

**TO**

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**SPECIFICATION FOR APPROVAL**

DESCRIPTION: Pitch 0.50mm Non-ZIF FPC Connector, R/A, SMT Type Dual Contact

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CUSTOMER PROD.NO/DWG.NO:

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E&T PROD.NO: 7082K-XXXN-00X

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APPROVAL SHEET NO:

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E&T DWG. NO./DOCUMENT: 7082K-XXXN-00X

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REV: A3

**PLEASE RETURN TO US ONE COPY OF "SPECIFICATION FOR APPROVAL" WITH YOUR APPROVED SIGNATURES.**

| <b>APPROVED SIGNATURES</b> |  |  |  |
|----------------------------|--|--|--|
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**ENTERY INDUSTRIAL CO., LTD.  
E&T ELECTRONICS (DONG GUAN) CO., LTD.  
E&T ELECTRONICS (SU ZHOU) CO., LTD.**

**ENTERY INDUSTRIAL CO., LTD.**

**Title : Pitch 0.50mm Non-ZIF FPC Connector,  
R/A, SMT Type Dual Contact**

|                        |                    |   |                         |
|------------------------|--------------------|---|-------------------------|
| <b>RELEASE HISTORY</b> |                    | <b>Title: Pitch 0.50mm Non-ZIF FPC Connector, R/A, SMT Type Dual Contact</b>                                    |                         |
| <b>A3</b>              | <b>08,08,2011'</b> | This Document Contains Information That Is Proprietary To E&T And Should Not Be Used Without Written Permission |                         |
| <b>Rev</b>             | <b>Description</b> |   |                         |
| Document No.           |                    | Prepared By: Juno Chen  | Date: 08,15,2008'       |
| <b>7082K-XXXN-00X</b>  |                    | Checked By: <i>Jackson.C</i>  | Date: <i>8.11.2011'</i> |
|                        |                    | Approved By: <i>Jackson.C</i>   | Date: <i>8.11.2011'</i> |



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## PRODUCT SPECIFICATION

### 1. SCOPE :

This specification covers the pitch 0.5 mm Non-ZIF FPC connector series.

### 2. PRODUCT NAME AND PART NUMBER :

| Product Name  | E&T Part Number |
|---|-----------------|
| 0.50mm Non-ZIF FPC Connector, R/A,<br>SMT Type Dual Contact | 7082K-XXXN-00X  |

### 3. RATINGS :

| Item                        | Standard                                |       |
|-----------------------------|---|-------|
| Rated Voltage (MAX.)        | 50 V                                    | AC/DC |
| Rated Current (MAX.)        | 0.4A                                    |       |
| Operating Temperature Range | -55 <sup>0</sup> C ~ +85 <sup>0</sup> C |       |

\*Including terminal temperature rise

### 4.PERFORMANCE :

#### 4- 1 Electrical Performance

| Item                        | Test Condition  | Requirement  |
|-----------------------------|---|--------------|
| 4-1-1 Contact Resistance    | Test Current: 10 mA Max.<br>Test Voltage: 20mV Max  | 30 mΩ MAX.   |
| 4-1-2 Insulation Resistance | Test Voltage: 500V DC.<br>Test Duration: 1 minutes.<br>Test Method: MIL-STD-202, method 302,condition B | 100 MΩ Min   |
| 4-1-3 Dielectric Strength   | Test Voltage: 250V AC rms.<br>Test Time: 60 sec.<br>Test Method: MIL-STD-202, Method 301.               | No Breakdown |

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## 4-2 Mechanical Performance

| Item  |  | Test Condition           | Requirement   |
|-------|--|--------------------------|---|
| 4-2-1 | FPC/FFC Insertion Force And Withdrawal Force | Test Speed: 25±3 mm/min. | Insertion Force Max :<br>0.08kgf X total terminals  |
|       |  |                          | Withdrawal Force(Min):<br>0.03kgf X total terminals |
| 4-2-2 | Terminal / Housing Retention Force           | Test Speed: 25±3 mm/min. | 0.1kgf (Min)  |

## 4-3 Environmental Performance and Others

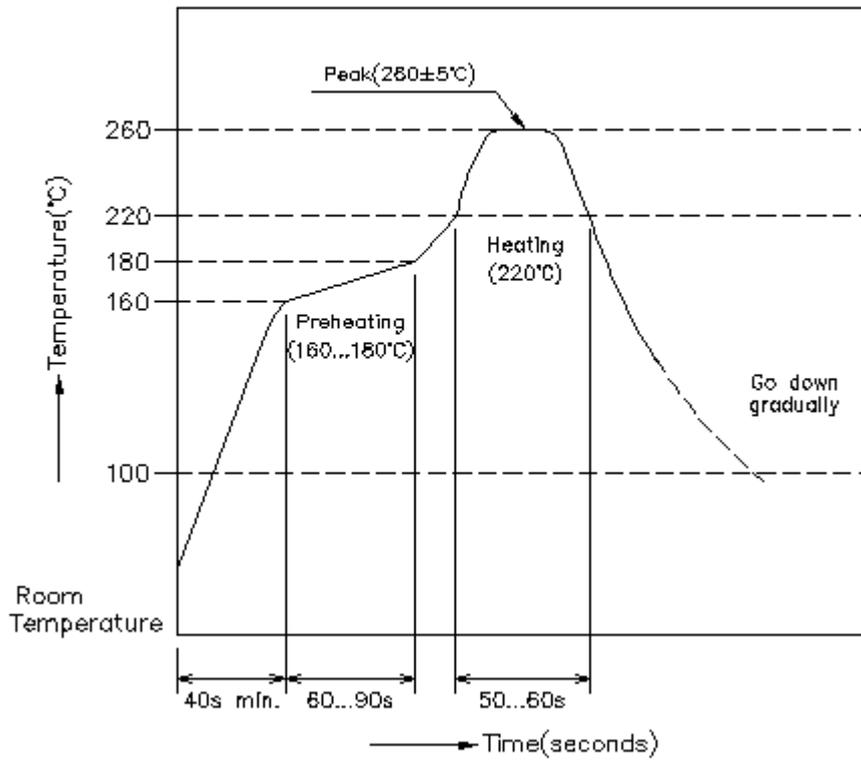
| Item  |                 | Test Condition   | Requirement           |                 |
|-------|-----------------|--|-----------------------|-----------------|
| 4-3-1 | Durability      | Insert and withdraw actuator up to 20cycles at the speed rate of less than 10 cycles/minute.   | Contact Resistance    |                 |
|       |                 |  | Initial Value         | ≤ 30 mΩ         |
|       |                 |  | Final Value           | ≤ 50 mΩ         |
| 4-3-2 | Vibration       | Amplitude : 1.5 mm<br>Frequency range: 10~55~10 Hz in 1 minute<br>Duration: 2 hours in each X.Y.Z axes<br>Current: 100mA.<br>Test Method: MIL-STD-202F, Method 201 | Appearance            | No Damage       |
|       |                 |  | Contact Resistance    | ≤ 50 mΩ         |
|       |                 |  | Discontinuity         | 1μ sec          |
| 4-3-3 | Heat Resistance | Temperature: 85±2°C<br>Duration: 96 hours<br>Test Method: MIL-STD-202, Method 108.   | Appearance            | No Damage       |
|       |                 |  | Contact Resistance    | ≤ 50 mΩ         |
| 4-3-4 | Cold Resistance | Temperature: -55±2°C<br>Duration: 96 hours<br>Test Method: JIS C60068-2-1  | Appearance            | No Damage       |
|       |                 |  | Contact Resistance    | ≤ 50 mΩ         |
| 4-3-5 | Humidity        | Temperature: 40±2°C<br>Relative Humidity: 90~95%<br>Duration: 96 hours<br>Test Method: MIL-STD-202F , Method 103   | Appearance            | No Damage       |
|       |                 |  | Contact Resistance    | ≤ 50 mΩ         |
|       |                 |  | Insulation Resistance | 50MΩ            |
|       |                 |  | Dielectric Strength   | Must meet 4-1-3 |



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## INFRARED REFLOW CONDITION

- 1) Ascending time to preheating temperature 170°C shall be 40 seconds minimum.
- 2) Preheating shall be fixed at 160...180°C for 60...90 seconds.
- 3) Heating shall be fixed at 220°C for 50...60 seconds.
- 4) At 260±5°C peak shall be 10 seconds maximum.



## Non-ZIF FPC /FFC Connector Handling Precautions

**This manual is to describe basic precautions. When there are doubtful points in use of, please contact E&T.**

### 1. Common Handling Precautions

- Do not expose E&T's Non-ZIF FPC/FFC connector, processing process product and processing product to corrosive substance, corrosive gas, high temperature and high humidity and direct sunshine. It causes corrosion of contact and deterioration of insulation performance of housing, etc., so that it causes motion defect of appliances.
- Do not apply external load to E&T's Non-ZIF FPC/FFC connector, processing process product and processing product . Deformation and breakage, etc. occur, and it causes performance defect of.
- There may be slight differences in the housing coloring, but there will be no influence on the product's performance.
- Please add a stiffener on the flexible printed circuit (FPC/FFC) when you mount the connector onto FPC in order to prevent deformation of the FPC/FFC.
- Please do not conduct any "washing process" on the connector because it may damage the product's function.

### 2. PC Board Precautions

- Exercise caution when handling boards with the connectors installed. Do not apply any forces affecting soldered joints. (see figure 1).
- The mounting specification for coplanarity does not include the influence of warpage of the printed circuit board. (see figure 1).

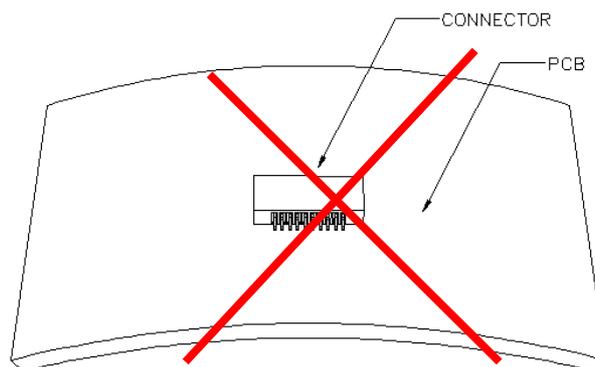


Figure 1.

## 3. Precautions When Inserting or Withdrawal FPC/FFC

- FPC/FFC to be insertion and withdrawal at an angle of about 15°, and the FPC/FFC should be inserted firmly all the way to the back. (see figure 2).

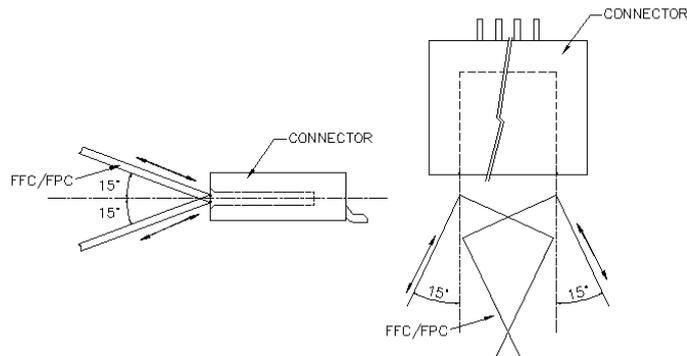


Figure 2.

- Do not apply any forces affecting soldered joints. Do not apply upward pull-force to the FPC/FFC close to the connector. (see figure 3).
- If necessary, please fix the FPC/FFC directly on the chassis. Also, please avoid pulling the FPC/FFC vertically or twisting the FPC back and force horizontally while it is inserted in the connector(see figure 3).
- Forming processing is conducted to FPC so as not to load force to connector. (see figure 3).

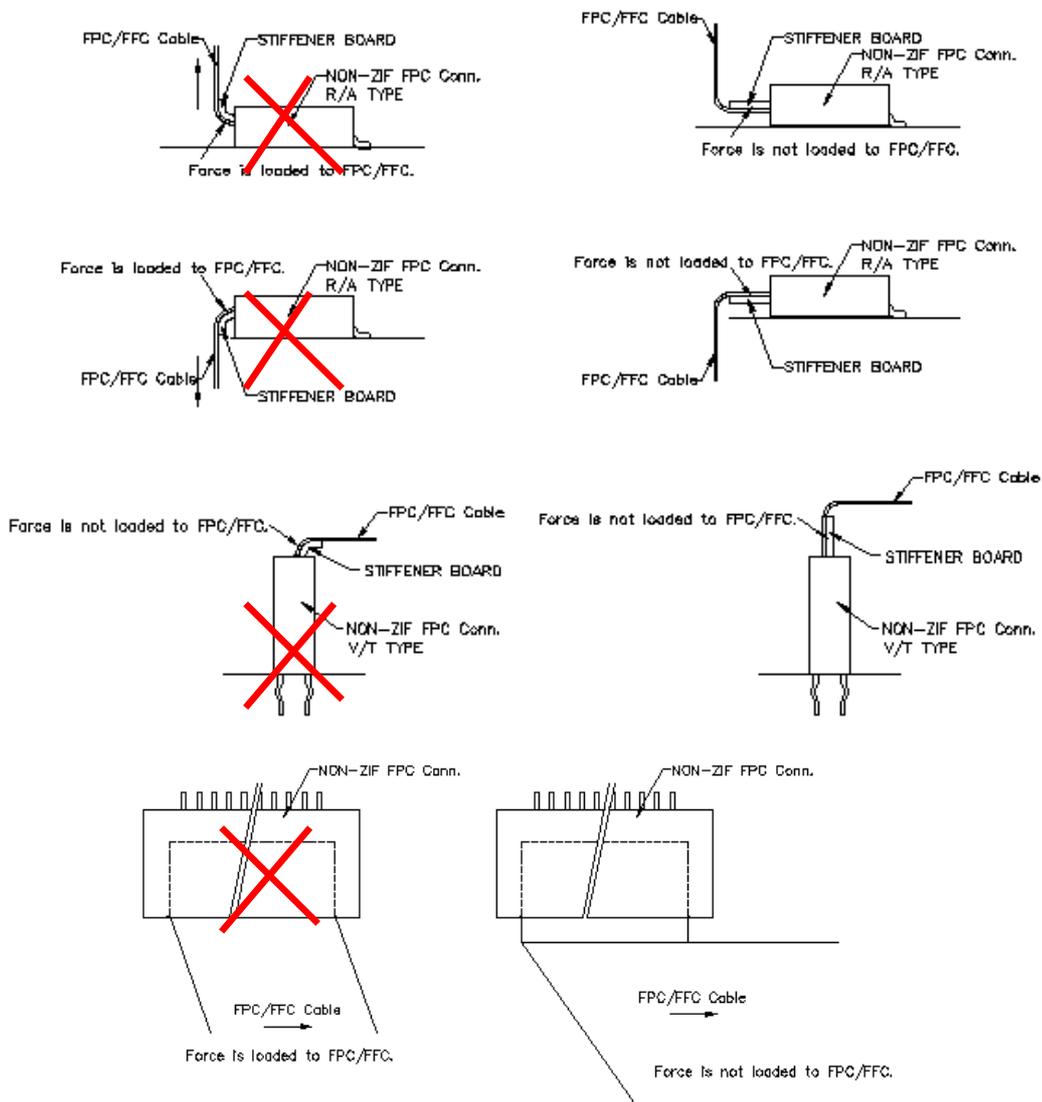


Figure 3.

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**RELEASE HISTORY**

| <b>Rev.</b> | <b>Revisions</b> | <b>Date</b> | <b>Executor</b> | <b>Description</b>       |
|-------------|------------------|-------------|-----------------|--------------------------|
| A3          | RE201108011      | AUG-08-2011 | KAZ             | ADD Handling Precautions |
|             |                  |             |                 |                          |