











| APPLICABLE STANDARD  |   | IEC 61076-3-124                        |   |                                      |   |
|--|---|--|---|--------------------------------------|---|
| Rating   | Operating Temperature Range   | -40°C to +85°C(95%RH max)<br>(note1,2) | 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)                  |   |
|  |   |  |   | 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. (note3)<br>Shield : 100 mΩ max. (note3)  | 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 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><br>Mating speed : 10 mm/s max.<br>Rest : 5s, min.(unmated) |  | 1) Resistance:<br>Contact : 80 mΩ max. (note3)<br>Shield : 100 mΩ max. (note3)<br>2) No damage, cracks or looseness of parts.   | X                                    | —   |
| <b>Note</b>  |   |  |   |                                      |   |
| 1. Non-condensing. 2. The operation temperature includes the temperature rise by current carrying        |   |  |   |                                      |   |
| 3. The cable conductor resistance is not considered.   |   |  |   |                                      |   |
| 4. Electrical characteristics are applicable to the contacts and shield except for contacts No. 3 and 8. |   |  |   |                                      |   |
|  | COUNT   | DESCRIPTION OF REVISIONS               | DESIGNED  | CHECKED                              | DATE  |
|                       | 9   | DIS-E-00014456                         | MT.YASUDA   | KI.KAGOTANI                          | 20231020  |
| REMARK   |   |  | APPROVED  | MN.KENJO                             | 20190726  |
|  |   |  | CHECKED   | MN.KENJO                             | 20190726  |
|  |   |  | DESIGNED  | TS.SAKAIZAWA                         | 20190726  |
|  |   |  | DRAWN   | TS.SAKAIZAWA                         | 20190726  |
| Unless otherwise specified, refer to IEC 60512.  |   |  |   |                                      |   |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test   |   |  | DRAWING NO.   | ELC-129411-01-00                     |   |
|                       | SPECIFICATION SHEET   |  | PART NO.  | IX60G-B-10P (01)                     |   |
|  | HIROSE ELECTRIC CO., LTD.   |  | CODE NO.  | CL0251-0017-0-01                     |  1/4 |

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| SPECIFICATIONS  |  |   |                  |                  |   |
|---|--|---|------------------|------------------|---|
| ITEM  | TEST METHOD  | REQUIREMENTS  | QT               | AT               |   |
| Vibration ,sinusoidal   | 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. (note4)<br>2) No damage, cracks or looseness of parts.   | X                | —                |   |
| Fretting Corrosion  | 490 m/s <sup>2</sup> , 30 times/min at 1000 times.   | 1) No electrical discontinuity of 1μs. (note4)<br>2) No damage, cracks or looseness of parts.   | X                | —                |   |
| Mechanical 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. (note4)<br>2) Resistance:<br>Contact : 80 mΩ max. (note4)<br>Shield : 100 mΩ max. (note4)<br>3) No damage, cracks or looseness of parts.   | X                | —                |   |
| Effectiveness of the connector coupling device                                      | Applying 80 N force 60 s for the mating axis direction in state in fitted with applicable connector.      | No unlocking, damage, cracks or looseness of parts.   | X                | —                |   |
| Locking device mechanical operations  | 10000 cycles<br>20 cycles/min max  | 1) Insertion and Withdrawal Forces<br>Insertion force 25 N max.<br>Withdrawal force 25 N max.<br>2) No 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 2 to 3 minutes transition between temperatures.                                    | 1) Voltage proof : 500 V DC applied for 1 min.<br>Current leakage 2mA max. <br>No breakdown.<br>2) Resistance:<br>Contact : 80 mΩ max. (note3)<br>Shield : 100 mΩ max. (note3)<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) Voltage proof : 500 V DC applied for 1 min.<br>Current leakage 2mA max. <br>No breakdown.<br>2) Resistance:<br>Contact : 80 mΩ max. (note3)<br>Shield : 100 mΩ max. (note3)<br>3) Insulation resistance: 500 MΩ min. (at dry)<br>4) Insertion and Withdrawal Forces<br>Insertion force 25 N max.<br>Withdrawal force 25 N max.<br>5) 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) Voltage proof : 500 V DC applied for 1 min.<br>Current leakage 2mA max. <br>No breakdown.<br>2) Resistance:<br>Contact : 80 mΩ max. (note3)<br>Shield : 100 mΩ max. (note3)<br>3) Insulation resistance: 500 MΩ min. (at dry)<br>4) Insertion and Withdrawal Forces<br>Insertion force 25 N max.<br>Withdrawal force 25 N max.<br>5) No damage, cracks or looseness of parts. | X                | —                |   |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                      |  | DRAWING NO.   | ELC-129411-01-00 |                  |   |
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|   | HIROSE ELECTRIC CO., LTD.  |   | CODE NO          | CL0251-0017-0-01 |  2/4 |

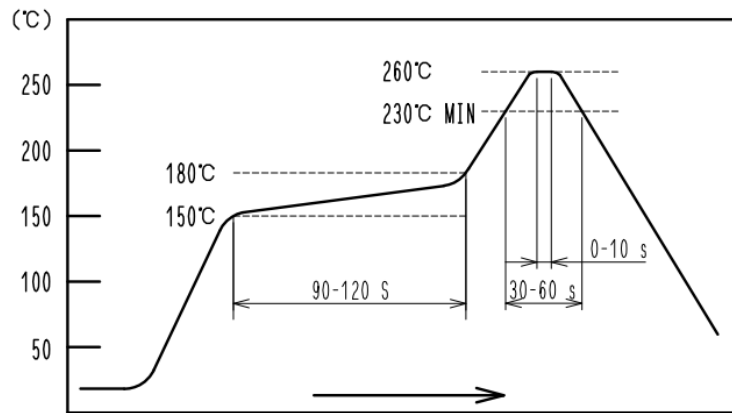
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| SPECIFICATIONS  |  |   |                  |                  |   |
|---|--|---|------------------|------------------|---|
| ITEM  | TEST METHOD  | REQUIREMENTS  | QT               | AT               |   |
| <b>ENVIRONMENTAL CHARACTERISTICS</b>  |  |   |                  |                  |   |
| Dry Heat  | Subject to +85 ± 2 °C, 21 days.<br>(mating applicable connector)   | 1) Voltage proof : 500 V DC applied for 1 min.<br>Current leakage 2mA max.<br>No breakdown. <br>2) Resistance:<br>Contact : 80 mΩ max. (note3)<br>Shield : 100 mΩ max. (note3)<br>3) Insulation resistance: 500 MΩ min. (at dry)<br>4) Insertion and Withdrawal Forces<br>Insertion force 25 N max.<br>Withdrawal force 25 N max.<br>5) No damage, cracks or looseness of parts. | X                |                  | —   |
| Cold  | Subject to -55 ± 3 °C, 10 days.<br>(mating applicable connector)   | 1) Voltage proof : 500 V DC applied for 1 min.<br>Current leakage 2mA max.<br>No breakdown. <br>2) Resistance:<br>Contact : 80 mΩ max. (note3)<br>Shield : 100 mΩ max. (note3)<br>3) Insulation resistance: 500 MΩ min. (at dry)<br>4) Insertion and Withdrawal Forces<br>Insertion force 25 N max.<br>Withdrawal force 25 N max.<br>5) 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>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. (note3)<br>Shield : 100 mΩ max. (note3)<br>2) No damage, cracks or looseness of parts.   | X                |                  | —   |
| Solderability   | Soldering point immersed in solder bath<br>of +245 ± 3 °C, 3 sec. (using type r flux)  | Solder shall cover minimum of 95 % of<br>the surface being immersed.  | X                |                  | —   |
| Resistance To<br>Soldering Heat   | A profile is shown in Fig-1, under 2 cycles.   | No deformation or significant looseness of contacts.  | X                |                  | —   |
|   |  |   |                  |                  |   |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                      |  | DRAWING NO.   | ELC-129411-01-00 |                  |   |
|  | SPECIFICATION SHEET  |   | PART NO.         | IX60G-B-10P (01) |   |
|   | HIROSE ELECTRIC CO., LTD.  |   | CODE NO          | CL0251-0017-0-01 |  3/4 |

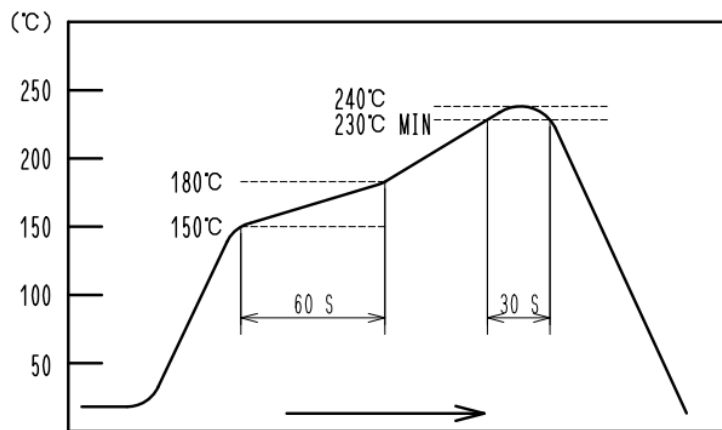
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## SPECIFICATIONS

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



**△ Fig - 1 Resistance to soldering heat**  
 (temperature at top surface of connector)



**△ Fig - 2 Recommended reflow profile temperature**  
 (temperature at SMT leads)

|  |                           |             |                  |   |
|--|---------------------------|-------------|------------------|---|
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test |                           | DRAWING NO. | ELC-129411-01-00 |   |
| <b>HRS</b>   | SPECIFICATION SHEET       |             | PART NO.         | IX60G-B-10P (01)  |
|  | HIROSE ELECTRIC CO., LTD. |             | CODE NO          | CL0251-0017-0-01 <span style="float: right;">△ 4/4</span> |