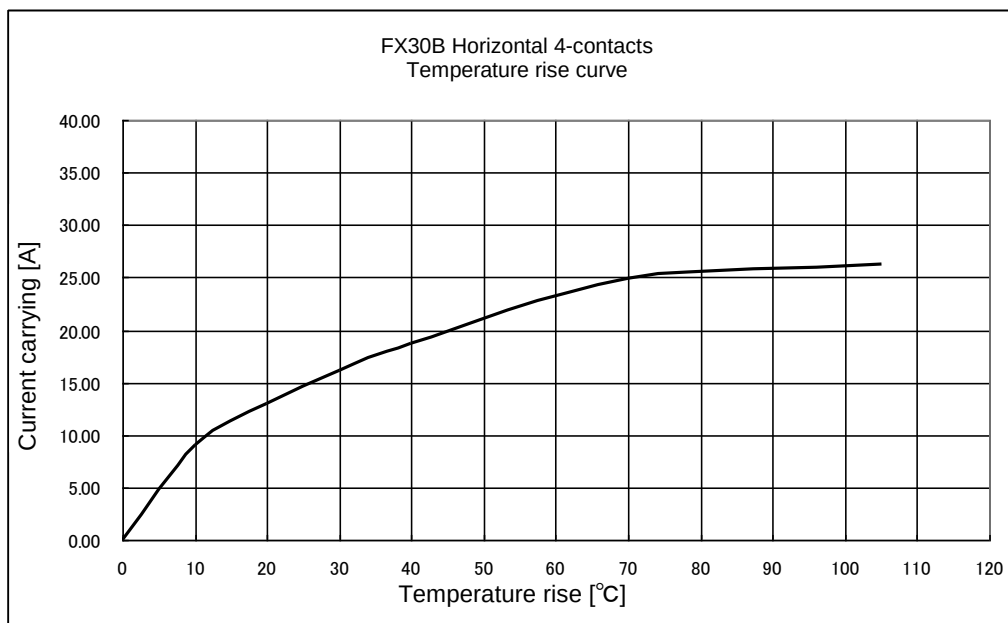
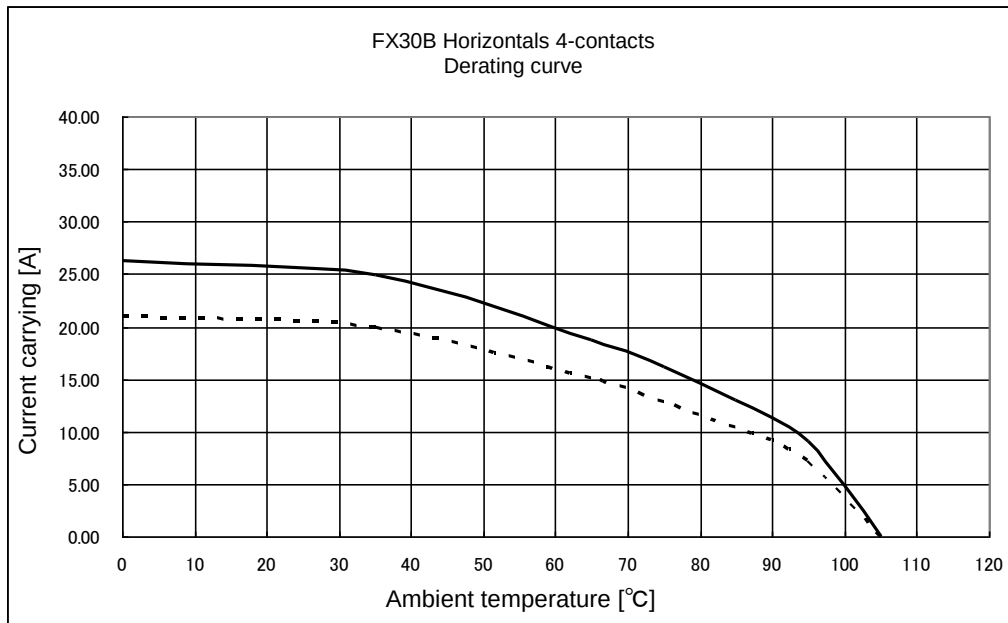


|                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                |                                                                                                                          |                             |                                                                                                          |                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Applicable standard                                                                                                                                                                                                                                 |                                                                                                                                                                                | UL : UL1977, C-UL : CSA22.2 No.182.3-M1987, TÜV : EN61984:2009 <sup>(3)</sup>                                            |                             |                                                                                                          |                                                                                           |
| RATING                                                                                                                                                                                                                                                                                                                               | Voltage <br> | 250 V AC/DC(UL/C-UL)                                                                                                     | Operating Temperature Range | -55 °C to 105 °C <sup>(1)</sup>                                                                          |                                                                                           |
|                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                | 150V AC/DC(TÜV)                                                                                                          | Operating Humidity Range    | Relative Humidity 85% max (Not dewed)                                                                    |                                                                                           |
|                                                                                                                                                                                                                                                                                                                                      | Current <br> | 20 A (AMBIENT TEM 25°C)                                                                                                  | Storage Temperature Range   | -10 °C to 60 °C <sup>(2)</sup>                                                                           |                                                                                           |
|                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                | 13 A (UL/C-UL)<br>15 A (TÜV)                                                                                             | Storage Humidity Range      | 40 % to 70 % <sup>(2)</sup>                                                                              |                                                                                           |
| 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                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                | 10 mA(DC or 1000Hz)                                                                                                      |                             | 2 mΩ MAX.                                                                                                | x —                                                                                       |
| Insulation Resistance                                                                                                                                                                                                                               |                                                                                                                                                                                | 250 V DC.                                                                                                                |                             | 1000 MΩ MIN.                                                                                             | x —                                                                                       |
| Voltage Proof                                                                                                                                                                                                                                       |                                                                                                                                                                                | 750 V AC for 1 min.                                                                                                      |                             | No flashover or breakdown.                                                                               | x —                                                                                       |
| MECHANICAL CHARACTERISTICS                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                |                                                                                                                          |                             |                                                                                                          |                                                                                           |
| Insertion and Withdrawal Forces                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                | Measured by applicable connector.                                                                                        |                             | Insertion Force: 20 N MAX.<br>Withdrawal Force: 0.8 N MIN.                                               | x —                                                                                       |
| Mechanical Operation                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                | 100 times insertions and extractions.                                                                                    |                             | ① Contact Resistance: 5 mΩ MAX.<br>② No damage, crack and looseness of parts.                            | x —                                                                                       |
| 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.                     | x —                                                                                       |
| Shock                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                | 490 m/s <sup>2</sup> , duration of pulse 11 ms,<br>3 times to both directions in 3 axial directions.                     |                             |                                                                                                          | x —                                                                                       |
| ENVIRONMENTAL CHARACTERISTICS                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                |                                                                                                                          |                             |                                                                                                          |                                                                                           |
| Damp Heat (Steady State)                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                | Exposed at 40±2 °C, 90 ~ 95 %, 96 ±4h.                                                                                   |                             | ① Contact Resistance: 5mΩ MAX.<br>② Insulation Resistance: 1000 MΩ MIN.                                  | x —                                                                                       |
| Rapid Change of Temperature                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                | Temperature -55 → +105 °C<br>Time 30 → 30 min.<br>under 5 cycles.<br>(Relocation time to chamber: within 2~3 MIN)        |                             | ③ No damage, crack and looseness of parts.                                                               | x —                                                                                       |
| Dry heat                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                | Exposed at +105±2°C for 96±4h.                                                                                           |                             |                                                                                                          | x —                                                                                       |
| Cold                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                | Exposed at -55±2°C for 96±4h.                                                                                            |                             |                                                                                                          | x —                                                                                       |
| Sulfur Dioxide                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                | Exposed at 25±2°C, 75±5%RH,<br>25 PPM for 96h±4h.                                                                        |                             | ① Contact Resistance: 5mΩ MAX.<br>② No defect such as corrosion which impairs the function of connector. | x —                                                                                       |
| Resistance to Soldering Heat                                                                                                                                                                                                                      |                                                                                                                                                                                | Solder bath : Solder temperature 260±5°C<br>for immersion, duration 10±1sec.<br>Soldering irons : 380°C MAX. for 10 sec. |                             | No deformation of case of excessive looseness of the terminal.                                           | x —                                                                                       |
| Solderability                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                | Soldered at solder temperature 240±3°C<br>for immersion, duration 3 sec.                                                 |                             | A new uniform coating of solder shall cover a minimum of 95 % of the surface being immersed.             | x —                                                                                       |
|                                                                                                                                                                                                                                                                                                                                      | COUNT                                                                                                                                                                          | DESCRIPTION OF REVISIONS                                                                                                 | DESIGNED                    | CHECKED                                                                                                  | DATE                                                                                      |
|                                                                                                                                                                                                                                                   | 2                                                                                                                                                                              | DIS-F-00002346                                                                                                           | TS. 00N0                    | HT. YAMAGUCHI                                                                                            | 17. 05. 12                                                                                |
| REMARKS <sup>(1)</sup> Include temperature rise caused by current-carrying.<br><sup>(2)</sup> "Storage" means a long-term storage state for the unused product before assembly to PCB.<br><sup>(3)</sup> Pollution degree:2 type of terminals :dip solder contacts.<br><br>Unless otherwise specified, refer to JIS-C-5402,IEC60512. |                                                                                                                                                                                |                                                                                                                          | APPROVED                    | HS. OKAWA                                                                                                | 13. 03. 07                                                                                |
|                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                |                                                                                                                          | CHECKED                     | KI. HIROKAWA                                                                                             | 13. 03. 07                                                                                |
|                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                |                                                                                                                          | DESIGNED                    | DK. AIMOTO                                                                                               | 13. 03. 07                                                                                |
|                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                |                                                                                                                          | DRAWN                       | DK. AIMOTO                                                                                               | 13. 03. 07                                                                                |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                                                                                                                                                                                                                                                                       |                                                                                                                                                                                |                                                                                                                          | DRAWING NO.                 |                                                                                                          | ELC4-347278-00                                                                            |
|                                                                                                                                                                                                                                                   | SPECIFICATION SHEET                                                                                                                                                            |                                                                                                                          | PART NO.                    | FX30B-4S-3. 81DS                                                                                         |                                                                                           |
|                                                                                                                                                                                                                                                                                                                                      | HIROSE ELECTRIC CO., LTD.                                                                                                                                                      |                                                                                                                          | CODE NO.                    | CL570-3602-1-00                                                                                          |  1/2 |



[REFERENCE]



(note 4) Derating curve takes manufacturing tolerances into consideration as well as uncertainties in temperature measurement and the measuring set up and is derived from the base curve multiplied by 0.8 calculation.

(note 5) The value of rated current differs depending on the ambient temperature.  
it is recommended to use the product within the derating curve zone.  
if used under UL or TUV standard, please use within the standard specification.

(note 6) Measurement method of derating curve is shown below.

- Test Specimen : used FX30B-4P-3.81DS.  
used FX30B-4S-3.81DS.
- Test condition : Turn on electricity under the static state and measure.  
(Test report # TR570E-20627)

Note QT:Qualification Test AT:Assurance Test X:Applicable Test

DRAWING NO.

ELC4-347278-00



SPECIFICATION SHEET

PART NO.

FX30B-4S-3. 81DS

HIROSE ELECTRIC CO., LTD.

CODE NO.

CL570-3602-1-00



2/2