







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| APPLICABLE STANDARD   |  | IEC 61076-3-124                      |   |   |   |
|---|--|--------------------------------------|---|---|---|
| Rating  | Operating Temperature Range  | -40°C TO +85°C(95%RH max)<br>(note1) | Storage Temperature Range   | -30°C TO +60°C(95%RH max)<br>(note1)            |   |
|   | Voltage  | 50 V AC / 60 V DC                    | Current   | 1.5 A/pin (all pin)<br>3 A/pin (pin No.1,2,6,7) |   |
| SPECIFICATIONS  |  |                                      |   |   |   |
| ITEM  | TEST METHOD  |                                      | REQUIREMENTS  | QT  | AT  |
| CONSTRUCTION  |  |                                      |   |   |   |
| General Examination   | Examined visually and with a measuring instrument.   |                                      | According to drawing.   | X   | X   |
| Marking   | Confirmed visually.  |                                      | According to drawing.   | X   | X   |
| ELECTRIC CHARACTERISTICS  |  |                                      |   |   |   |
| Contact Resistance  | Measured at 100 mA max (DC or 1000 Hz).  |                                      | Contact : 30 mΩ max.<br>Shield : 100 mΩ max.  | X   | —   |
| Insulation Resistance   | Measured at 500 V DC.  |                                      | 500 MΩ min.   | X   | —   |
| Voltage Proof   | 500 V DC applied for 1 min. Current leakage 2mA max.   |                                      | No flashover or breakdown.  | X   | —   |
| Insertion Loss  | Measured in the range of 1 to 500 MHz.   |                                      | 0.02 √(f) dB max.<br>(Whenever the formula results in a value less than 0.1 dB, the requirement shall revert to 0.1 dB.)  | X   | —   |
| Return Loss   | Measured in the range of 1 to 500 MHz.   |                                      | 68 – 20log(f) dB min.<br>(Whenever the formula results in a value greater than 30 dB, the requirement shall revert to 30 dB.)   | X   | —   |
| Near end Crosstalk  | Measured in the range of 1 to 500 MHz.   |                                      | 94 – 20log(f) dB min. (1MHz to 250MHz)<br>46.04 – 30log(f/250) dB min. (250MHz to 500MHz)<br>(Whenever the formula results in a value greater than 75 dB, the requirement shall revert to 75 dB.) | X   | —   |
| Far end Crosstalk   | Measured in the range of 1 to 500 MHz.   |                                      | 83.1 – 20log(f) dB min.<br>(Whenever the formula results in a value greater than 75 dB, the requirement shall revert to 75 dB.)   | X   | —   |
| Transverse Conversion Loss  | Measured in the range of 1 to 500 MHz.   |                                      | 68 – 20log(f) dB min.<br>(Whenever the formula results in a value greater than 50 dB, the requirement shall revert to 50 dB.)   | X   | —   |
| Transverse Conversion Transfer Loss   | Measured in the range of 1 to 500 MHz.   |                                      | 68 – 20log(f) dB min.<br>(Whenever the formula results in a value greater than 50 dB, the requirement shall revert to 50 dB.)   | X   | —   |
| MECHANICAL CHARACTERISTICS  |  |                                      |   |   |   |
| Insertion And Withdrawal Forces   | A maximum rate of 50 mm/min.<br>Measured by applicable connector.  |                                      | Insertion force 25 N max.<br>Withdrawal force 25 N max.   | X   | —   |
| Mechanical Operation  | 5000 times insertions and extractions.<br>Mating speed : 10 mm/s max.<br>Rest : 5s, min.(unmated)        |                                      | 1) Resistance:<br>Contact : 80 mΩ max.<br>Shield : 100 mΩ max.<br>2) No damage, cracks or looseness of parts.   | X   | —   |
| Vibration   | Frequency 10 to 500 Hz<br>0.35 mm, 50 m/s <sup>2</sup><br>2hrs in each of 3 mutually perpendicular axis. |                                      | 1) No electrical discontinuity of 1μs.<br>2) No damage, cracks or looseness of parts.   | X   | —   |
|   | COUNT  | DESCRIPTION OF REVISIONS             | DESIGNED  | CHECKED   | DATE  |
|  | 1  | DIS-E-00001800                       | JY.IGA  | KI.NAGANUMA                                     | 20181005  |
| Note  |  |                                      | APPROVED  | RI.TAKAYASU                                     | 20170328  |
| Note 1. Non-condensing.   |  |                                      | CHECKED   | KI.NAGANUMA                                     | 20170328  |
| Unless otherwise specified, refer to IEC 60512.                                     |  |                                      | DESIGNED  | HT.SATO   | 20170328  |
|   |  |                                      | DRAWN   | HT.SATO   | 20170328  |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                      |  |                                      | DRAWING NO.   | ELC-129485-01-00                                |   |
|  | SPECIFICATION SHEET  |                                      | PART NO.  | IX31G-A-10S-CV (7. 0) (01)                      |   |
|   | HIROSE ELECTRIC CO., LTD.  |                                      | CODE NO.  | CL251-0023-0-01                                 |  1/2 |

| SPECIFICATIONS  |   |   |             |                           |   |
|---|---|---|-------------|---------------------------|---|
| ITEM  | TEST METHOD   | REQUIREMENTS  | QT          | AT                        |   |
| Fretting Corrosion  | 490 m/s <sup>2</sup> , 30 times/min at 1000 times.  | 1) No electrical discontinuity of 1μs.<br>2) No damage, cracks or looseness of parts.   | X           | —                         |   |
| Shock   | Subject mated specimens to 300 m/s <sup>2</sup> half-sine shock pulses of 11 milliseconds duration, 3 shocks in both directions of 3 mutually perpendicular directions (totally 18 shocks)  | 1) No electrical discontinuity of 1μs.<br>2) No damage, cracks or looseness of parts.   | X           | —                         |   |
| Lock Strength   | Applying 80 N force for the mating axis direction in state in fitted with applicable connector.   | No unlocking, damage, cracks or looseness of parts.   | X           | —                         |   |
| Wrenching Strength  | Applying 25times of 30 N 1s for 2 axis direction on tip of plug case in state in fitted with applicable connector.  | No damage, cracks or looseness of parts.  | X           | —                         |   |
| ENVIRONMENTAL CHARACTERISTICS   |   |   |             |                           |   |
| Rapid Change of Temperature   | Subject mated specimens to 10 cycles between -55°C and 85°C with 30 minutes dwell at temp. Extremes and 1 minute transition between temperatures.   | 1) Voltage proof : 500 V DC applied for 1 min.<br>Current leakage 2mA max.<br>No flashover or breakdown.<br>2) Resistance:<br>Contact : 80 mΩ max.<br>Shield : 100 mΩ max.<br>3) Insulation resistance: 500 MΩ min. (at dry)<br>4) No damage, cracks or looseness of parts. | X           | —                         |   |
| Humidity / Temperature Cycling  | Low temperature 25 °C;<br>High temperature 65 °C;<br>Cold sub-cycle - 10 °C;<br>Relative humidity 93 %<br>Duration 10 / each 24 h<br>(IEC 60068-2-38,test Z / AD)   | 1) Resistance:<br>Contact : 80 mΩ max.<br>Shield : 100 mΩ max.<br>2) Insulation resistance: 500 MΩ min. (at dry)<br>3) No damage, cracks or looseness of parts.   | X           | —                         |   |
| Damp Heat, Steady State   | Subject mated specimens to a relative humidity of 93 % at a temperature of 40°C during 21 days.   | 1) Resistance:<br>Contact : 80 mΩ max.<br>Shield : 100 mΩ max.<br>2) Insulation resistance: 500 MΩ min. (at dry)<br>3) No damage, cracks or looseness of parts.   | X           | —                         |   |
| Dry Heat  | Subject to +85 ± 2 °C, 21 days.<br>(mating applicable connector)  | 1) Resistance:<br>Contact : 80 mΩ max.<br>Shield : 100 mΩ max.<br>2) Insulation resistance: 500 MΩ min. (at dry)<br>3) No damage, cracks or looseness of parts.   | X           | —                         |   |
| Cold  | Subject to -55 ± 3 °C, 10 days.<br>(mating applicable connector)  | 1) Resistance:<br>Contact : 80 mΩ max.<br>Shield : 100 mΩ max.<br>2) Insulation resistance: 500 MΩ min. (at dry)<br>3) No damage, cracks or looseness of parts.   | X           | —                         |   |
| Corrosion Salt Mist   | Subject to 5 % salt water, 35 ± 2 °C, 48h.<br>(leave under unmated condition.)  | No heavy corrosion of contacts.   | X           | —                         |   |
| Mixed Flowing Gas Corrosion   | Test temperature : +25±1 °C, Relative humidity : 75±3 %<br><br>H <sub>2</sub> S : 10±5 ppb, NO <sub>2</sub> : 200±50 ppb<br>Cl <sub>2</sub> : 10±5 ppb, SO <sub>2</sub> : 200±20 ppb<br>Leave the samples for 4 days with mated.<br>The same is performed with unmated samples.<br>(IEC 60512, method 4) | 1) Resistance:<br>Contact : 80 mΩ max.<br>Shield : 100 mΩ max.<br>2) No damage, cracks or looseness of parts.   | X           | —                         |   |
|   |   |   |             |                           |   |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                      |   |   | DRAWING NO. |                           | ELC-129485-01-00  |
|  | SPECIFICATION SHEET   |   | PART NO.    | IX31G-A-10S-CV (7.0) (01) |   |
|   | HIROSE ELECTRIC CO., LTD.   |   | CODE NO     | CL251-0023-0-01           |  2/2 |