

PRPREPARED BY : DATE	<h1>SHARP</h1> <p>LIQUID CRYSTAL DISPLAY GROUP SHARP CORPORATION</p> <h2>SPECIFICATION</h2>	SPEC No. L D - 1 1 2 1 0
APPROVED BY : DATE		FILE No.
		ISSUE: February 19.1999
		Page : 8 Page
		APPLICABLE GROUP Liquid Crystal Display Group

DEVICE SPECIFICATION FOR

BACKLIGHT UNIT

MODEL No. LQ0DDB5131

NOTICE

The intended purpose of this product does not include military vehicles or civilian aircraft cockpit applications. Should any product be used in these applications no warranty or representation is made that the product is free from claims of patent infringement and no indemnification against such claims will be provided.

☐ CUSTOMER'S APPROVAL

DATE _____

BY _____

PRESENTED BY M. Tanimura

M. TANIMURA

Department General Manager

Module Engineering

TFT DIVISION II

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.

- > These specification sheets are the proprietary product of SHARP CORPORATION (SHARP) and include materials protected under copyright of SHARP. Do not reproduce or cause any third party to reproduce them in any form or by any means, electronic or mechanical, for any purpose, in whole or in part, without the express written permission of SHARP.
- > The device listed in these specification sheets was designed and manufactured for use in OA equipment.
- > In case of using the device for applications such as control and safety equipment for transportation (aircraft, trains, automobiles, etc.), rescue and security equipment and various safety related equipment which require higher reliability and safety, take into consideration that appropriate measures such as fail-safe functions and redundant system design should be taken.
- > Do not use the device for equipment that requires an extreme level of reliability, such as aerospace applications, telecommunication equipment(trunk lines), nuclear power control equipment and medical or other equipment for life support.
- > SHARP assumes no responsibility for any damage resulting from the use of the device which does not comply with the instructions and the precautions specified in these specification sheets.

Contact and consult with a SHARP sales representative for any questions about this device.

(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 _{HIGH}	i	Power supply for lamp (High voltage side)
2	NC	-	No connection
3	NC	-	No connection
4	V _{HIGH}	i	Power supply for lamp (High voltage side)
5	NC	-	No connection
6	NC	-	No connection
7	V _{LOW}	i	Power supply for lamp (Low voltage side)
8	NC	-	No connection
9	V _{LOW}	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 _L	-	-	6.0	mA _{rms}	(just for reference)
Lamp voltage	V _L	-	850	-	V _{rms}	【Note 1】
Power consumption	W _L	-	5.1	-	W	【Note 2】
Frequency	F _L	30	35	60	kHz	
Kick-off voltage	V _s	-	-	1,600	V _{rms}	Ta=25°C
		-	-	1,800	V _{rms}	Ta=0°C
Lamp life	L _L	10,000	-	-	hours	【Note 3】

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

【Note 2】 Calculated value for reference (I_L × V_L)

【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 _L	26500	35000		cd/m ²	(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° 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

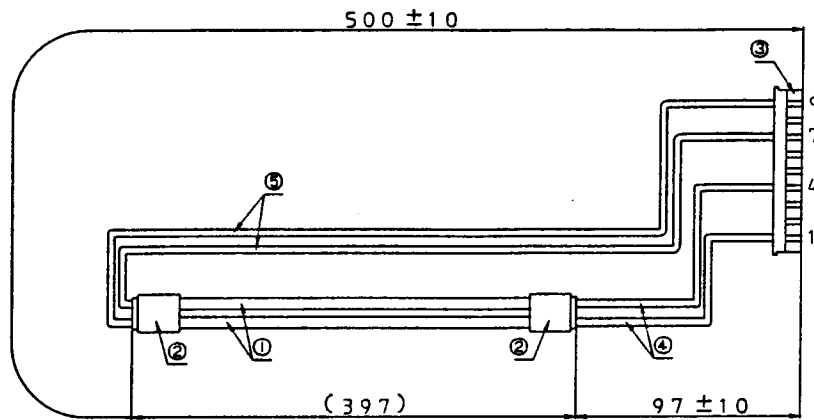
Packing form is shown Fig.4.

(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.

LD-11210-4

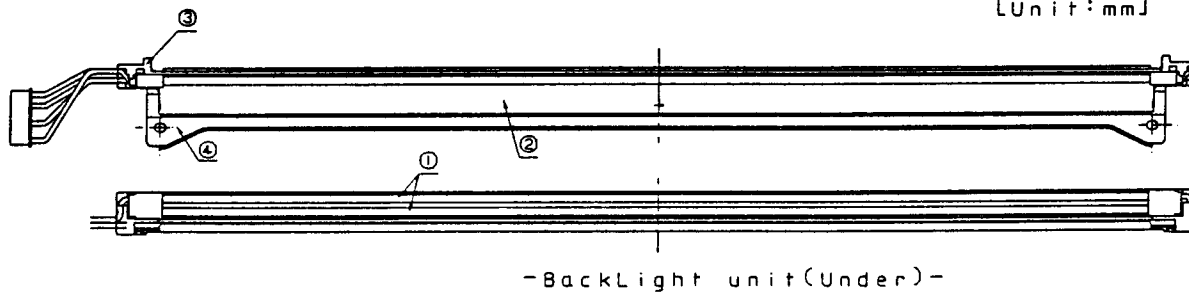
[Unit:mm]



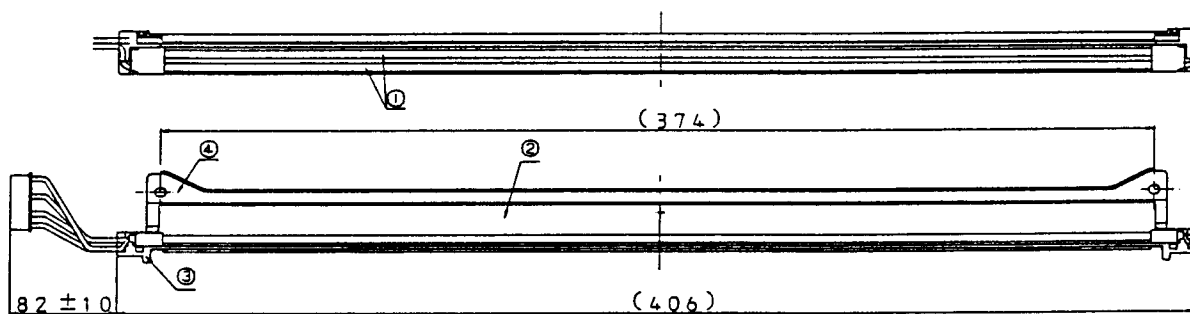
	Part unit	Q'ty	Material
1	Lamp	2	φ3 L=384mm
2	Lamp rubber cushion	2	Silicon rubber(SH502U)
3	Connector	1	XHP-9(JST)
4	WireH	2	UL10267W Pink
5	WireG	2	UL10267W White

Fig. 1. Outline drawing of Lamp unit

[Unit:mm]



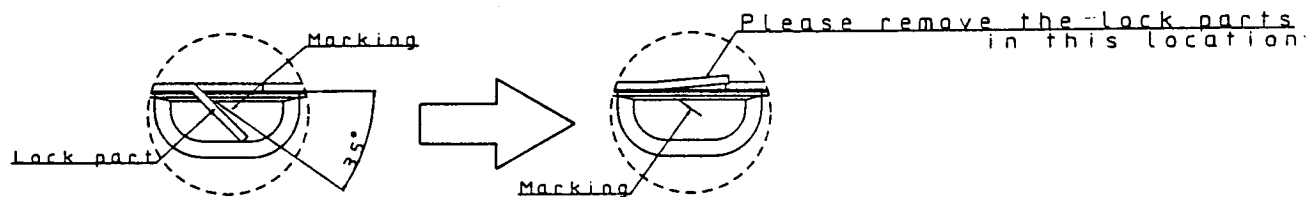
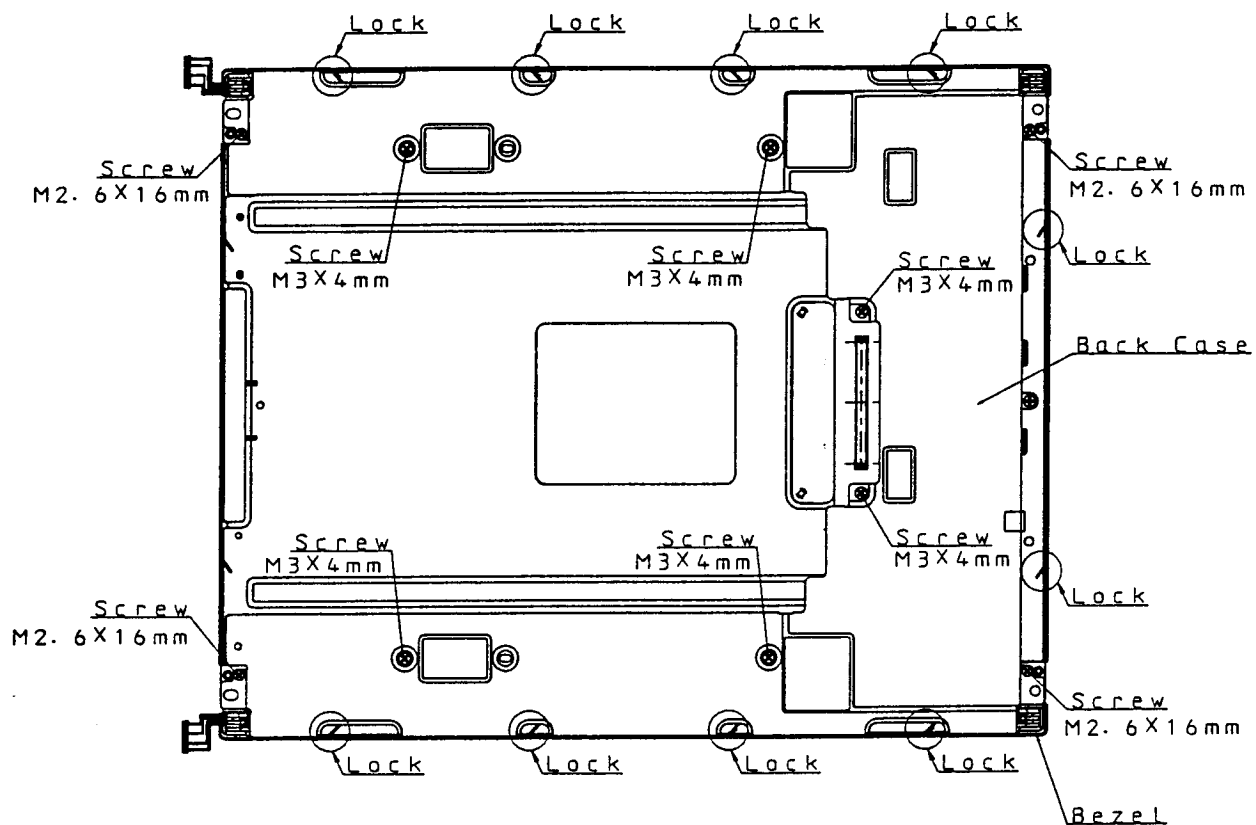
-BackLight unit(under)-



-BackLight unit(upper)-

	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

LD-11210-6

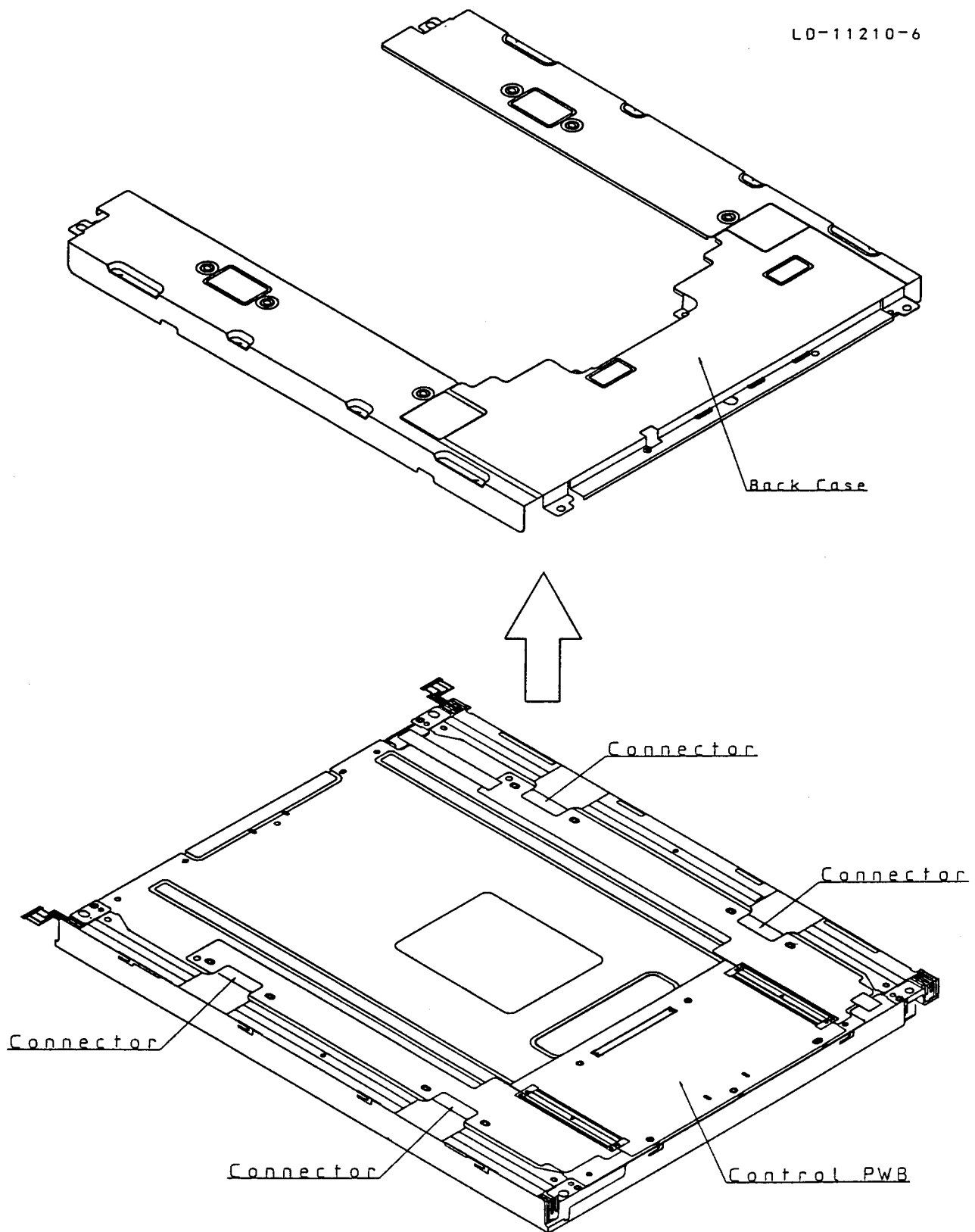
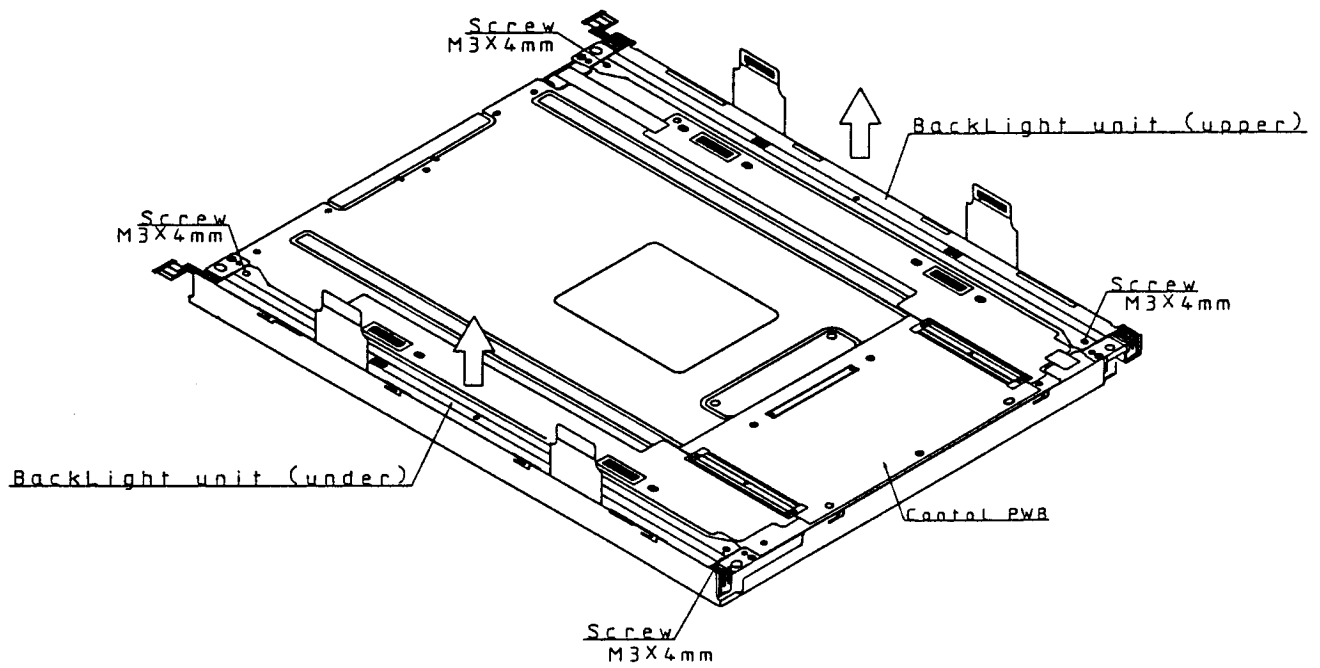


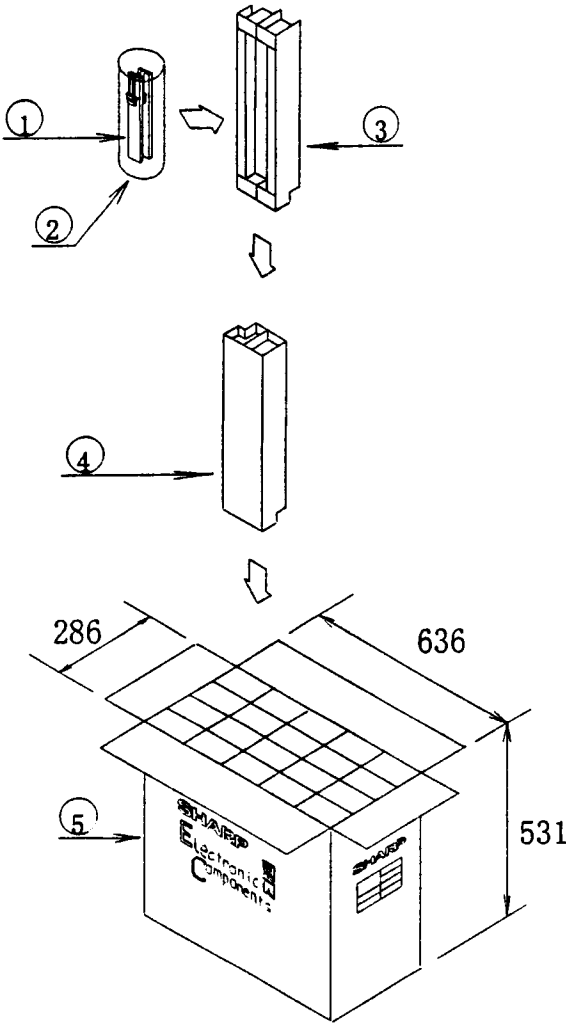
Fig 3-2.

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