



**THE DATASHEET OF  
TF31-14S-0.5SH(800)**



Jun.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.  
In case of consideration for using Automotive equipment / device which demand high reliability, kindly contact our sales window correspondents.

|  | COUNT                       | DESCRIPTION OF REVISIONS   | BY                            | CHKD                            | DATE     |  | COUNT                      | DESCRIPTION OF REVISIONS                                   | BY                          | CHKD                                       | DATE |  |
|--|-----------------------------|--|-------------------------------|---------------------------------|----------|--|----------------------------|--|-----------------------------|--|------|--|
| ①  | 8                           | RE-5-2033  | Y.K.G                         | C.D.H                           | 18.10.04 | △  |                            |  |                             |  |      |  |
| ②  | 1                           | RE-5-2988  | C.Y.H                         | C.D.H                           | 23.04.24 | △  |                            |  |                             |  |      |  |
| <b>APPLICABLE STANDARD</b>   |                             |  |                               |                                 |          |  |                            |  |                             |  |      |  |
| RATING   | OPERATING TEMPERATURE RANGE |  | ① -40°C ~ +105°C (note1)      |                                 |          | STORAGE TEMPERATURE RANGE  |                            | -10°C ~ +50°C(Packed Condition)                            |                             |  |      |  |
|  | VOLTAGE                     |  | 50V [AC(rms) / DC]            |                                 |          | OPERATING OR STORAGE HUMIDITY RANGE  |                            | RELATIVE HUMIDITY 90% MAX (NOT DEWED)                      |                             |  |      |  |
|  | CURRENT                     |  | ① 0.5A [AC(rms) / DC] (note2) |                                 |          | APPLICABLE CABLE   |                            | FPC/FFC (TYPE A : t=0.3±0.03mm)<br>(TYPE B : t=0.3±0.05mm) |                             |  |      |  |
| <b>SPECIFICATIONS</b>  |                             |  |                               |                                 |          |  |                            |  |                             |  |      |  |
| ITEM   |                             | TEST METHOD  |                               |                                 |          | REQUIREMENTS   |                            |  |                             | QT   | AT   |  |
| <b>CONSTRUCTION</b>  |                             |  |                               |                                 |          |  |                            |  |                             |  |      |  |
| GENERAL EXAMINATION  |                             | VISUALLY AND BY MEASURING INSTRUMENT   |                               |                                 |          | ACCORDING TO DRAWING   |                            |  |                             | ○  | ○    |  |
| MARKING  |                             | CONFIRMED VISUALLY   |                               |                                 |          |  |                            |  |                             | ○  | ○    |  |
| <b>ELECTRICAL CHARACTERISTICS</b>  |                             |  |                               |                                 |          |  |                            |  |                             |  |      |  |
| CONTACT RESISTANCE   |                             | MATE APPLICABLE FPC/FFC AND APPLY A CURRENT OF AC 20mV MAX, 1mA  |                               |                                 |          | 50 mΩ MAX.<br>INCLUDING FPC/FFC BULK RESISTANCE(L=8mm)   |                            |  |                             | ○  | ○    |  |
| INSULATION RESISTANCE  |                             | MATE APPLICABLE FPC/FFC AND APPLY A VOLTAGE OF DC 100V   |                               |                                 |          | 500 MΩ MIN.  |                            |  |                             | ○  | ○    |  |
| VOLTAGE PROOF  |                             | MATE APPLICABLE FPC/FFC AND APPLY A VOLTAGE OF AC 150V FOR 1 min.  |                               |                                 |          | ① NO BREAKDOWN.  |                            |  |                             | ○  | ○    |  |
| <b>MECHANICAL CHARACTERISTICS</b>  |                             |  |                               |                                 |          |  |                            |  |                             |  |      |  |
| FPC RETENSION FORCE  |                             | ① MEASURE BY APPLICABLE FPC/FFC(t=0.3) AT INITIAL CONDITION  |                               |                                 |          | ① HORIZONTAL DIRECTION : 0.4N*n min.<br>② VERTICAL DIRECTION : 0.3N*n min.<br>(n = Number of Contacts)(note 3) |                            |  |                             | ○  | -    |  |
| MECHANICAL OPERATION   |                             | 20 TIMES INSERTIONS AND EXTRATIONS   |                               |                                 |          | ① CONTACT RESISTANCE: 50mΩ MAX<br>② NO DAMAGE, CRACK AND LOOSENESS OF PARTS                                    |                            |  |                             | ○  | -    |  |
| VIBRATION  |                             | FREQUENCY 10 ~ 55 Hz, TOTAL AMPLITUDE 1.5 mm AT 2h, IN 3 DIRECTIONS  |                               |                                 |          | ① NO ELECTRICAL DISCONTINUITY OF 1μs.<br>② CONTACT RESISTANCE : 50mΩ MAX                                       |                            |  |                             | ○  | -    |  |
| SHOCK  |                             | 981m/s <sup>2</sup> DIRECTION OF PULSE 6ms AT 3 TIMES IN 3 DIRECTIONS.   |                               |                                 |          | ③ NO DAMAGE, CRACK AND LOOSENESS OF PARTS  |                            |  |                             | ○  | -    |  |
| <b>ENVIRONMENTAL CHARACTERISTICS</b>   |                             |  |                               |                                 |          |  |                            |  |                             |  |      |  |
| DAMP HEAT(STEADY STATE)  |                             | EXPOSED AT 40±2°C, 90~95 %, 96Hr.  |                               |                                 |          | ① CONTACT RESISTANCE: 50 mΩ MAX.   |                            |  |                             | ○  | -    |  |
| RAPID CHANGE OF TEMPERATURE  |                             | ① TEMPERATURE: -40±2→-15→-35→+105±2→-15→-35 °C<br>TIME : 30 → 2~3 → 30 → 2~3 min.<br>UNDER 5 CYCLES.                 |                               |                                 |          | ② INSULATION RESISTANCE: 50MΩ MIN.<br>③ NO DAMAGE, CRACK OR LOOSENESS OF PARTS.                                |                            |  |                             | ○  | -    |  |
| DAMP HEAT, CYCLE   |                             | TEMPERATURE -10→+65<br>HUMIDITY : 90~95%<br>10 CYCLE(240Hr)  |                               |                                 |          |  |                            |  |                             | ○  | -    |  |
| DRY HEAT   |                             | ① EXPOSED AT 105±2°C, 96Hr   |                               |                                 |          | ① CONTACT RESISTANCE : 50mΩ MAX  |                            |  |                             | ○  | -    |  |
| COLD   |                             | EXPOSED AT -40±2°C, 96Hr   |                               |                                 |          | ② NO DAMAGE, CRACK OR LOOSENESS OF PARTS.  |                            |  |                             | ○  | -    |  |
| CORROSION SALT SPRAY   |                             | EXPOSED AT 35±2°C, 5±1% SALT WATER SPRAY FOR 48Hr  |                               |                                 |          | ① CONTACT RESISTANCE 50mΩ MAX<br>② NO DAMAGE, CRACK OR LOOSENESS OF PARTS.                                     |                            |  |                             | ○  | -    |  |
| HYDROGEN SULPHIDE  |                             | EXPOSED IN 3 PPM FOR 96Hr.<br>(TEST STANDARD : JEIDA-38)   |                               |                                 |          | ③ NO EVIDENCE OF CORROSION WHICH AFFECTS TO OPERATION OF CONNECTOR.  |                            |  |                             | ○  | -    |  |
| RESISTANCE TO SOLDERING HEAT   |                             | 1) REFLOW SOLDERING:<br>PEAK TMP. : 250°C MAX. TMP. 230°C MIN FOR 60s<br>2) SOLDERING IRONS TMP. : 350±10°C FOR 5±1s |                               |                                 |          | ① NO DEFORMATION OF CASE OF EXCESSIVE LOOSENESS OF THE TERMINALS.<br>② NO DAMAGE OF ELECTRICAL PERFORMANCE     |                            |  |                             | ○  | -    |  |
| SOLDER ABILITY   |                             | SOLDER DIPPING TEMPERATURE 245±5°C<br>(TEST STANDARD : MIL-STD-202)<br>FOR IMMERSION DURATION, 3±0.3 sec.            |                               |                                 |          | A NEW UNIFORM COATING OF SOLDER SHALL COVER A MINIMUM OF 95% OF THE SURFACE BEING IMMERSUED.                   |                            |  |                             | ○  | -    |  |
| <p>① (note 1)<br/>FOLLOW THE SPECIFICATIONS OF FPC/FFC IF IT'S ALLOWABLE MAXIMUM OPERATING TEMPERATURE IS BELOW 105°C</p> <p>① (note 2)<br/>WHEN THE SAME VALUE OF CURRENT ARE APPLIED TO ALL CONTACTS AT THE SAME TIME IN ONCE, SET THE CURRENT TO THE 70% OF THE RATED CURRENT VALUE.</p> <p>① (note 3)<br/>THERE'S A CASE WHICH FPC/FFC RETENTION FORCE DOESN'T FULFILL THE VALUE, BECAUSE FPC/FFC SPECIFICATION AFFECTS THE RESULT OF FPC/FFC RETENTION FORCE.</p> |                             |  |                               |                                 |          |  |                            |  |                             |  |      |  |
| <b>REMARKS</b>   |                             | <b>CONDITIONS FOR TESTING</b>  |                               |                                 |          | <b>DRAWN</b><br>B.J KIM  | <b>DESIGNED</b><br>B.J KIM | <b>CHECKED</b><br>D.H CHO                                  | <b>APPROVED</b><br>H.C SONG | <b>RELEASED</b><br>ENG<br>23.04.24<br>DEPT |      |  |
|  |                             | UNLESS OTHERWISE SPECIFIED, REFER TO JIS C 5402.   |                               |                                 |          | 18.03.02   | 18.03.02                   | 18.03.02   | 18.03.02                    |  |      |  |
| <b>NOTE</b> QT: QUALIFICATION TEST AT: ASSURANCE TEST O: APPLICABLE TEST   |                             |  |                               |                                 |          |  |                            |  |                             |  |      |  |
| HIROSE KOREA CO.,LTD.  |                             |  |                               | SPECIFICATION SHEET             |          |  |                            | PART NO.<br>TF31-**S-0.5SH (800)                           |                             |  |      |  |
| CODE NO.(OLD)<br>CL  |                             | DRAWING NO.<br>ELC4-632346   |                               | CODE NO.<br>CL 6535-****-* -800 |          |  |                            |  |                             | 1<br>1                                     |      |  |

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- [View TF31-14S-0.5SH\(800\) on WIN SOURCE](#)
- [Hirose Electric Co Ltd Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management