

| APPLICABLE STANDARD  |   |  |                                     |                                     |                |
|--|---|--|-------------------------------------|-------------------------------------|----------------|
| RATING   | OPERATING TEMPERATURE RANGE   | -55°C TO +85°C   | STORAGE TEMPERATURE RANGE           | -10°C TO +50°C(PACKED CONDITION)    |                |
|  | VOLTAGE   | 50V AC/DC  | OPERATING OR STORAGE HUMIDITY RANGE | RELATIVE HUMIDITY 90%MAX(NOT DEWED) |                |
|  | CURRENT   | 0.5A (note1)   | APPLICABLE CABLE                    | t=0.3±0.05mm, GOLD PLATED           |                |
| SPECIFICATIONS   |   |  |                                     |                                     |                |
| ITEM   | TEST METHOD   | REQUIREMENTS   | QT                                  | AT                                  |                |
| CONSTRUCTION   |   |  |                                     |                                     |                |
| GENERAL EXAMINATION  | VISUALLY AND BY MEASURING INSTRUMENT.   | ACCORDING TO DRAWING.  | ×                                   | ×                                   |                |
| MARKING  | CONFIRMED VISUALLY.   |  | ×                                   | ×                                   |                |
| ELECTRIC CHARACTERISTICS                                       |   |  |                                     |                                     |                |
| VOLTAGE PROOF  | 150V AC FOR 1 min±5sec.   | NO FLASHOVER OR BREAKDOWN.   | ×                                   | ×                                   |                |
| INSULATION RESISTANCE  | 100±10V DC.   | 500MΩ MIN.   | ×                                   | ×                                   |                |
| CONTACT RESISTANCE   | AC 20mV MAX (1KHz), 1mA.  | 100mΩ MAX.<br>INCLUDING FPC,FFC BULK RESISTANCE<br>(L=8mm)   | ×                                   | ×                                   |                |
| MECHANICAL CHARACTERISTICS                                     |   |  |                                     |                                     |                |
| VIBRATION  | FREQUENCY 10 TO 55 Hz, HALF AMPLITUDE<br>0.75 mm FOR 10 CYCLES IN 3 AXIAL DIRECTIONS.                 | ① NO ELECTRICAL DISCONTINUITY OF 1 μs.<br>② CONTACT RESISTANCE: 100mΩ MAX.   | ×                                   | —                                   |                |
| SHOCK  | 981 m/s <sup>2</sup> , DURATION OF PULSE 6ms<br>AT 3 TIMES IN 3 BOTH AXIAL DIRECTIONS.                | ③ NO DAMAGE, CRACK AND LOOSENESS<br>OF PARTS.  | ×                                   | —                                   |                |
| MECHANICAL OPERATION   | 20 TIMES INSERTIONS AND EXTRACTIONS.  | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② NO DAMAGE, CRACK AND LOOSENESS<br>OF PARTS.  | ×                                   | —                                   |                |
| FPC RETENTION FORCE  | MEASURED BY APPLICABLE FPC/FFC.<br>(THICKNESS OF FPC SHALL BE t=0.30mm<br>AT INITIAL CONDITION.)      | DIRECTION OF INSERTION:<br>25N MIN.<br>(note2)   | ×                                   | —                                   |                |
| ENVIRONMENTAL CHARACTERISTICS                                  |   |  |                                     |                                     |                |
| CORROSION SALT MIST  | EXPOSED AT 35±2°C,<br>CONCENTRATION 5±1wt%,pH VALUE 6.5 TO 7.2<br>SALT WATER SPRAY FOR 96h.           | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② NO DAMAGE, CRACK AND LOOSENESS<br>OF PARTS.<br>③ NO EVIDENCE OF CORROSION WHICH<br>AFFECTS TO OPERATION OF CONNECTOR.                                    | ×                                   | —                                   |                |
| RAPID CHANGE OF TEMPERATURE                                    | TEMPERATURE -55→+15 TO +35→+85→+15 TO +35 °C<br>TIME 30 → 2 TO 3 → 30 → 2 TO 3 min<br>UNDER 5 CYCLES. | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② INSULATION RESISTANCE: 50MΩ MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS<br>OF PARTS.  | ×                                   | —                                   |                |
| DAMP HEAT (STEADY STATE)                                       | EXPOSED AT 40±2°C,<br>RELATIVE HUMIDITY 90 TO 95%, 96h.   |  | ×                                   | —                                   |                |
| DAMP HEAT,CYCLIC   | EXPOSED AT -10 TO +65 °C<br>RELATIVE HUMIDITY 90 TO 96 %<br>10 CYCLES, TOTAL 240h.                    | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② INSULATION RESISTANCE: 1MΩ MIN.<br>(AT HIGH HUMIDITY)<br>③ INSULATION RESISTANCE: 50MΩ MIN.<br>(AT DRY)<br>④ NO DAMAGE, CRACK AND LOOSENESS<br>OF PARTS. | ×                                   | —                                   |                |
|  | COUNT   | DESCRIPTION OF REVISIONS   | DESIGNED                            | CHECKED                             | DATE           |
|  | △   |  |                                     |                                     |                |
| REMARK   |   |  | APPROVED                            | MO.ISHIDA                           | 13.09.02       |
|  |   |  | CHECKED                             | YN.TAKASHITA                        | 13.09.02       |
|  |   |  | DESIGNED                            | SU.SUNAGA                           | 13.08.30       |
| Unless otherwise specified, refer to JIS C 5402.               |   |  | DRAWN                               | SU.SUNAGA                           | 13.08.30       |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test |   |  | DRAWING NO.                         |                                     | ELC4-347196-00 |
| HRS  | SPECIFICATION SHEET   |  | PART NO.                            | FH50-40S-0.5SH                      |                |
|  | HIROSE ELECTRIC CO., LTD.   |  | CODE NO.                            | CL580-4004-2-00                     | △ 1/2          |

| SPECIFICATIONS   |  |   |                |                 |
|--|--|---|----------------|-----------------|
| ITEM   | TEST METHOD  | REQUIREMENTS  | QT             | AT              |
| DRY HEAT   | EXPOSED AT 85±2°C, 96h.  | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② NO DAMAGE, CRACK AND LOOSENESS OF PARTS.  | ×              | —               |
| COLD   | EXPOSED AT -55±3°C, 96h.   |   | ×              | —               |
| SULPHUR DIOXIDE<br>[JIS C 60068-2-42]  | EXPOSED AT 40±2°C,<br>RELATIVE HUMIDITY 80±5 %,<br>25±5 ppm FOR 96h.   | ① CONTACT RESISTANCE: 100mΩ MAX.<br>② NO DAMAGE, CRACK AND LOOSENESS OF PARTS.<br>③ NO EVIDENCE OF CORROSION WHICH AFFECTS TO OPERATION OF CONNECTOR. | ×              | —               |
| HYDROGEN SULPHIDE<br>[JIS C 60068-2-43]  | EXPOSED AT 40±2°C,<br>RELATIVE HUMIDITY 80±5 %,<br>10 TO 15 ppm FOR 96h.   |   | ×              | —               |
| SOLDERABILITY  | SOLDERED AT SOLDER TEMPERATURE, 245±3°C<br>FOR IMMERSION DURATION, 3±0.3 sec.  | A NEW UNIFORM COATING OF SOLDER SHALL COVER A MINIMUM OF 95 % OF THE SURFACE BEING IMMersed.  | ×              | —               |
| RESISTANCE TO SOLDERING HEAT   | 1) REFLOW SOLDERING:<br>PEAK TMP. 250°C MAX.<br>REFLOW TMP. OVER 230°C WITHIN 60 sec.<br>2) SOLDERING IRONS:<br>TMP. 350±10°C FOR 5±1 sec. | NO DEFORMATION OF CASE OF EXCESSIVE LOOSENESS OF THE TERMINALS.   | ×              | —               |
| <p><b>(note1)</b></p> <p>WHEN THE SAME VALUE OF CURRENT ARE APPLIED TO ALL CONTACTS AT THE SAME TIME IN ONCE, SET THE CURRENT TO THE 70 % OF THE RATED CURRENT VALUE.</p> <p><b>(note2)</b></p> <p>FIXING THE FPC/FFC IS RECOMMENDED, IF THE VERTICAL LOAD IS EXPECTED TO BE APPLIED TO THE FPC/FFC.</p> <p><b>(note3)</b></p> <p>BLISTERS WHICH MAY BE GENERATED ON THE HOUSING DO NOT AFFECT PRODUCT PERFORMANCE.</p> <p><b>(note4)</b></p> <p>INCOMPLETE MATING PREVENTION STRUCTURE OF THIS CONNECTOR DOES NOT COVER ALL THE POSSIBLE CASES OF INCOMPLETE MATING MODE.<br/>BE SURE TO NEED THE INSTRUCTION MANUAL FOR YOUR UNDERSTANDING OF THE FEATURES AND ATTENSIONS.</p> |  |   |                |                 |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test   |  | DRAWING NO.   | ELC4-347196-00 |                 |
| <b>HRS</b>   | SPECIFICATION SHEET  |   | PART NO.       | FH50-40S-0.5SH  |
|  | HIROSE ELECTRIC CO., LTD.  |   | CODE NO.       | CL580-4004-2-00 |