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| 版本号  |           | 变更内容                 |       | 日期       | 变更人       | 核准         |
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| A1   |           | 增加编号                 | 202   | 21/11/19 | 于小芳       | Leo_he     |
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| 2. ORDERING IN    | NFORMATIC      | DN                   |                 |            |  |
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| 4. MATERIAL       |                |                      |                 |            |  |
| 5. ACCOMMOD       | ATED P.C.B     | LAYOUT               |                 |            |  |
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### 1. SCOPE

1.1 Contents

This specification covers the performance, tests and quality requirements for the FPC Connector

1.2 Qualification

When tests are performed on the subject product line, the procedures specified in CRS Electronics Co., ltd. inspection plan and product drawings.

## 2. ORDERING INFORMATION

PART NO.: FP0515H-XXXXX

## **3. CONNECTOR DIMENSIONS**

See attached drawings.

### 4. MATERIAL

|    | FP0515H-XXXXX |                    |                   |  |  |  |
|----|---------------|--------------------|-------------------|--|--|--|
| NO | DIMENSIONS    | MATERIAL           | PLATING&COLOR     |  |  |  |
| 1  | Housing       | HIGHT-TEMP PLASTIC | UL94V-0           |  |  |  |
| 2  | PEG           | Brass              | TIN or Au PLATING |  |  |  |
| 3  | terminal      | Phosphor Bronze    | TIN or Au PLATING |  |  |  |

# 5. ACCOMMODATED P.C.B. LAYOUT

See attached drawings

### 6. RATING

| ITEM                     | STANDARD  |
|--------------------------|---|
| Operating Voltage (Max.) | 50V AC/DC   |
| Current Rating (Max.)    | 0.5 A AC/DC   |
| Operating Temperature    | -25°C ~ +85°C (Including terminal temperature rise) |

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| 7. PERFORMAN        | CE   |                                |                |
| ITEM                | TEST CONDITION                                 | REG                            | UIRMENT        |
| Examination of      | Visual inspection. No physical damage.         | Mee                            | s requirements |
| Product             |  |                                | oduct drawing. |
|                     | ELECTRICAL PERFORMANCE                         | I                              |                |
| Contact Resistance  | Mate applicable FPC/FFC and measure by         | 20m!                           | ΩMax           |
|                     | dry circuit, 20mV Max, 10mA.                   |                                |                |
|                     | (JIS C5402 5.4)                                |                                |                |
|                     | Mate applicable FPC/FFC and apply 500V D       | DC 500N                        | IΩ Min.        |
| Insulation          | between adjacent terminal or ground.,(JIS C    | 5402                           |                |
| Resistance          | 5.2/MIL-STD-202 Method 302)                    |                                |                |
|                     | Mate applicable FPC/FFC and apply 200V A       | C(rms) for No e                | vidence of     |
|                     | 1 minute between adjacent terminal or groun    | d., breal                      | k-down and     |
| Dielectric Strength | (JIS C5402 5.1/MIL-STD-202 Method 301)         | flash                          | over           |
|                     | MECHANICAL PERFORMANCE                         | E                              |                |
|                     | Apply axial pull out force at the speed rate o | f Pos.z                        | x0.04kgf(0.4N) |
| FPC/FFC Retention   | 25±3 mm/Min. on the terminal assembled in      | MIN                            |                |
| Force               | the housing                                    |                                |                |
|                     | Apply axial pull out force at the speed rate o | f                              |                |
| Contact Retention   | 25±3 mm/Min. on the terminal assembled in      | Pos.2                          | x0.08kgf(0.8N) |
| Force               | the housing                                    | MIN                            |                |
|                     | ENVIRONMENTAL PERFORMANCE AND                  | OTHERS                         |                |
|                     |  |                                |                |

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| Temperature Rise                  | Measure the temperature rise of<br>contactwhen the maximum AC rated<br>current ispassed. (UL498) | Tem | perature rise   | 30°C M | lax.       |

| ITEM            | TEST CONDITION   | REQU                  | IRMENT       |
|-----------------|--|-----------------------|--------------|
| Life test       | When mated up to 30cycles repeatedly<br>(the<br>rate is 10 cycles per minute).                             | Contact<br>Resistance | 40 mΩ Max.   |
|                 | Amplitude : 1.5mm P-P<br>Frequency: 10~55~10 Hz in 1 minute.<br>Duration: 2 hours in each of X, Y, Z axes. | Appearance            | No Damage    |
| Vibration       | (MIL-STD-202 Method 201)   | Contact<br>Resistance | 40 mΩ Max.   |
|                 |  | Discontinuity         | 1 μ sec Max. |
|                 | Subject to the following shock<br>conditions. 3  | Appearance            | No Damage    |
| Shock           | times of shocks shall be applied for each<br>6<br>directions along 3 mutually perpendicular                | Contact<br>Resistance | 40 mΩ Max.   |
|                 | axes.<br>Peak value : 490m/s2 {50G}<br>(JIS C0041 / MIL-STD-202 Method 213)                                | Discontinuity         | 1 μ sec Max. |
|                 | Expose to 85±2°C for 96 hours. Upon<br>completion of the exposure period, the<br>test                      | Appearance            | No Damage    |
|                 | specimens shall be conditioned at ambient  |                       |              |
| Heat Resistance | room conditions for 1 to 2 hours, after<br>which<br>the specified measurements shall be                    | Contact<br>Resistance | 40 mΩ Max.   |

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|                  | performed.<br>(JIS C0021 / MIL-STD-202 Method 108)  |  |                           |
| Cold Resistance  | Expose to -25±2°C for 96 hours.<br>Upon completion of the exposure period,<br>the<br>test specimens shall be conditioned at<br>ambient room conditions for 1 to 2 hours,<br>after which the specified measurements<br>shall | Appearance<br>Contact<br>Resistance    | No Damage<br>40 mΩ Max.   |
|                  | be performed.<br>(JIS C0020)  |  |                           |
|                  |   |  |                           |
|                  |   |  |                           |
|                  |   |  |                           |
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| ITEM                | TEST CONDITION  | REQUI                           | RMENT                   |
|                     | Expose to $60 \pm 2^{\circ}$ C, relative humidity 90 to 95% for 96 hours.   | Contact<br>Resistance           | 40 mΩ Max.              |
| Humidity            | Upon completion of the exposure period,<br>the<br>test specimens shall be conditioned at  | Dielectric<br>Strength          | No<br>Breakdown         |
|                     | ambient room conditions for 1 to 2 hours,<br>after which the specified measurements<br>shall  | Insulation<br>Resistance        | 250 MΩ Min              |
|                     | be performed.<br>(JIS C0022 / MIL-STD-202 Method 103)   | Appearance                      | No Damage               |
|                     | Subject to the following conditions for 5<br>cycles. Upon completion of the exposure<br>period, the test specimens shall be   | Contact<br>Resistance           | 40 mΩ Max.              |
| Temperature Cycling | conditioned at ambient room conditions for<br>1<br>to 2 hours, after which the specified<br>measurements shall be performed.<br>1 cycle a) -25±2°C 30minutes<br>b)+85±2°C 30minutes<br>(Transit time shall be with in 3 minutes)<br>(JIS C0025) | or Appearance                   | No Damage               |
|                     | Expose to the following salt mist<br>conditions.<br>Upon completion of the exposure period,<br>salt   | Contact<br>Resistance           | 40 mΩ Max               |
| Salt Spray          | deposits shall be removed by a gentle was<br>or dip in running water, after which the<br>specified measurements shall be<br>performed.<br>NaCl solution<br>Concentration : $5 \pm 1\%$  | h Appearance                    | No Damage               |

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|   |                | Spray time : $24 \pm 2$ hours             |                    |              |
|   |                | Ambient temperature : $35 \pm 2^{\circ}C$ |                    |              |
|   |                | (JIS C0023 / MIL-STD-202 Method 101)      |                    |              |
|   |                |   |                    |              |
|   |                | When reflowingRefer to paragraph 8.       | Appearance         | No Damage    |
|   | Resistance to  | Soldering iron method                     |                    |              |
|   | Soldering Heat | Soldering time: 3 ±0.5 seconds Max.       |                    |              |
|   |                | Solder temperature : 260±5°C              |                    |              |
|   |                |   |                    |              |
|   |                |   | The test area shal | l be covered |
|   |                | Solder Temperature: 245 ±5°C              | more than 95%      |              |
|   | Solder ability | Immersion Period: 5±0.5sec                | of immersed area   | with fresh   |
|   |                |   | solder.            |              |
|   |                |   |                    |              |

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### 8. NFRARED REFLOW CONDITION



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9. Product Qualification and Requalification test

| Test or Examination             | Test Group        |      |      |      |      |      |      |      |   |      |   |
|---------------------------------|-------------------|------|------|------|------|------|------|------|---|------|---|
|                                 | Α                 | В    | С    | D    | Е    | F    | G    | Н    | I | J    | K |
|                                 | Test Sequence (a) |      |      |      |      |      |      |      |   |      |   |
| Examination of Product          | 1, 7              | 1, 7 | 1,5  | 1, 5 | 1, 5 | 1, 5 | 1, 5 | 1, 3 |   | 1, 3 |   |
| Contact Resistance              |                   | 2, 6 | 2, 4 | 2, 4 | 2, 4 | 2, 4 | 2, 4 |      |   |      |   |
| Dielectric withstanding Voltage | 3, 6              |      |      |      |      |      |      |      |   |      |   |
| Insulation Resistance           | 2, 5              |      |      |      |      |      |      |      |   |      |   |
| Contact/ Peg Retention Force    |                   |      |      |      |      |      |      |      |   |      | 1 |
| FPC/FFC Retention Force         |                   | 3, 5 |      |      |      |      |      |      |   |      |   |
| Durability                      |                   | 4    |      |      |      |      |      |      |   |      |   |
| Vibration                       |                   |      | 3    |      |      |      |      |      |   |      |   |
| Shock                           |                   |      |      |      |      |      | 3    |      |   |      |   |
| Temperature Rise                |                   |      |      |      |      |      |      | 2    |   |      |   |
| Solder ability                  |                   |      |      |      |      |      |      |      |   | 2    |   |
| Resistance to Soldering Heat    |                   |      |      |      |      |      |      |      | 2 |      |   |
| Heat Resistance                 |                   |      |      | 3    |      |      |      |      |   |      |   |
| Cold Resistance                 |                   |      |      |      | 3    |      |      |      |   |      |   |
| Humidity                        |                   |      |      |      |      | 3    |      |      |   |      |   |
| Temperature Cycling             | 4                 |      |      |      |      |      |      |      |   |      |   |
| Salt Spray                      |                   |      |      |      |      |      | 3    |      |   |      |   |
| Sample Size                     | 5                 | 5    | 5    | 5    | 5    | 5    | 5    | 2    | 5 | 5    | 5 |