| APPLICABLE STANDARD | | USB2.0 SPECIFICATION AND MICRO-USB CABLE AND CONNECTORS SPECIFICATION. | | |
|---|---|---|---|---|
| RATING | OPERATING TEMPERATURE RANGE | -30 °C TO +85°C | STORAGE TEMPERATURE RANGE | -30°C TO +85°C |
| | VOLTAGE | 30V AC | OPERATING HUMIDITY RANGE | — % TO — % |
| | CURRENT<br>1) SIGNAL ONLY<br>2) POWER APPLY | ① 1 A/pin<br>② 1.8 A/pin ( PIN No.1,5 )<br>0.5 A/pin ( PIN No.2—4) | APPLICABLE CABLE | USB CABLE<br>① SIGNAL : AWG 28 MAX<br>② POWER : AWG 26 MAX |

# SPECIFICATIONS

| ITEM | TEST METHOD | REQUIREMENTS | QT | AT |
|---|---|---|---|---|
| **CONSTRUCTION** | | | | |
| GENERAL EXAMINATION | VISUALLY AND BY MEASURING INSTRUMENT. | ACCORDING TO DRAWING. | X | X |
| MARKING | CONFIRMED VISUALLY. | | X | X |
| **ELECTRICAL CHARACTERISTICS** | | | | |
| CONTACT RESISTANCE | 100 mA (DC OR 1000 Hz). | 30 mΩ MAX. | X | X |
| INSULATION RESISTANCE | 500 V DC. | 100 MΩ MIN. | X | X |
| VOLTAGE PROOF | 100 V AC FOR 1 min. | NO FLASHOVER OR BREAKDOWN. | X | X |
| CAPASITANCE | MEASURE ADJACENT TWO CONTACTS AT 1000 ± 10 Hz AC VOLTAGE | 2 pF MAX | X | — |
| **MECHANICAL CHARACTERISTICS** | | | | |
| INSERTION AND WITHDRAWAL FORCES | A MAXIMUM RATE OF 12.5 mm/min.<br>MEASURED BY APPLICABLE CONNECTOR. | INSERTION FORCE 35 N MAX.<br>WITHDRAWAL FORCE 8 N MIN. | X | — |
| MECHANICAL OPERATION | 10000 TIMES INSERTIONS AND EXTRACTIONS.<br><br>MATING SPEED<br>- MECHANICALLY OPERATED: 500 CYCLES / h<br>- MANUALLY OPERATED: 200 CYCLES / h | ① CONTACT RESISTANCE: NO INCREASE OF MORE THAN 10 mΩ FROM INITIAL VALUE.<br>② INSERTION FORCE 35 NMAX.<br>WITHDRAWAL FORCE 8 N MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS OF PARTS. | X | — |
| VIBRATION | FREQUENCY 10 TO 55 Hz,<br>SINGLE AMPLITUDE 0.75 mm, AT 2 h,<br>FOR 3 DIRECTIONS, TOTAL 6 h. | ① NO ELECTRICAL DISCONTINUITY OF 1 μs.<br>② NO DAMAGE, CRACK AND LOOSENESS OF PARTS. | X | — |
| RADOM VIBRATION | FREQUENCY 50 TO 2000 Hz, AT 15 min,<br>FOR 3 DIRECTIONS. | | X | — |
| SHOCK | 490 m/s$^2$ DURATION OF PULSE 11 ms<br>AT 3 TIMES FOR 6 DIRECTIONS, TOTAL 18 TIMES. | | X | — |
| **ENVIRONMENTAL CHARACTERISTICS** | | | | |
| THERMAL SHOCK | TEMPERATURE -55 → 15 TO 35 → 85 → 15 TO 35 °C<br>TIME 30 → 2 TO 3 → 30 → 2 TO 3 min.<br>UNDER 10 CYCLES.<br>(MATING APPLICABLE CONNECTOR) | ① CONTACT RESISTANCE: 70 mΩ MAX.<br>② INSULATION RESISTANCE: 10 MΩ MIN.<br>③ NO DAMAGE, CRACK AND LOOSENESS OF PARTS. | X | — |
| HUMIDITY LIFE | TEMPERATURE -10 TO 65 °C, HUMIDITY 90 TO 98 %,<br>UNDER 7 CYCLES. (168h)<br>(MATING APPLICABLE CONNECTOR) | NO DAMAGE, CRACK AND LOOSENESS OF PARTS. | X | — |
| DRY HEAT | EXPOSED AT +85±2 °C, 96 h.<br>(MATING APPLICABLE CONNECTOR) | | X | — |
| COLD | EXPOSED AT -40±2 °C, 96 h.<br>(MATING APPLICABLE CONNECTOR) | | X | — |
| CORROSION SALT MIST | EXPOSED IN 5 % SALT WATER, 35 °C FOR 48 h. | NO HEAVY CORROSION. | X | — |
| RESISTANCE TO SOLDERING HEAT | TEMPERATURE: 350±10 °C<br>TIME: 5±1 sec AT SOLDERING PARTS | NO DAMAGE, CRACK AND LOOSENESS OF PARTS. | X | — |
| SOLDERBILITY | SOLDERING POINT IMMERSED IN BATH OF 255±5 °C,<br>5 sec. (USING TYPE R FLAX) | SOLDER SHALL COVER MINIMUM OF 95 % OF THE SURFACE BEING IMMERSED. | X | — |

| | COUNT | DESCRIPTION OF REVISIONS | DESIGNED | CHECKED | DATE |
|---|---|---|---|---|---|
| ⚠1 | 1 | DIS-E-00000492 | TS.ITO | NM.NISHIMATSU | 16.03.03 |

REMARKS
HIROSE will not guarantee the performance on these specifications in case this product will be mated with the others which is not HIROSE's.
Unless otherwise specified, refer to USB2.0, EIA364 or IEC 60512.

| | | |
|---|---|---|
| APPROVED | NM.NISHIMATSU | 15.10.27 ⚠1 |
| CHECKED | KN.ICHIKAWA | 15.10.27 |
| DESIGNED | TS.ITO | 15.10.27 |
| DRAWN | AK.AKIYAMA | 15.10.27 |

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

| | | | |
|---|---|---|---|
| DRAWING NO. | ELC-126040-30-00 | | |
| HRS | SPECIFICATION SHEET | PART NO. | ZX40-A-5S-UNIT(30) |
| | HIROSE ELECTRIC CO., LTD. | CODE NO. | CL242-0010-2-30 ⚠1 1/1 |

FORM HD0011-2-1