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### LED Circuit Board Approval Specification Sheet for TA-I Light Bar

TA-I Technology Part Number: LCB08APTAI012A

| Customer Approval: |  |  |  |
|--------------------|--|--|--|
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|                    |  |  |  |

| Valid Date   | Release Date | Version     |
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| Approved by  | Checked by   | Produced by |
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### 1. Specification:

1.1 Substrate Dimension as shown in Table 1.

Table 1: The spec of Panel and Single Unit

| Item   |                        | Spec      |
|--------|------------------------|-----------|
|        | Length                 | 90±0.1    |
| Single | Width                  | 6±0.05    |
| Unit   | Thickness of substrate | 1±0.1     |
|        | The total thickness    | 1.03±0.06 |

Unit: mm

#### 1.2 Specification of Panel:





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### 2. Criteria of Visual Inspection:

- 2.1 Visual inspection
- 2.2 Test items are shown as below table.
- 2.3 Tool: CCD OM 15X
- 2.4 Definition of test areas:

| No. | Item   | Examine area              | Specification  | Schematic diagram |
|-----|--|---------------------------|--|-------------------|
| 1   | a)Depression<br>b)Silver Point<br>c)Protrusion<br>d)Foreign<br>Materials<br>e)Contaminants | Single unit of front side | NG if >/= 2 mm   | > 101 _ 101       |
| 2   | Pattern<br>Inspection  | Pattern of front side     | The finish pattern shall per original drawing (above 95%). |                   |

### 3. Coating thickness test specification:

3.1 Using tools: Conductive paste thickness: 3 axis microscope

Solder mask thickness : 3 axis microscope

3.2 Measurement position:

Conductive paste thickness : Position 1 Solder mask thickness : Position 2

3.3 Inspect spec: (Three times average of measurement)

 $\begin{tabular}{lll} Conductive paste thickness & :>& 10 & um \\ Solder mask thickness & :20\pm10 & um \\ \end{tabular}$ 





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#### 4. Reliability test

| No. | Item             | Parameter   | Specification                     |  |
|-----|------------------|---|-----------------------------------|--|
| 1   | Solderability    | <ol> <li>Temp.: 235±5°C</li> <li>Time: 5±1sec</li> <li>solder bath composition:         <ul> <li>(Ag/Sn/Cu=3/96.5/ 0.5%)</li> </ul> </li> </ol> | • Coverage > 90%                  |  |
| 2   | Adhesion<br>test | <ol> <li>Temp.: RT</li> <li>Tool: 3M-600</li> <li>Time: adhesive 30 seconds</li> <li>Angle: 180°</li> </ol>                                     | The exterior must be no separate. |  |
| 3   | Reflow           | <ol> <li>Temp. : 260°C</li> <li>Times : 3 cycles</li> </ol>   | No yellowing.                     |  |

#### 5. Notices

(1)When inspection, packaging and handling:

Must wear gloves and masks when inspect products.

Must wear latex gloves before unpacking products

Must avoid vibration, shock and stress etc. when carry products.

(2) Storage conditions:

Store under  $25^{\circ}\text{C} \pm 5^{\circ}\text{C} \cdot 50\% \pm 10\text{RH}$  when sealed.

The expiration date is less than 3 months when sealed.

Store under  $25^{\circ}C \pm 5^{\circ}C \cdot 50\% \pm 10$ RH when unsealed.

Please store unsealed package in airtight containers and used up within 3 days.

(3)Before wire bonding:

Please clean and preheat before wire bonding.

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