



|  |                             |   |                                     |   |                  |
|--|-----------------------------|---|-------------------------------------|---|------------------|
| APPLICABLE STANDARD  |                             |   |                                     |   |                  |
| RATING   | OPERATING TEMPERATURE RANGE | -40 °C TO 105 °C  | STORAGE TEMPERATURE RANGE           | -10 °C TO 50 °C (PACKED CONDITION)  |                  |
|  | VOLTAGE                     | 50 V AC / DC  | OPERATING OR STORAGE HUMIDITY RANGE | RELATIVE HUMIDITY 90 % MAX (NOT DEWED)  |                  |
|  | CURRENT                     | 0.5 A (note 1)  | APPLICABLE CABLE                    | t=0.3±0.05mm, GOLD PLATING  |                  |
| SPECIFICATIONS   |                             |   |                                     |   |                  |
| ITEM   |                             | TEST METHOD   |                                     | REQUIREMENTS  | QT AT            |
| CONSTRUCTION   |                             |   |                                     |   |                  |
| GENERAL EXAMINATION  |                             | VISUALLY AND BY MEASURING INSTRUMENT.   |                                     | ACCORDING TO DRAWING.   | ×                |
| MARKING  |                             | CONFIRMED VISUALLY.   |                                     |   | ×                |
| ELECTRICAL CHARACTERISTICS                                     |                             |   |                                     |   |                  |
| CONTACT RESISTANCE   |                             | 1mA(DC OR 1000Hz).  |                                     | 50 mΩ MAX.<br>INCLUDING FPC,FPC BULK RESISTANCE (L=8mm)   | ×                |
| INSULATION RESISTANCE  |                             | 100 V DC.   |                                     | 500 MΩ MIN.   | ×                |
| VOLTAGE PROOF  |                             | 150 V AC FOR 1 min.   |                                     | NO FLASHOVER OR BREAKDOWN.  | ×                |
| MECHANICAL CHARACTERISTICS                                     |                             |   |                                     |   |                  |
| MECHANICAL OPERATION   |                             | 20 TIMES INSERTIONS AND EXTRACTIONS.  |                                     | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② NO DAMAGE, CRACK AND LOOSENESS OF PARTS.  | ×                |
| VIBRATION  |                             | FREQUENCY 10 TO 55 Hz, HALF AMPLITUDE 0.75 mm, FOR 10 CYCLES IN 3 AXIAL DIRECTIONS.                   |                                     | ① NO ELECTRICAL DISCONTINUITY OF 1 μs.<br>② CONTACT RESISTANCE: 50 mΩ MAX.  | ×                |
| SHOCK  |                             | 981 m/s <sup>2</sup> , DURATION OF PULSE 6 ms AT 3 TIMES IN 3 BOTH AXIAL DIRECTIONS.                  |                                     | ③ NO DAMAGE, CRACK AND LOOSENESS OF PARTS.  | ×                |
| FPC RETENTION FORCE  |                             | MEASURED BY APPLICABLE FPC. (CONNECTOR,FPC AT INITIAL CONDITION. THICKNESS OF FPC SHALL BE t=0.30mm ) |                                     | DIRECTION OF INSERTION: 0.4×n N MIN ( n : NUMBER OF CONTACTS).  | ×                |
| ENVIRONMENTAL CHARACTERISTICS                                  |                             |   |                                     |   |                  |
| RAPID CHANGE OF TEMPERATURE                                    |                             | TEMPERATURE -40→+15 TO +35→+105→+15 TO +35 °C<br>TIME 30→ 2 TO 3 → 30→ 2 TO 3 min.<br>UNDER 5 CYCLES. |                                     | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② INSULATION RESISTANCE: 50 MΩ MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS OF PARTS.   | ×                |
| DAMP HEAT (STEADY STATE)                                       |                             | EXPOSED AT 40±2 °C,<br>RELATIVE HUMIDITY 90 TO 95 %, 96 h.  |                                     |   | ×                |
| DAMP HEAT,CYCLIC   |                             | EXPOSED AT -10 TO +65 °C,<br>RELATIVE HUMIDITY 90 TO 96 %, 10 CYCLES,TOTAL 240 h.                     |                                     | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② INSULATION RESISTANCE: 1 MΩ MIN. (AT HIGH HUMIDITY)<br>③ INSULATION RESISTANCE: 50 MΩ MIN. (AT DRY)<br>④ NO DAMAGE, CRACK AND LOOSENESS OF PARTS. | ×                |
| DRY HEAT   |                             | EXPOSED AT 105±2 °C, 96 h.  |                                     | ① CONTACT RESISTANCE: 50 mΩ MAX.  | ×                |
| COLD   |                             | EXPOSED AT -40±3 °C, 96 h.  |                                     | ② NO DAMAGE, CRACK AND LOOSENESS OF PARTS.  | ×                |
| CORROSION SALT MIST  |                             | EXPOSED AT 35±2 °C 5% SALT WATER SPRAY FOR 96 h.  |                                     | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② NO EVIDENCE OF CORROSION WHICH AFFECTS TO OPERATION OF CONNECTOR.   | ×                |
| SULPHUR DIOXIDE [JIS C 60068-2-42]                             |                             | EXPOSED AT 40±2 °C , RELATIVE HUMIDITY 80±5% , 25±5 ppm FOR 96 h.                                     |                                     |   | ×                |
| HYDROGEN SULPHIDE [JIS C 60068-2-43]                           |                             | EXPOSED AT 40±2 °C , RELATIVE HUMIDITY 80±5% , 10 TO 15 ppm FOR 96 h.                                 |                                     |   | ×                |
| COUNT  | DESCRIPTION OF REVISIONS    |   | DESIGNED                            | CHECKED   | DATE             |
| △  |                             |   |                                     |   |                  |
| REMARK   |                             |   | APPROVED                            | NF. MIYAZAKI  | 16. 04. 21       |
|  |                             |   | CHECKED                             | HS. SAKAMOTO  | 16. 04. 21       |
|  |                             |   | DESIGNED                            | HK. KINOUCHI  | 16. 04. 21       |
| Unless otherwise specified, refer to IEC 60512.                |                             |   | DRAWN                               | RN. IIDA  | 16. 02. 22       |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test |                             |   | DRAWING NO.                         |   | ELC-347552-99-00 |
| HRS  | SPECIFICATION SHEET         |   | PART NO.                            | FH52E-**S-0. 5SH (99)   |                  |
|  | HIROSE ELECTRIC CO., LTD.   |   | CODE NO.                            | CL580   | △ 1/2            |

| SPECIFICATIONS   |   |  |             |                       |   |
|--|---|--|-------------|-----------------------|---|
| ITEM   | TEST METHOD   | REQUIREMENTS   | QT          | AT                    |   |
| RESISTANCE TO SOLDERING HEAT   | 1) REFLOW SOLDERING (TO BE 2 TIMES MAX.)<br>PEAK TMP. 250 °C MAX<br>REFLOW TMP. OVER 230 °C WITHIN 60 sec.<br>PRE-HEATING. 150 TO 200°C<br>90 TO 120 sec.<br>2)SOLDERING IRONS : 350 ± 10 °C,<br>FOR 5± 1 sec . | NO DEFORMATION OF CASE OF<br>EXCESSIVE LOOSENESS OF THE<br>TERMINALS.                              | X           | —                     |   |
| SOLDERABILITY  | SOLDERED AT SOLDER TEMPERATURE,<br>245±3 °C FOR IMMERSION DURATION, 3±0.3<br>sec.   | A NEW UNIFORM COATING OF SOLDER<br>SHALL COVER A MINIMUM OF 95 % OF<br>THE SURFACE BEING IMMersed. | X           | —                     |   |
| <p><b>(note 1)</b></p> <p>WHEN THE SAME VALUE OF CURRENT ARE APPLIED TO ALL CONTACTS AT THE SAME TIME IN ONCE,<br/>SET THE CURRENT TO THE 70 % OF THE RATED CURRENT VALUE.</p> |   |  |             |                       |   |
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|   | SPECIFICATION SHEET   |  | PART NO.    | FH52E-**S-0. 5SH (99) |   |
|  | HIROSE ELECTRIC CO., LTD.   |  | CODE NO     | CL580                 |  2/2 |