

| APPLICABLE STANDARD                                                                 |                             |                                                                                                                               |                                     |                                                                                                                                                                                         |                  |    |
|-------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----|
| RATING                                                                              | OPERATING TEMPERATURE RANGE | -40 °C TO 125 °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<br>HEAT RESISTANCE : 125°C                                                                                                                                   |                  |    |
| 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  |
| ELECTRICAL CHARACTERISTICS                                                          |                             |                                                                                                                               |                                     |                                                                                                                                                                                         |                  |    |
| CONTACT RESISTANCE                                                                  |                             | 1mA(DC OR 1000Hz).                                                                                                            |                                     | 50 mΩ MAX.<br>INCLUDING FPC,FPC BULK RESISTANCE (L=8mm)                                                                                                                                 | x                | x  |
| INSULATION RESISTANCE                                                               |                             | 100 V DC.                                                                                                                     |                                     | 500 MΩ MIN.                                                                                                                                                                             | x                | x  |
| VOLTAGE PROOF                                                                       |                             | 150 V AC FOR 1 min.                                                                                                           |                                     | NO FLASHOVER OR BREAKDOWN.                                                                                                                                                              | x                | x  |
| MECHANICAL CHARACTERISTICS                                                          |                             |                                                                                                                               |                                     |                                                                                                                                                                                         |                  |    |
| MECHANICAL OPERATION                                                                |                             | 20 TIMES INSERTIONS AND EXTRACTIONS.                                                                                          |                                     | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② NO DAMAGE, CRACK AND LOOSENESS OF PARTS.                                                                                                          | x                | —  |
| 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.                                                                                                              | x                | —  |
| 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.                                                                                                                                              | x                | —  |
| 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).                                                                                                                           | x                | —  |
| ENVIRONMENTAL CHARACTERISTICS                                                       |                             |                                                                                                                               |                                     |                                                                                                                                                                                         |                  |    |
| RAPID CHANGE OF TEMPERATURE                                                         |                             | TEMPERATURE -55→+15 <sub>TO</sub> +35→+125→+15 <sub>TO</sub> +35°C<br>TIME 30→ 2 TO 3 → 30→ 2 TO 3 min.<br>UNDER 1000 CYCLES. |                                     | ① CONTACT RESISTANCE: 50 mΩ MAX.<br>② INSULATION RESISTANCE: 50 MΩ MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS OF PARTS.                                                                   | x                | —  |
| DAMP HEAT (STEADY STATE)                                                            |                             | EXPOSED AT 60±2 °C,<br>RELATIVE HUMIDITY 90 TO 95 %, 1000 h.                                                                  |                                     |                                                                                                                                                                                         | x                | —  |
| 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. | x                | —  |
| DRY HEAT                                                                            |                             | EXPOSED AT 125±2 °C, 1000 h.                                                                                                  |                                     | ① CONTACT RESISTANCE: 50 mΩ MAX.                                                                                                                                                        | x                | —  |
| COLD                                                                                |                             | EXPOSED AT -55±3°C, 1000 h.                                                                                                   |                                     | ② NO DAMAGE, CRACK AND LOOSENESS OF PARTS.                                                                                                                                              | x                | —  |
| 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.                                                                                 | x                | —  |
| SULPHUR DIOXIDE [JIS C 60068-2-42]                                                  |                             | EXPOSED AT 40±2 °C , RELATIVE HUMIDITY 80±5% , 25±5 ppm FOR 96 h.                                                             |                                     |                                                                                                                                                                                         | x                | —  |
| HYDROGEN SULPHIDE [JIS C 60068-2-43]                                                |                             | EXPOSED AT 40±2 °C , RELATIVE HUMIDITY 80±5% , 10 TO 15 ppm FOR 96 h.                                                         |                                     |                                                                                                                                                                                         | x                | —  |
|                                                                                     | COUNT                       | DESCRIPTION OF REVISIONS                                                                                                      | DESIGNED                            | CHECKED                                                                                                                                                                                 | DATE             |    |
| REMARK                                                                              |                             |                                                                                                                               | APPROVED                            | NF. MIYAZAKI                                                                                                                                                                            | 16. 03. 30       |    |
|                                                                                     |                             |                                                                                                                               | CHECKED                             | HS. SAKAMOTO                                                                                                                                                                            | 16. 03. 30       |    |
|                                                                                     |                             |                                                                                                                               | DESIGNED                            | HK. KINOUCHI                                                                                                                                                                            | 16. 03. 30       |    |
|                                                                                     |                             |                                                                                                                               | DRAWN                               | RK. OGASAWARA                                                                                                                                                                           | 16. 03. 30       |    |
| Unless otherwise specified, refer to IEC 60512.                                     |                             |                                                                                                                               | DRAWING NO.                         |                                                                                                                                                                                         | ELC-365730-00-01 |    |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                      |                             |                                                                                                                               |                                     |                                                                                                                                                                                         |                  |    |
|  | SPECIFICATION SHEET         |                                                                                                                               | PART NO.                            | FH52K-**S-0. 5SH                                                                                                                                                                        |                  |    |
|                                                                                     | 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 : 400 ± 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> |                                                                                                                                                                                                                 |                                                                                                    |             |                   |                                                                                           |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                                                                                                                 |                                                                                                                                                                                                                 |                                                                                                    | DRAWING NO. |                   | ELC-365730-00-01                                                                          |
|                                                                                             | SPECIFICATION SHEET                                                                                                                                                                                             |                                                                                                    | PART NO.    | FH52K-***S-0. 5SH |                                                                                           |
|                                                                                                                                                                                | HIROSE ELECTRIC CO., LTD.                                                                                                                                                                                       |                                                                                                    | CODE NO     | CL580             |  2/2 |