



|  |                             |  |         |             |  |   |            |          |
|--|-----------------------------|--|---------|-------------|--|---|------------|----------|
| Applicable standard  |                             |  |         |             |  |   |            |          |
| RATING   | Operating temperature range | -55°C to + 85°C (Note 1)   |         |             | Storage temperature range  | -10°C to + 60°C (Note 3)                      |            |          |
|  | Operating humidity range    | 20% to 80% (Note 2)  |         |             | Storage humidity range   | 40% to 70% (Note 3)                           |            |          |
|  | Voltage                     | 1000V AC/DC  |         |             | Applicable connector   | DF22-*S-7. 92C (28)<br>DF22#-*S-7. 92C #=B, C |            |          |
|  | Current (*1)                | Contact  | 2, 3    | 4, 5        | Current (*2)   | Contact                                       | 2, 3       | 4, 5     |
|  |                             | AWG10  | 38A/pin | 33A/pin     |  | AWG10   | 25A/pin    | 22A/pin  |
| AWG12  |                             | 32A/pin  | 26A/pin | AWG12       |  | 20A/pin                                       | 18A/pin    |          |
| AWG14  |                             | 23A/pin  | 22A/pin | AWG14       |  | 18A/pin                                       | 15A/pin    |          |
|  | AWG16                       | 21A/pin  | 19A/pin |             | AWG16  | 15A/pin                                       | 13A/pin    |          |
| RATED VOLTAGE  |                             | RATED CURRENT  |         |             | OVERVOLTAGE CATEGORY   |   | IP- DEGREE |          |
| UL   |                             | 600V AC/DC   |         |             | SEE ABOVE LEFT (*1)<br>(AT AMBIENT TEMP. 25°C) (NOTE 4)                              |   | —          |          |
| C-UL   |                             | 600V AC/DC   |         |             | SEE ABOVE RIGHT (*2)<br>(TEMP. RISE UP 30°C MAX)                                     |   | —          |          |
| TUV  |                             | 600V AC/DC   |         |             | SEE ABOVE RIGHT (*2)   |   | II IP00    |          |
| 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        |
| Electric characteristics                                       |                             |  |         |             |  |   |            |          |
| Contact resistance   |                             | 20mV MAX, 1mA (DC or 1000 Hz).   |         |             | 5mΩ MAX.   |   | X          | —        |
| Millivolt level method   |                             |  |         |             |  |   |            |          |
| Insulation resistance  |                             | 1000V DC.  |         |             | 1000MΩ MIN.  |   | X          | —        |
| Voltage proof  |                             | 2500V AC for 1 min.  |         |             | No flashover or breakdown.   |   | X          | —        |
| Mechanical characteristics                                     |                             |  |         |             |  |   |            |          |
| Mechanical operation   |                             | 50 times insertions and extractions.                                       |         |             | 1) Contact resistance: 10mΩ 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          | —        |
|  |                             |  |         |             |  |   |            |          |
|  |                             |  |         |             |  |   |            |          |
|  | Count                       | Description of revisions   |         | Designed    |  | Checked                                       |            | Date     |
| △  |                             |  |         |             |  |   |            |          |
| Unless otherwise specified , refer to IEC 60512.               |                             |  |         |             | Approved   | HS. OKAWA                                     |            | 20200310 |
|  |                             |  |         |             | Checked  | SZ. ONO                                       |            | 20200310 |
|  |                             |  |         |             | Designed   | SN. MIWA                                      |            | 20200310 |
|  |                             |  |         |             | Drawn  | DS. HIROWATARI                                |            | 20200306 |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test |                             |  |         | Drawing no. |  | ELC-163718-53-00                              |            |          |
| HRS  | Specification sheet         |  |         | Part no.    |  | DF22-*P-7. 92DS (53)                          |            |          |
|  | Hirose electric co., ltd.   |  |         | Code no.    |  | CL680   |            | △ 1/2    |

| Specifications  |  |   |                      |   |     |
|---|--|---|----------------------|---|-----|
| Item  | Test method  | Requirements  | QT                   | AT  |     |
| ENVIRONMENTAL CHARACTERISTICS   |  |   |                      |   |     |
| Rapid change of temperature   | Temperature -55→ 5 to 35→+85→ 5 to 35 °c<br>Time 30→ 5 max → 30 → 5 max min<br>Under 5 cycles.   | 1) Contact resistance: 10mΩ MAX.<br>2) Insulation resistance: 1000MΩ 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: 10mΩ MAX.<br>2) Insulation resistance: 500MΩ MIN.<br>3) No damage, crack or looseness of parts.  | X                    | —   |     |
| RESISTANCE TO SOLDERING HEAT  | 1) Solder bath method<br>Solder temperature : 260°C for Immersion,duration : 10 sec .<br>2) Manual soldering<br>Soldering iron temperature : 350°C<br>Soldering time : 3 sec.<br>No strength on contact. | No deformation of case of excessive looseness of the terminals.   | X                    | —   |     |
| SOLDERABILITY   | Soldered at solder temperature, 245°C for insertion duration, 5sec.  | Solder shall cover a minimum of 95 % of the surface being immersed.   | X                    | —   |     |
|   |  |   |                      |   |     |
| Remarks<br>Note1: Include the temperature rising by current.<br>Note2: No condensing<br>Note3: Apply to the condition of long term storage for unused products before mount on pcb,<br>After mounted on pcb, operating temperature and humidity range is applied for interim storage during transportation.<br>Note4: Indicates the current that corresponds to the RTI value (temperature at which performance is halved) of the resin when the ambient temperature is 25°C. |  |   |                      |   |     |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test  |  | DRAWING NO.   | ELC-163718-53-00     |   |     |
|    | SPECIFICATION SHEET  | PART NO.  | DF22-*P-7. 92DS (53) |   |     |
|   | HIROSE ELECTRIC CO., LTD.  | CODE NO.  | CL680                |  | 2/2 |