

In case of consideration for using Automotive equipment / device which demand high reliability, kindly contact our sales window correspondents.

| APPLICABLE STANDARD         |                          | STORAGE TEMPERATURE RANGE |                                   |
|-----------------------------|--------------------------|---------------------------|-----------------------------------|
| OPERATING TEMPERATURE RANGE | -35°C T0 +85°C (NOTES 1) | STORAGE TEMPERATURE RANGE | -10°C T0 +60°C (NOTE3)            |
| OPERATING HUMIDITY RANGE    | 20 % T0 80 % (NOTES 2)   | STORAGE HUMIDITY RANGE    | 40 % T0 70 % (NOTE3)              |
| VOLTAGE                     | 150 V AC (DC)            | CURRENT                   | 1 A                               |
| APPLICABLE CONNECTOR        | DF13-*S-1.25C            | APPLICABLE CONTACT        | DF13(G)-2630SCFA<br>DF13-3032SCFA |

### SPECIFICATIONS

| ITEM | TEST METHOD | REQUIREMENTS | QT | AT |
|------|-------------|--------------|----|----|
|------|-------------|--------------|----|----|

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|---------------------|--|--|--|--|
| <b>CONSTRUCTION</b> |  |  |  |  |
|---------------------|--|--|--|--|

|                     |                                       |                       |   |   |
|---------------------|---------------------------------------|-----------------------|---|---|
| GENERAL EXAMINATION | VISUALLY AND BY MEASURING INSTRUMENT. | ACCORDING TO DRAWING. | X | X |
| MARKING             | CONFIRMED VISUALLY.                   |                       | X | X |

|                                 |  |  |  |  |
|---------------------------------|--|--|--|--|
| <b>ELECTRIC CHARACTERISTICS</b> |  |  |  |  |
|---------------------------------|--|--|--|--|

|                       |                          |                            |   |   |
|-----------------------|--------------------------|----------------------------|---|---|
| CONTACT RESISTANCE    | 100 m A (DC OR 1000 Hz). | 30 mΩ MAX.                 | X | - |
| INSULATION RESISTANCE | 100 V DC.                | 500 MΩ MIN.                | X | - |
| VOLTAGE PROOF         | 500 V AC FOR 1 min.      | NO FLASHOVER OR BREAKDOWN. | X | - |

|                                   |  |  |  |  |
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| <b>MECHANICAL CHARACTERISTICS</b> |  |  |  |  |
|-----------------------------------|--|--|--|--|

|                      |  |  |   |   |
|----------------------|--|--|---|---|
| MECHANICAL OPERATION | 50 TIMES INSERTIONS AND EXTRactions.                                       | ① CONTACT RESISTANCE: 30 mΩ 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.  |  | X | - |

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| <b>ENVIRONMENTAL CHARACTERISTICS</b> |  |  |  |  |
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|-----------------------------|--|--|---|---|
| RAPID CHANGE OF TEMPERATURE | TEMPERATURE -55→ 15 TO 35→+85→ 15 TO 35 °C<br>TIME 30→ 2 TO 3→30→ 2 TO 3 min.<br>UNDER 5 CYCLES. | ① CONTACT RESISTANCE: 30mΩ MAX.<br>② INSULATION RESISTANCE: 500 MΩ 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.  |  | X | - |

|                              |   |  |   |   |
|------------------------------|---|--|---|---|
| RESISTANCE TO SOLDERING HEAT | 1) REFLOW SOLDERING<br>« REFLOW AREA »<br>250°C MAX 10 sec MAX<br>230°C MIN 60 sec MAX<br>« PREHEATING AREA »<br>170°C TO 190°C 60 sec TO 120 sec<br>PUT THROUGH IN REFLOW FURNACE TWICE,<br>LEAVE IN AMBIENT TEMPERATURE AND<br>HUMIDITY FOR 1 HOUR.<br>2) MANUAL SOLDERING<br>SOLDERING IRON TEMPERATURE :350°C,<br>SOLDERING TIME : 3sec.<br>NO STRENGTH ON CONTACT. | NO DEFORMATION OF CASE OF EXCESSIVE<br>LOOSENESS OF THE TERMINALS.     | X | - |
| SOLDERABILITY                | SOLDERED AT SOLDER TEMPERATURE,<br>245°C FOR INSERTION DURATION, 3sec.  | SOLDER SHALL COVER A MINIMUM OF<br>95 % OF THE SURFACE BEING IMMERSed. | X | - |

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|---|--|--|--|--|
| <b>REMARKS</b>  |  |  |  |  |
| NOTE1: INCLUDE THE TEMPERATURE RISING BY CURRENT  |  |  |  |  |
| NOTE2:NO CONDENSING   |  |  |  |  |
| NOTE3:APPLY TO THE CONDITION OF LONG TERM STORAGE FOR UNUSED PRODUCTS BEFORE PCB ON BOARD,<br>AFTER PCB BOARD , OPERATING TEMPERATURE AND HUMIDITTY RANGE IS APPLIED FOR INTERIM STORAGE DURING TRANSPORTATION. |  |  |  |  |

Unless otherwise specified, refer to JIS C 5402.

| △ | COUNT | DESCRIPTION OF REVISIONS | DESIGNED | CHECKED                                  | DATE  |
|---|-------|--------------------------|----------|--|---|
|   |       |                          |          | APPROVED<br>CHECKED<br>DESIGNED<br>DRAWN | TS. SAKATA<br>TS. FUKUSHIMA<br>KT. ISHII<br>KT. ISHII |
|   |       |                          |          |  | 09.11.04<br>09.11.04<br>09.11.01<br>09.11.01          |

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

|             |                |
|-------------|----------------|
| DRAWING NO. | ELC4-162444-07 |
|-------------|----------------|

|                           |  |                            |       |          |                    |
|---------------------------|--|----------------------------|-------|----------|--------------------|
| <b>HRS</b>                |  | <b>SPECIFICATION SHEET</b> |       | PART NO. | DF13A-*P-1.25H(51) |
| HIROSE ELECTRIC CO., LTD. |  | CODE NO.                   | CL536 |          |                    |
|                           |  |                            |       | △        | 1/1                |