK OR LOOSENESS OF PARTS.  | X      | —                      |                         |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |    |      |     |   |   |

#### ENVIRONMENTAL CHARACTERISTICS

|                              |  |  |   |   |
|------------------------------|--|--|---|---|
| RAPID CHANGE OF TEMPERATURE  | TEMPERATURE -65→15 TO 35→125→15 TO 35°C<br>TIME 30→10 TO 15→ 30→10TO15min<br>UNDER 5 CYCLES.   | ① CONTACT RESISTANCE: 50mΩ 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: 50mΩ 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 | <p>【RECOMMENDED TEMPERATURE PROFILE】</p> <p>《SOLDERING AREA》<br/>MAX250°C, 220°C FOR 60 SECONDS MAX.</p> <p>《PREHEATING AREA》<br/>150 TO 180°C 90~120 SECONDS.<br/>MAXIMUM TWICE ACTION IS ALLOWED UNDER THE SAME CONDITION.</p> <p>【RECOMMENDED MANUAL SOLDELING CONDITION】<br/>SOLDERING IRON TEMPERATURE 350°C<br/>SOLDERING TIME : WITHIN 3 SECONDS.</p> | NO DEFORMATION OF CASE OF EXCESSIVE LOOSENESS OF THE TERMINALS.  | X | — |

#### REMARKS

NOTE1:INCLUDING THE TEMPERATURE RISE BY CURRENT.  
NOTE2:STORAGEIS DEFINED AS LONG-TERM STORAGE OF UNUSED PRODUCTS.  
APPLY OPERATION TEMPERATURE RANGE TO PRODUCTS MOUNTED ON PCB WITHOUT POWER SUPPLY.  
OPERATION TEMPERATURE FOR TAPE-AND-REAL PRODUCTS SHALL BE -10 TO 50°C.  
MOUNT CONNECTORS WITHIN 12HOURS AFTER TAKING OUT FROM THE PACKAGE.  
UNLESS OTHERWISE SPECIFIED , REFER TO JIS C 5402 .

| COUNT | DESCRIPTION OF REVISIONS | DESIGNED    | CHECKED      | DATE       |
|-------|--------------------------|-------------|--------------|------------|
| △ 1   | DIS-H-001982             | YH. MICHIDA | TS. MIYAZAKI | 07. 04. 20 |

|          |              |            |
|----------|--------------|------------|
| APPROVED | MO. NAKAMURA | 05. 08. 09 |
| CHECKED  | TS. MIYAZAKI | 05. 08. 09 |
| DESIGNED | YH. MICHIDA  | 05. 08. 09 |
| DRAWN    | YH. MICHIDA  | 05. 08. 09 |

Note QT:Qualification Test AT:Assurance Test X:Applicable Test      DRAWING NO.      ELC4-163512-06

|                            |  |          |                              |       |
|----------------------------|--|----------|------------------------------|-------|
| <b>SPECIFICATION SHEET</b> |  | PART NO. | DF12B (4. 0) -*DP-0. 5V (86) |       |
| HIROSE ELECTRIC CO., LTD.  |  | CODE NO. | CL537                        | △ 1/1 |