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| APPLICABLE STANDARD | | IEC 61076-3-124 | | |
|---|---|---|---|---|
| Rating | Operating Temperature Range | -40°C to +85°C(95%RH max) (note1,2) | Storage Temperature Range | -30°C to +60°C(95%RH max) (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. (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. ③ | X | — |
| Insertion Loss | Measured in the range of 1 to 500 MHz. | 0.02 $\sqrt{}$(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. (note3)<br>Shield : 100 mΩ max. (note3)<br>2) No damage, cracks or looseness of parts. | X | — |

Note

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 |
|---|---|---|---|---|---|
| ③ | 9 | DIS-E-00014809 | MT.YASUDA | KI.KAGOTANI | 20231121 |

| REMARK | | | |
|---|---|---|---|
| | APPROVED | KI.NAGANUMA | 20180628 |
| | CHECKED | KI.NAGANUMA | 20180628 |
| | DESIGNED | YS.SAKODA | 20180628 |
| Unless otherwise specified, refer to IEC 60512. | DRAWN | YS.SAKODA | 20180628 |

| Note QT:Qualification Test AT:Assurance Test X:Applicable Test | DRAWING NO. | ELC-129412-01-00 | |
|---|---|---|---|
| HRS SPECIFICATION SHEET | PART NO. | IX80G-A-10P(01) | |
| HIROSE ELECTRIC CO., LTD. | CODE NO. | CL0251-0018-0-01 ③ | 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 $m/s^2$<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 $m/s^2$ , 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 $m/s^2$ 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. ③ | 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. ③<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. ③<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. ③<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 | — |

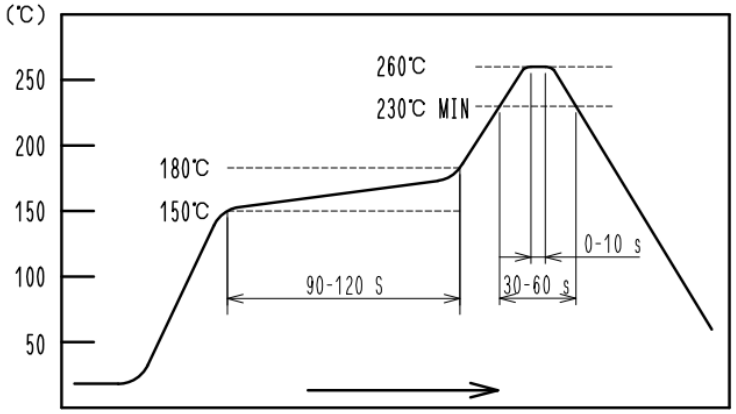
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# SPECIFICATIONS

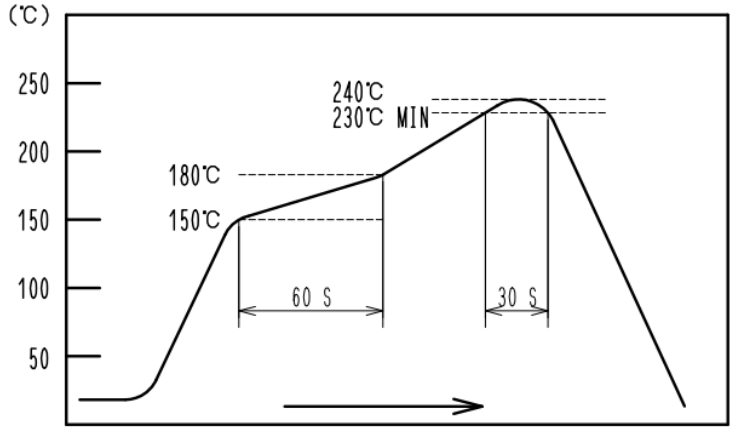
| ITEM | TEST METHOD | REQUIREMENTS | QT | AT |
|---|---|---|---|---|
| ENVIRONMENTAL CHARACTERISTICS | | | | |
| Dry Heat | Subject to +85 ± 2 °C, 21 days.<br>(mating applicable connector) | 1) Voltage proof : 500 V DC applied for 1 min.<br>Current leakage 2mA max.<br>No breakdown. ③<br>2) Resistance:<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. ③<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 ℃, Relative humidity : 75±3 %<br>$H_2S$ : 10±5 ppb, $NO_2$ : 200±50 ppb<br>$Cl_2$ : 10±5 ppb, $SO_2$ : 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 flax) | 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 | — |

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△3 Fig – 1 Resistance to soldering heat
(temperature at top surface of connector)




△3 Fig – 2 Recommended reflow profile temperature
(temperature at SMT leads)