

| APPLICABLE STANDARD                                                                                                                                                                   |                             |                                                                                                                               |                                                                                                                                                |                                          |                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----------------------|
| Rating                                                                                                                                                                                | Operating Temperature Range | -55 °C to 85 °C <sup>(1)</sup>                                                                                                | Storage Temperature Range                                                                                                                      | -10 °C to 60 °C <sup>(2)</sup>           |                       |
|                                                                                                                                                                                       | Voltage                     | 50 V AC                                                                                                                       | Storage Humidity Range                                                                                                                         | Relative humidity 85% max<br>(Not dewed) |                       |
|                                                                                                                                                                                       | Current                     | 0.5 A                                                                                                                         | Operating Humidity Range                                                                                                                       |                                          |                       |
| SPECIFICATIONS                                                                                                                                                                        |                             |                                                                                                                               |                                                                                                                                                |                                          |                       |
| ITEM                                                                                                                                                                                  |                             | TEST METHOD                                                                                                                   | REQUIREMENTS                                                                                                                                   | QT                                       | AT                    |
| CONSTRUCTION                                                                                                                                                                          |                             |                                                                                                                               |                                                                                                                                                |                                          |                       |
| General Examination                                                                                                                                                                   |                             | Visually and by measuring instrument.                                                                                         | According to drawing.                                                                                                                          | ×                                        | ×                     |
| Marking                                                                                                                                                                               |                             | Confirmed visually.                                                                                                           |                                                                                                                                                | ×                                        | ×                     |
| ELECTRIC CHARACTERISTICS                                                                                                                                                              |                             |                                                                                                                               |                                                                                                                                                |                                          |                       |
| Contact Resistance                                                                                                                                                                    |                             | 100 mA(DC or 1000Hz)                                                                                                          | 70 mΩ MAX.                                                                                                                                     | ×                                        | —                     |
| Insulation Resistance                                                                                                                                                                 |                             | 100 V DC.                                                                                                                     | 100 MΩ MIN.                                                                                                                                    | ×                                        | —                     |
| Voltage Proof                                                                                                                                                                         |                             | 150 V AC for 1 min.                                                                                                           | No flashover or breakdown.                                                                                                                     | ×                                        | ×                     |
| MECHANICAL CHARACTERISTICS                                                                                                                                                            |                             |                                                                                                                               |                                                                                                                                                |                                          |                       |
| Insertion And Withdrawal Forces                                                                                                                                                       |                             | Measured by applicable connector.                                                                                             | Insertion Force: 28 N MAX.<br>Withdrawal Force: 3.5 N MIN.                                                                                     | ×                                        | —                     |
| Mechanical Operation                                                                                                                                                                  |                             | 50 times insertions and extractions.                                                                                          | ① Contact Resistance:<br>Variation from initial value 20 mΩ or less.<br>② No damage, crack and looseness of parts.                             | ×                                        | —                     |
| Vibration                                                                                                                                                                             |                             | Frequency 10 to 55 to 10Hz, approx 5min<br>Single Amplitude : 0.75 mm, 10 cycles<br>for 3 axial directions.                   | ① No electrical discontinuity of 1 μs.<br>② No damage, crack and looseness of parts.                                                           | ×                                        | —                     |
| Shock                                                                                                                                                                                 |                             | 490 m/s <sup>2</sup> , duration of pulse 11 ms<br>at 3 times for 3 both axial directions.                                     |                                                                                                                                                | ×                                        | —                     |
| ENVIRONMENTAL CHARACTERISTICS                                                                                                                                                         |                             |                                                                                                                               |                                                                                                                                                |                                          |                       |
| Damp Heat (Steady state)                                                                                                                                                              |                             | Exposed at 40±2 °C, 90 ~ 95 %, 96 h.                                                                                          | ① Contact Resistance:<br>Variation from initial value 20 mΩ or less.                                                                           | ×                                        | —                     |
| Rapid Change of Temperature                                                                                                                                                           |                             | Temperature -55 → +85 °C<br>Time 30 → 30 min.<br>Under 5 cycles.<br>(Relocation time to chamber: within 2~3 MIN)              | ② Insulation Resistance : 100 MΩ MIN.<br>③ No damage, crack and looseness of parts.                                                            | ×                                        | —                     |
| Cold                                                                                                                                                                                  |                             | Exposed at -55°C, 96 h                                                                                                        | ① Contact Resistance:<br>Variation from initial value 20 mΩ or less.                                                                           | ×                                        | —                     |
| Dry Heat                                                                                                                                                                              |                             | Exposed at 85°C, 96 h                                                                                                         | ② No damage, crack and looseness of parts.                                                                                                     | ×                                        | —                     |
| Sulfur Dioxide                                                                                                                                                                        |                             | Exposed at 25±2°C, 75±5%RH, 25 PPM for 96 h.<br>(Test standard : JIS C 60068)                                                 | ① No defect such as corrosion which impairs the function of connector.<br>② Contact Resistance:<br>variation from initial value 20 mΩ or less. | ×                                        | —                     |
| Resistance to Soldering Heat                                                                                                                                                          |                             | 1)Reflow Soldering :<br>Peak TMP : 260°C MAX<br>Reflow TMP: 220°C MIN for 60sec<br>2) Soldering Irons : 360°C MAX. for 5 sec. | No deformation of case of excessive looseness of the terminal.                                                                                 | ×                                        | —                     |
| Solderability                                                                                                                                                                         |                             | Soldered at solder temperature<br>240±3°C for immersion duration, 3 sec.                                                      | A new uniform coating of solder shall cover a minimum of 95 % of the surface being immersed.                                                   | ×                                        | —                     |
|                                                                                                                                                                                       |                             |                                                                                                                               |                                                                                                                                                |                                          |                       |
|                                                                                                                                                                                       | COUNT                       | DESCRIPTION OF REVISIONS                                                                                                      | DESIGNED                                                                                                                                       | CHECKED                                  | DATE                  |
| △                                                                                                                                                                                     |                             |                                                                                                                               |                                                                                                                                                |                                          |                       |
| REMARKS <sup>(1)</sup> Include temperature rise caused by current-carrying.<br><sup>(2)</sup> "STORAGE" means a long-term storage state for the unpacked part before assembly to PCB. |                             |                                                                                                                               | APPROVED                                                                                                                                       | HS. OKAWA                                | 14. 05. 29            |
|                                                                                                                                                                                       |                             |                                                                                                                               | CHECKED                                                                                                                                        | KN. SHIBUYA                              | 14. 05. 29            |
|                                                                                                                                                                                       |                             |                                                                                                                               | DESIGNED                                                                                                                                       | TS. OONO                                 | 14. 05. 29            |
|                                                                                                                                                                                       |                             |                                                                                                                               | DRAWN                                                                                                                                          | TS. OONO                                 | 14. 05. 29            |
| Unless otherwise specified, refer to JIS-C-5402.                                                                                                                                      |                             |                                                                                                                               |                                                                                                                                                |                                          |                       |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                                                                                                                        |                             |                                                                                                                               | DRAWING NO.                                                                                                                                    |                                          | ELC4-348426-00        |
| HRS                                                                                                                                                                                   | SPECIFICATION SHEET         |                                                                                                                               | PART NO.                                                                                                                                       |                                          | FX20-40S-0. 5SH       |
|                                                                                                                                                                                       | HIROSE ELECTRIC CO., LTD.   |                                                                                                                               | CODE NO.                                                                                                                                       |                                          | CL570-1601-8-00 △ 1/1 |