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|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| PRREPARED BY : DATE | <h1 style="text-align: center;">SHARP</h1> <p style="text-align: center;">LIQUID CRYSTAL DISPLAY GROUP<br/>SHARP CORPORATION</p> <h2 style="text-align: center;">SPECIFICATION</h2> | SPEC No. LD-11210                                   |
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|                     |                                                                                                                                                                                     | Page : 8 Page                                       |
|                     |                                                                                                                                                                                     | APPLICABLE GROUP<br>Liquid Crystal Display<br>Group |

DEVICE SPECIFICATION FOR

## BACKLIGHT UNIT

MODEL No. LQ0DDB5131

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☐ CUSTOMER'S APPROVAL

DATE \_\_\_\_\_

BY \_\_\_\_\_

PRESENTED

BY

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TFT LIQUID CRYSTAL GROUP

SHARP CORPORATION

## RECORDS OF REVISION

MODEL : LQ0DDB5131

[illegible]

(1) Subject

LQ0DDB5131 : Literature on backlight unit for 45cm(18.1") TFT-LCD module.

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(2) Introduction

This backlight unit is a service part for 45cm TFT-LCD module (LQ181X1DG11) of which backlight is designed to be replaceable.

This is composed with lamp unit, lamp reflector, a lamp holder and a lamp angle.

(3) Construction and Outline

Fig. 1. is a figure of external form of lamp unit.

Fig. 2. is a figure of external form of backlight unit.

## (4) Input / Output terminals

## 4-1) I/O terminal order

Table 1

| Pin No. | Symbol            | i/o | Description                               |
|---------|-------------------|-----|-------------------------------------------|
| 1       | V <sub>HIGH</sub> | i   | Power supply for lamp (High voltage side) |
| 2       | NC                | -   | No connection                             |
| 3       | NC                | -   | No connection                             |
| 4       | V <sub>HIGH</sub> | i   | Power supply for lamp (High voltage side) |
| 5       | NC                | -   | No connection                             |
| 6       | NC                | -   | No connection                             |
| 7       | V <sub>LOW</sub>  | i   | Power supply for lamp (Low voltage side)  |
| 8       | NC                | -   | No connection                             |
| 9       | V <sub>LOW</sub>  | i   | Power supply for lamp (Low voltage side)  |

## 4-2) I/O connector

1) Installed socket housing : XHP-9

2) Applicable connector housing: B9B-XH-A

( produced by Japan Solderless Terminal MFG CO., LTD. )

## (5) Electrical characteristics

Table 2

Ta=25°C

| Parameter         | Symbol         | MIN.   | TYP. | MAX.  | Unit              | Remarks              |
|-------------------|----------------|--------|------|-------|-------------------|----------------------|
| Lamp current      | I <sub>L</sub> | -      | -    | 6.0   | mA <sub>rms</sub> | (just for reference) |
| Lamp voltage      | V <sub>L</sub> | -      | 850  | -     | V <sub>rms</sub>  | 【Note 1】             |
| Power consumption | W <sub>L</sub> | -      | 5.1  | -     | W                 | 【Note 2】             |
| Frequency         | F <sub>L</sub> | 30     | 35   | 60    | kHz               |                      |
| Kick-off voltage  | V <sub>s</sub> | -      | -    | 1,600 | V <sub>rms</sub>  | Ta=25°C              |
|                   |                | -      | -    | 1,800 | V <sub>rms</sub>  | Ta=0°C               |
| Lamp life         | L <sub>L</sub> | 10,000 | -    | -     | hours             | 【Note 3】             |

【Note 1】 Available current range considering light-adjustment.

【Note 2】 Calculated value for reference (I<sub>L</sub> × V<sub>L</sub>)

【Note 3】 Lamp life is defined when the luminance under the rated power reached 50% of the initial value after the continuous operation under rated power in the room temperature.

## (6) Optical characteristics

Table 3

Ta=25°C

| Parameter    | Symbol         | MIN.  | TYP.  | MAX. | Unit              | Remarks              |
|--------------|----------------|-------|-------|------|-------------------|----------------------|
| Luminance    | Y <sub>L</sub> | 26500 | 35000 |      | cd/m <sup>2</sup> | (just for reference) |
| Chromaticity | X              |       | 0.290 |      |                   | 【Note 4】             |
|              | Y              |       | 0.254 |      |                   |                      |

【Note 4】 The measurement shall be executed 15~20 minutes after lighting attracted power.

The value is measured at the center of the cold cathode fluorescent tube at a viewing cone  $0.1^\circ$  by TOPCON luminance meter BM-7.

(7) Environmental condition

7-1) Operating temperature range : It is based on the conformity module.

7-2) Storage temperature range : It is based on the conformity module.

(8) Procedure to exchange backlight unit

Fig. 3-1,2,3 shows the procedure to exchange backlight unit.

\* As working, please put on the finger stall, and pay attention by the handling not to pollute the lamp.

8-1) Make the module into a back direction, and remove 10 lock parts of bezel.

8-2) Remove the 10 screws and remove the back case.

8-3) Remove the connectors of control PWB, of 4 spots.

8-4) Remove the screw of the backlight unit , and replace old one with new one.

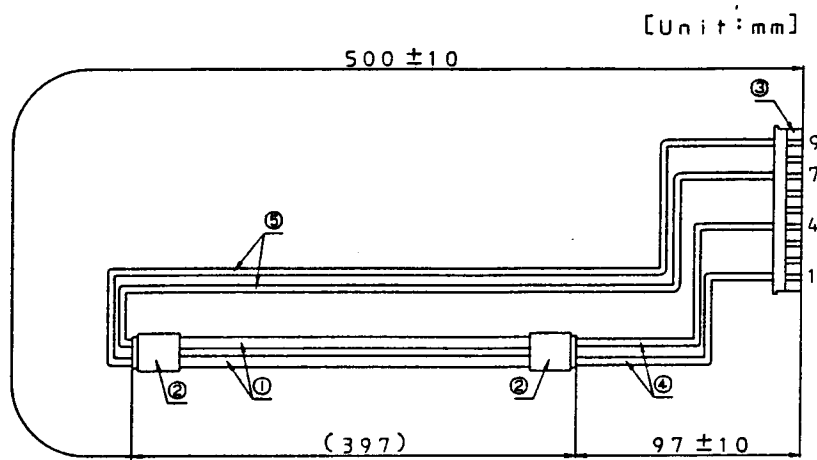
8-5) In opposite procedure, please assemble the removed parts again.

(9) Packing form

Packing form is shown Fig.4.

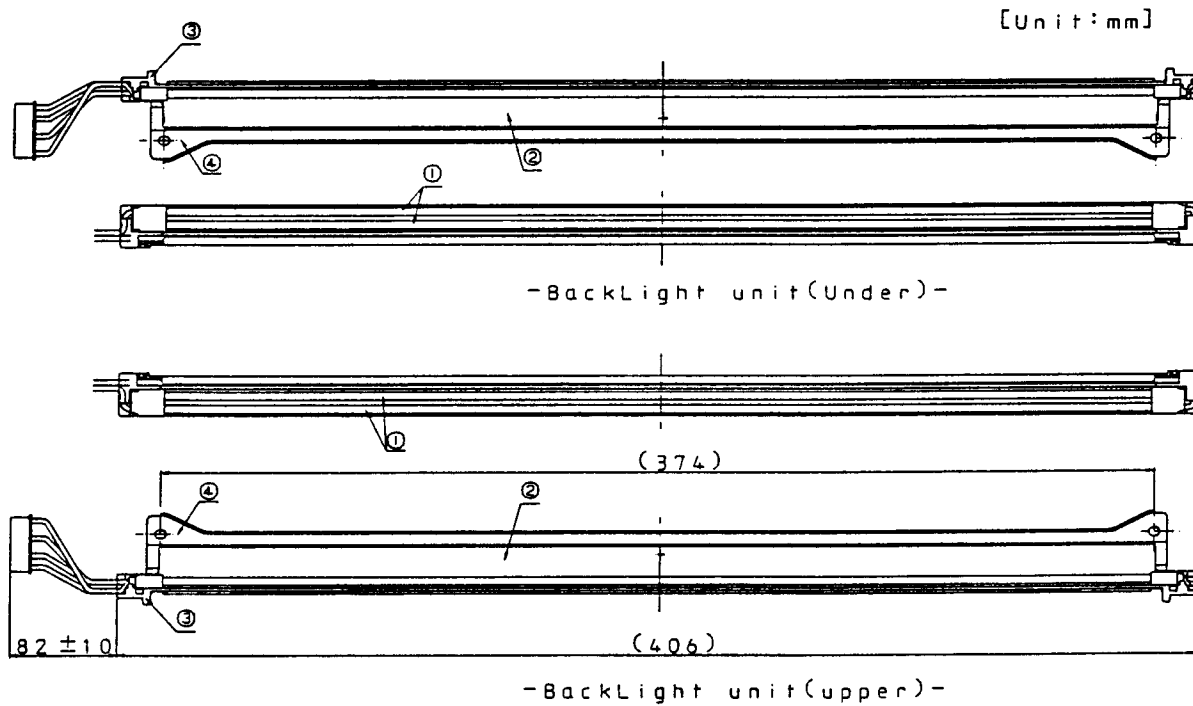
(10) Others

If any problem occurs in relation to the description in the present specifications or other relevant items, it shall be eliminated in all sincerity through discussion.



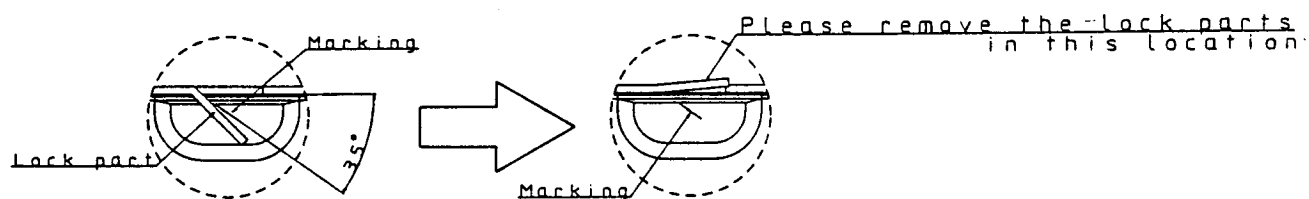
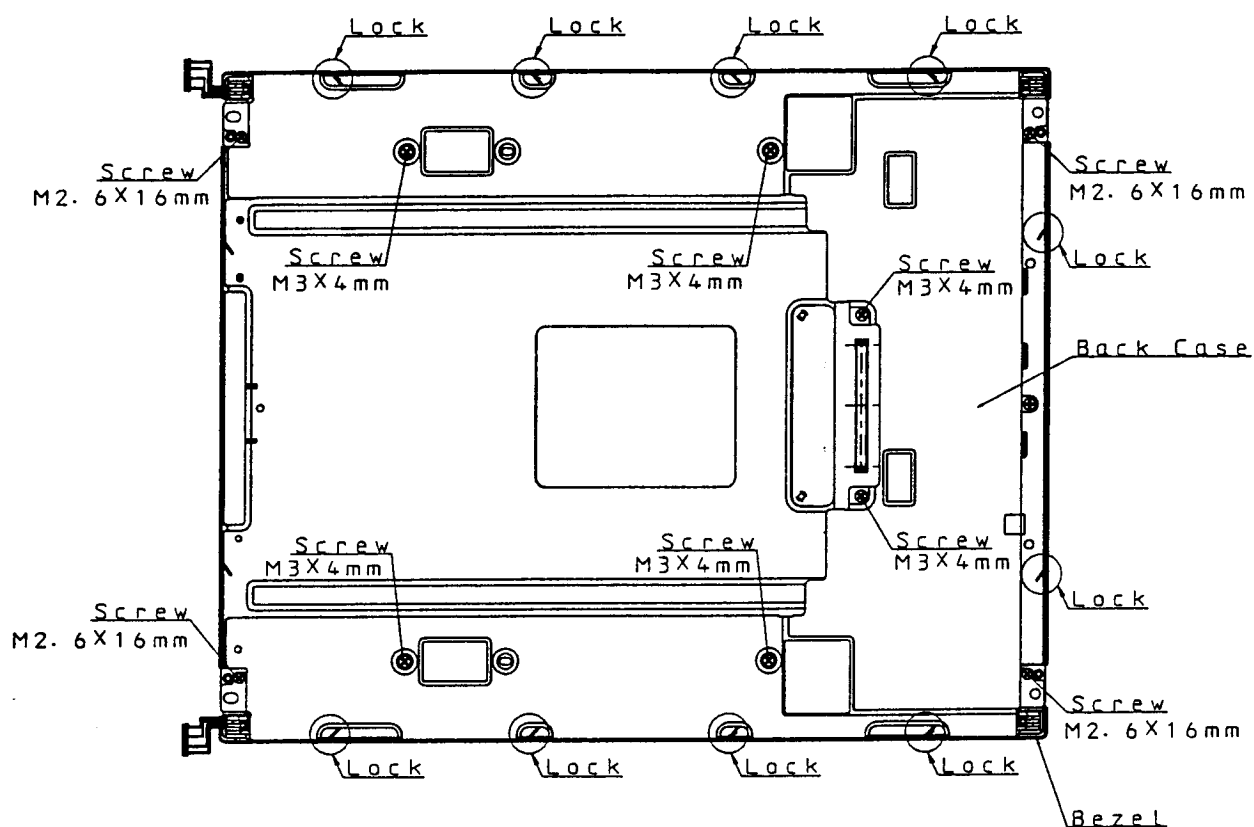
|   | Part unit           | Q' ty | Material               |
|---|---------------------|-------|------------------------|
| 1 | Lamp                | 2     | φ3 L=384mm             |
| 2 | Lamp rubber cushion | 2     | Silicon rubber(SH502U) |
| 3 | Connector           | 1     | XHP-9(JST)             |
| 4 | WireH               | 2     | UL10267W Pink          |
| 5 | WireG               | 2     | UL10267W White         |

Fig. 1. Outline drawing of Lamp unit



|   | Part unit      | Q' ty | Material              |
|---|----------------|-------|-----------------------|
| 1 | Lamp unit      | 2     | 2 light types         |
| 2 | Lamp reflector | 2     | PET                   |
| 3 | Lamp holder    | 2     | PC(GF10%) White       |
| 4 | Lamp angle     | 2     | AL A5052P-H34 t=1.0mm |

Fig. 2. Outline drawing of BackLight unit



- 1) After replace the BackLight unit, please set the lock parts on the marking position or inside position on the Back Case.
- 2) Binding torque:  $0.196 \pm 0.02 \text{ N} \cdot \text{m}$

Fig. 3-1

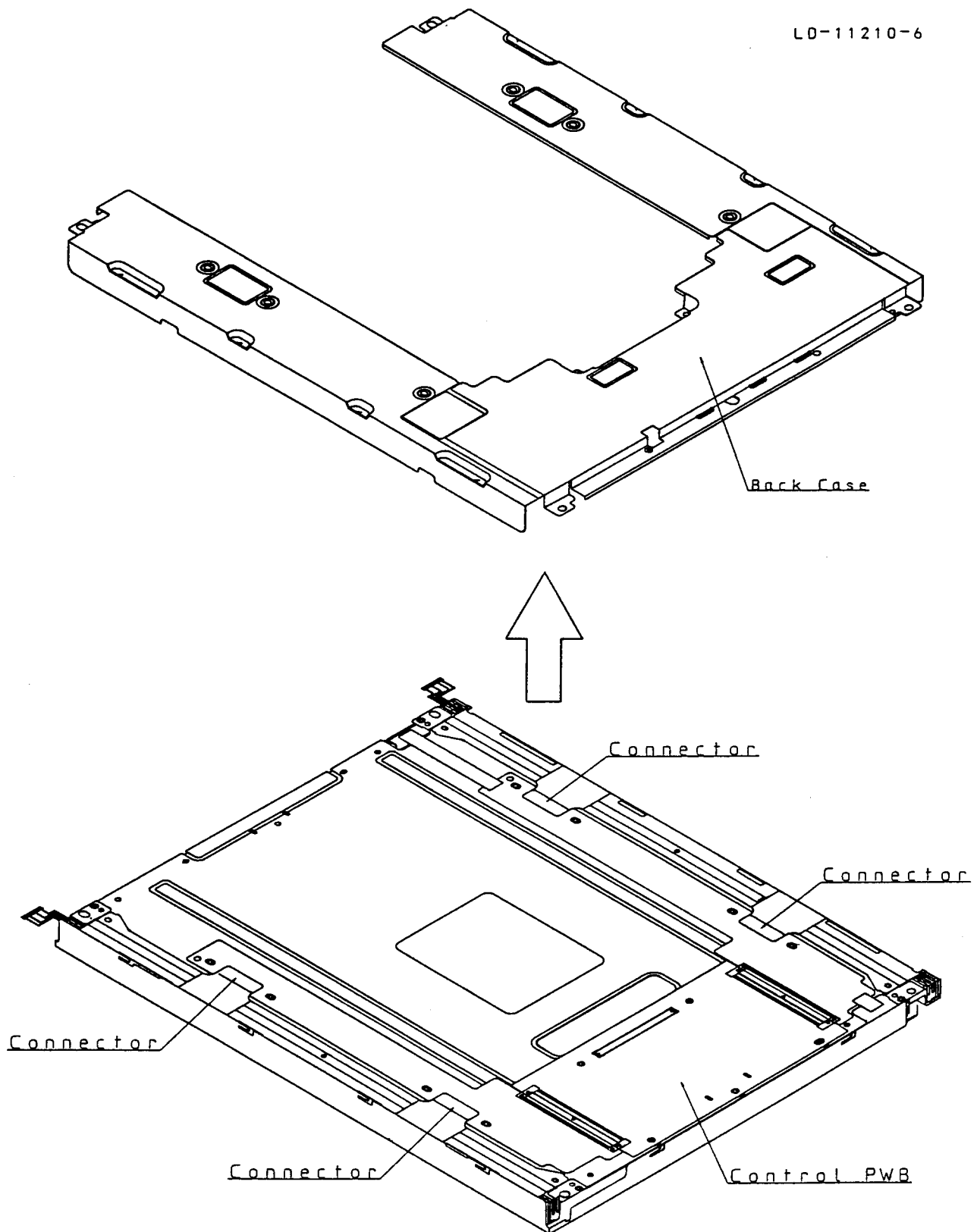
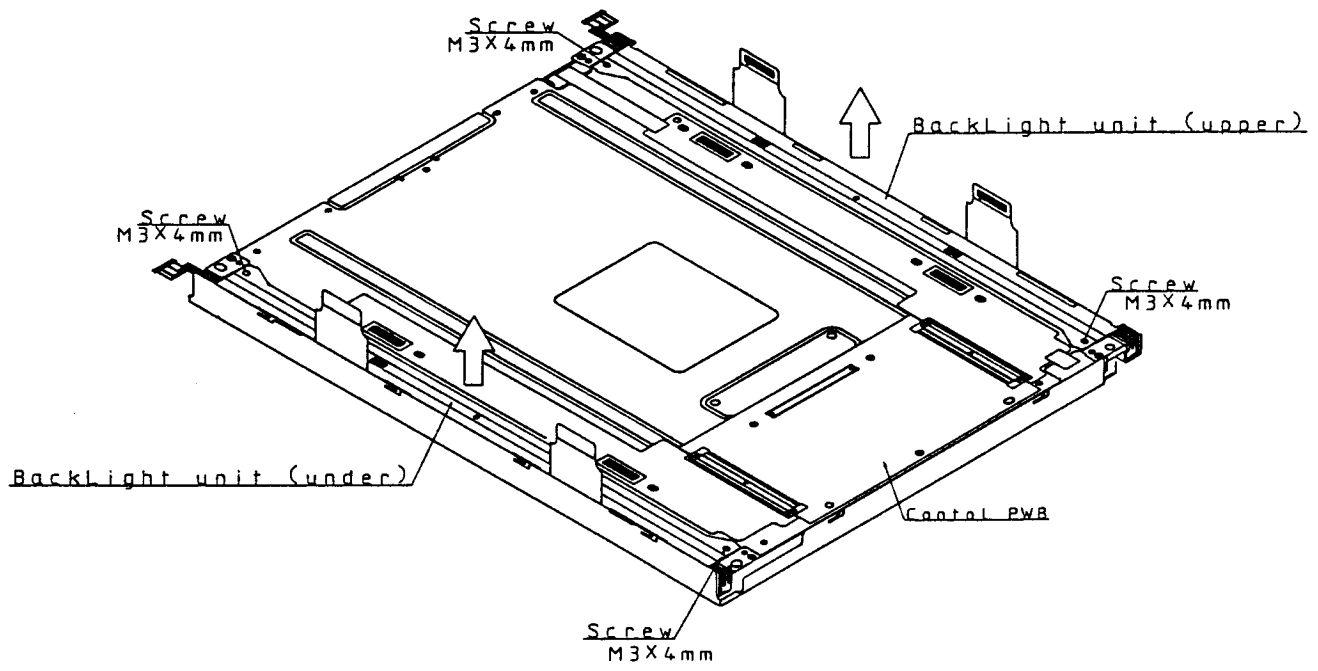


Fig 3-2.

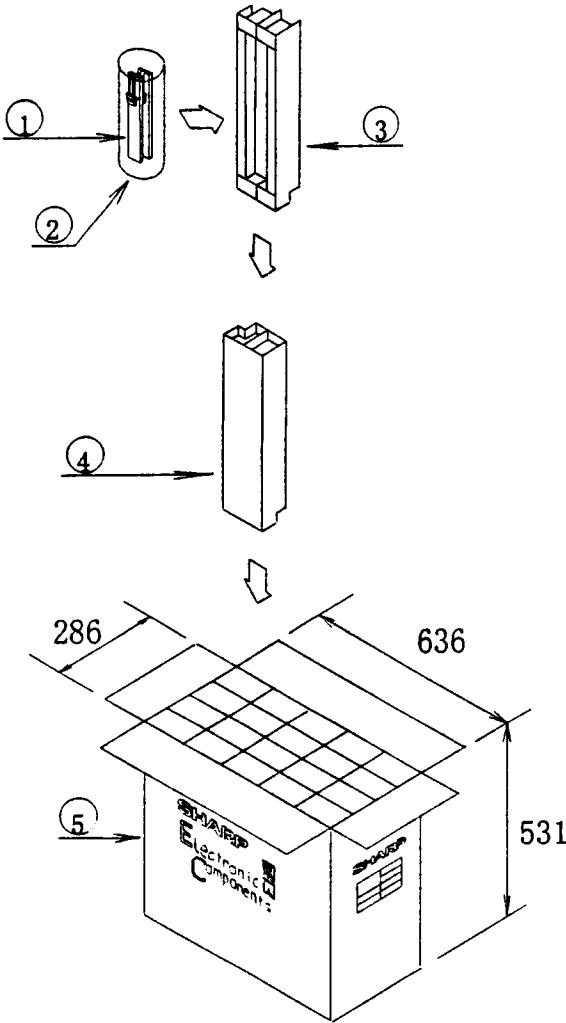


L0-11210-7



Binding torque:  $0.196 \pm 0.02 \text{ N} \cdot \text{m}$

Fig 3-3



| No. | Part unit      | Q'ty  |
|-----|----------------|-------|
| 1   | Lamp Unit × 2  | 20set |
| 2   | Air cap sheets | 20    |
| 3   | Bumper         | 20    |
| 4   | Unit Carton    | 20    |
| 5   | Master Carton  | 1     |

20 units in each carton  
Total weight (g) : 6,000 g

|           |            |
|-----------|------------|
| TYPE      | LQ0BDD5131 |
| QUANTITY  | 20         |
| LOT(DATE) |            |

Fig. 4. Package form

CCFT replacement, LQ0DDB5131