

REPAIRED BY: 0004 供应日期

捷多邦, 专业PCB打样工厂

SPEC 追加出货 CY-99050

SHARP

TFT LIQUID CRYSTAL DISPLAY GROUP
SHARP CORPORATION

SPECIFICATION

FILE No.

ISSUE : April. 19. 1999

PAGE : 7 pages

APPLICABLE GROUP
TFT LIQUID CRYSTAL DISPLAY
GROUP

APPROVED BY : DATE

DEVICE SPECIFICATION FOR

LAMP UNIT

MODEL No. LQ0DDB0004

CUSTOMER'S APPROVAL

DATA

BY

PRESENTED

BY

Hirotaka Yoshida

DEPARTMENT GENERAL MANAGER
DEVELOPMENT ENGINEERING DEPT. II
TFT DIVISION I
TFT LIQUID CRYSTAL DISPLAY GROUP
SHARP CORPORATION



- > 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 **F A** 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.

(1) Subject

This literature is applied for LQ0DDB0004 which is the lamp unit for 21cm (8.4") TFT-LCD module.

(2) Introduction

This backlight unit is a service part for 21cm TFT-LCD module (LQ084V1DG21) of which backlight is designed to be replaceable and exactly same as originally installed one for above model.

(3) Construction and Outline

The unit is composed of cold cathode fluorescent tubes, I/O wires (including connectors), and lamp holders.

* Outline drawing of lamp unit : See Fig. 1.

(4) Input / Output terminals

4-1) I/O terminal order

Table 1

Pin No.	Symbol	i/o	Description
1	VHIGH	i	Power supply for lamp (High voltage side)
2	NC	-	No connection
3	VLOW	i	Power supply for lamp (Low voltage side)

4-2) I/O connector

1) Installed socket housing ; BHR-03VS-1

2) Mating connector ; SM02(8.0)B-BHS

(produced by Japan Solderless Terminal)

(5) Electrical characteristics

The characteristics of single lamp are shown in the following table 2.

Table 2

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remarks
Lamp current	I _L	2.0	6.0	6.5	mArms	【Note1】
Lamp power consumption	P _L	—	4.1	—	W	【Note2】
Lamp frequency	F _L	20	45	70	KHz	
Kick-off voltage	V _s	—	—	1300	Vrms	Ta=25°C
		—	—	1500	Vrms	Ta=0°C
Lamp life time	L _L	—	50000	—	hour	【Note3】

[Note1] Available current range considering light-adjustment.

[Note2] Calculated value for reference.

[Note3] Since lamp is consumable, the life time written above is referential value and it is not guaranteed in this specification sheet by SHARP.

Lamp life time is defined that it applied either 1 or 2 under this condition.

(Continuous turning on at Ta=25°C, ±3°C, IL=6mAms)

1. Brightness becomes 50% of the original value under standard condition.
2. Kick-off voltage at Ta=0°C exceeds maximum value, 1500 Vrms.

(6) Optical characteristics

Table 3

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Remarks
Luminance	Y _L	-	28,000	-	cd/m ²	I _L =6.0mA
Chromaticity	X	0.278	0.288	0.298		(Tentative Value)
	Y	0.245	0.255	0.265		

Above value is the characteristics of the lamp itself with the inverter

(7) Environmental condition

Following temperature ranges indicate ambient condition to be guaranteed by SHARP for the LCD module LQ084V1DG21 which the lamp unit is incorporated.

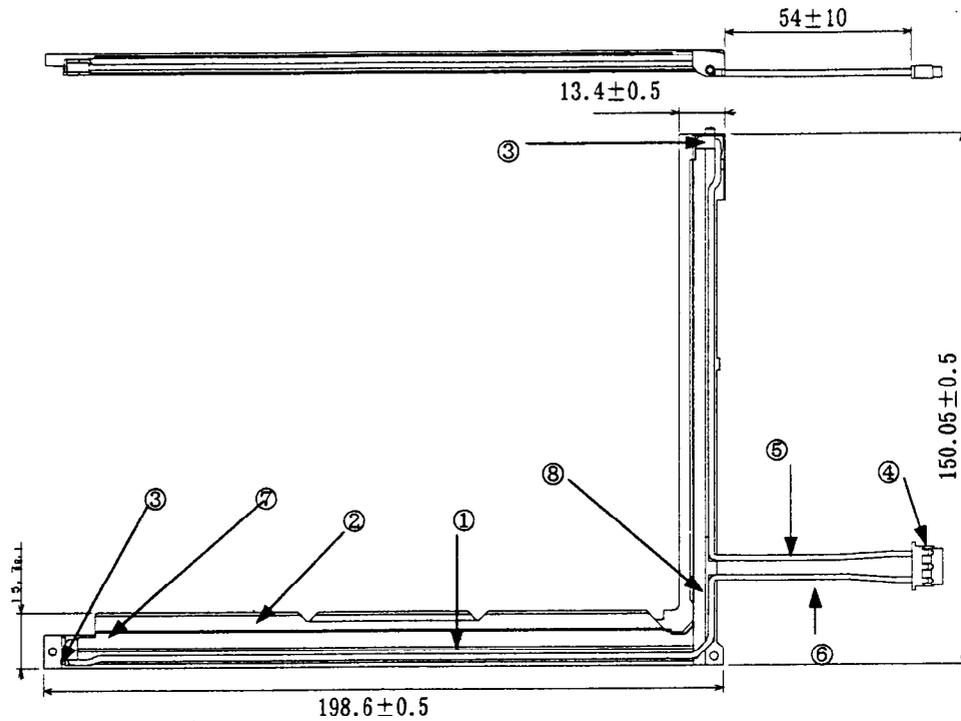
Table 4

Item	Symbol	Temperature	Unit	Remarks
Storage temperature range	Tstg	-25 ~ +70	°C	【Note1】
Operating temperature range (Ambient)	Topa	0 ~ +55	°C	

【Note1】 Humidity: 95%RH Max.(Ta ≤ 40°C)

Maximum wet-bulb temperature at 39°C or less.(Ta > 40°C)

No condensation.



Pin NO.	Symbol	Color
1	VHIGH	Red
2	NC	—
3	VLOW	White

No.	Part unit	Q'ty	Material etc.
①	Lamp	1	φ2.6
②	Lamp holder	1	PC
③	Lamp rubber cushion	2	Silicon rubber
④	Connector	1	JST BHR-03VS-1
⑤	Wire (High voltage side)	1	UL10353AWG26(Red)
⑥	Wire (Low voltage side)	1	UL10353AWG26(White)
⑦	Reflection Film A	1	PET(GR38W)
⑧	Reflection Film B	1	PET(GR38W)

Fig. 1. Outline drawing of Lamp unit

(8) Procedure to exchange Lamp unit

Lamps for the LCD module can be worn out, so please replace them to new lamps when needed in accordance with the following. Please make sure that power is off before you replace them to prevent you from getting an electrical shock. Please insert the lamp with care while replacing. Please be careful for any dust goes in.

- ① Remove 2 screws which holds the Lamp unit. (refer to Fig. 2)
- ② Slide the Lamp unit to the "B" direction.
- ③ Remove the Lamp unit. ("C" direction)
- ④ Replace the new Lamp unit to the "D" direction and slide the unite to the "E" direction. (refer to Fig.3)
- ⑤ Tighten the 2 screws to fix the Lamp unit along the screw gap of. hole. The screw torque should be maximum 1.6kgf · cm. If you tighten the screw over 1.6kgf.cm, the screw should be destroyed. Please be careful.
- ⑥ Please insert the lamp with care while replacing. Please be careful for any dust that goes in. Please make sure that the lamp unit is in all the way.

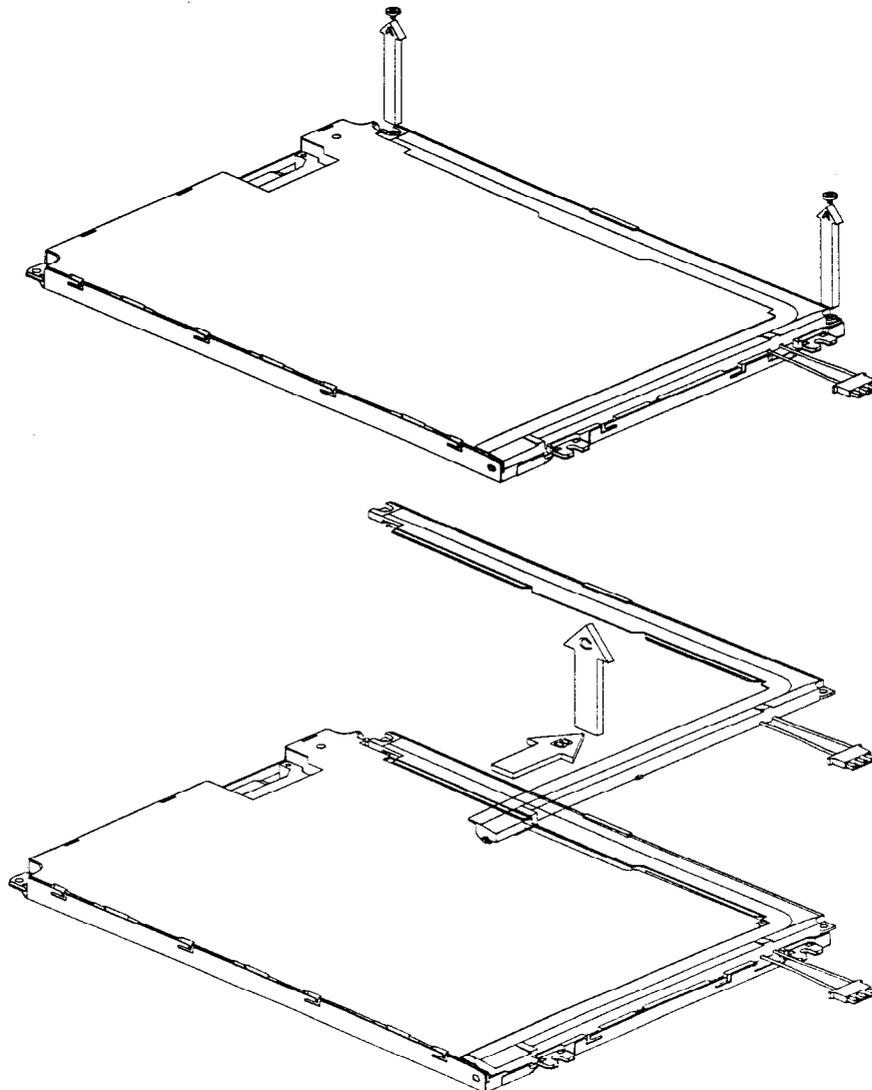


Fig.2. Procedure to exchange Lamp unit.

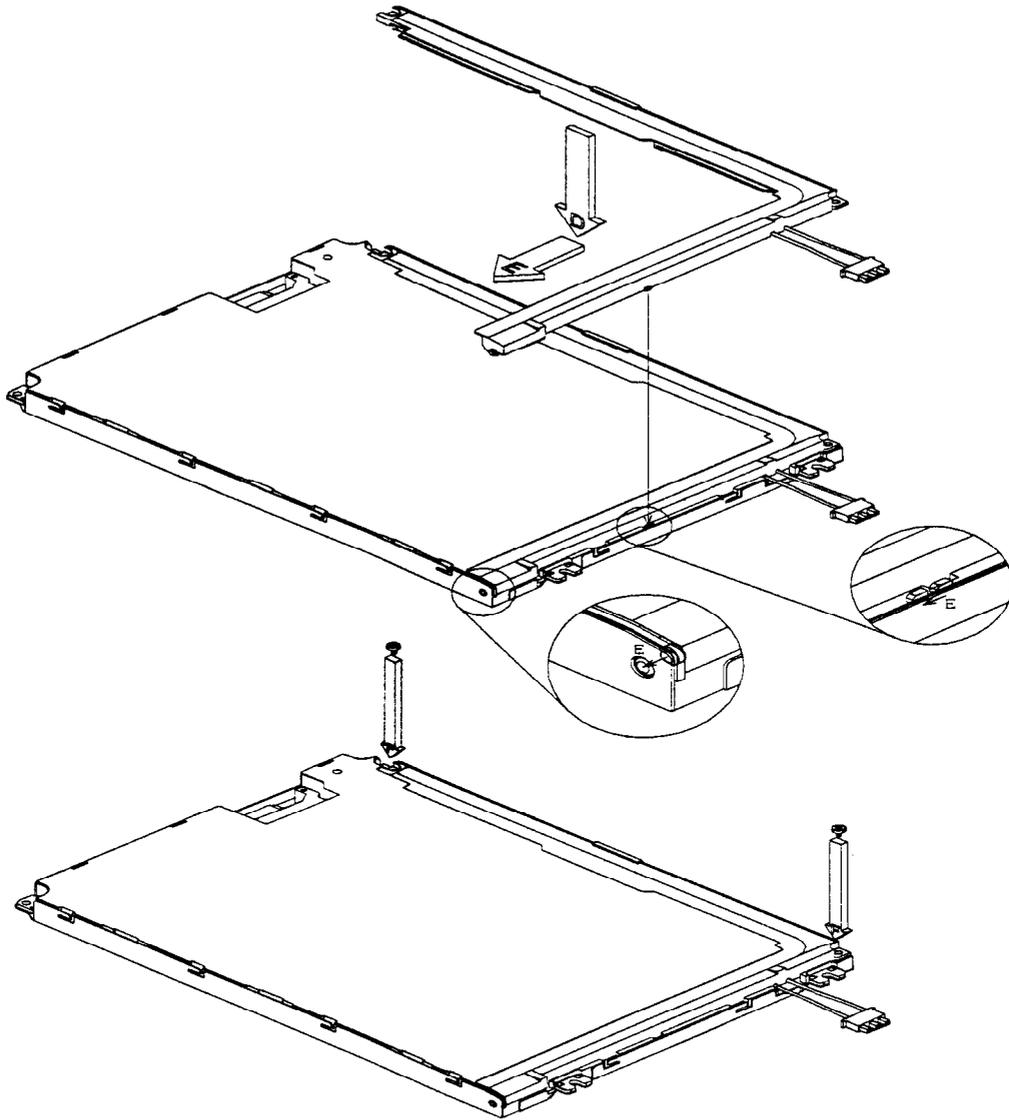


Fig. 3. Procedure to exchange Lamp unit

(9) Packing form

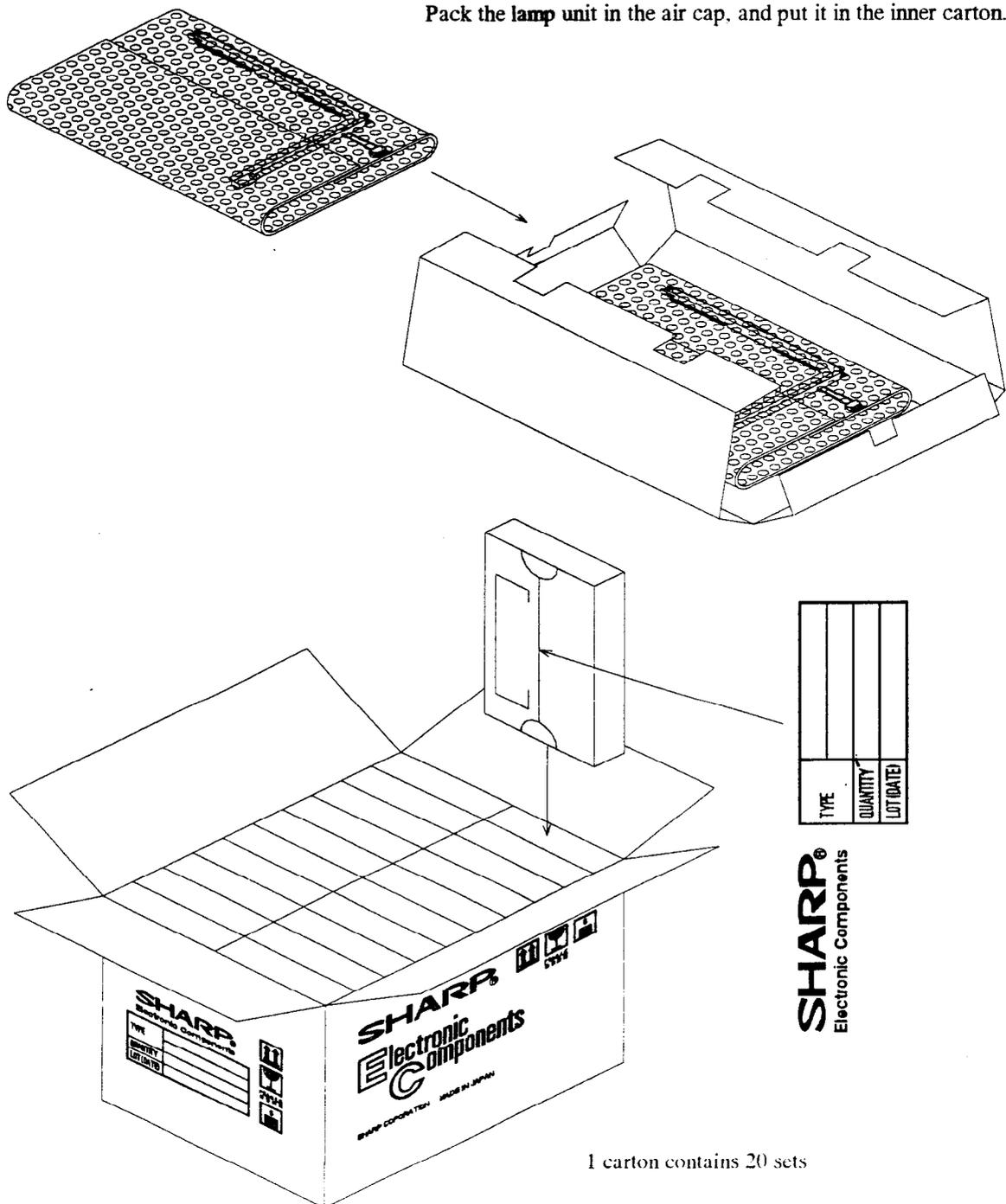
Packing form is shown in Fig.4 (Total Weight: 2,860 g)

(10) Others

10-1) It shall be informed before with attachment of the Quality/ reliability data if any changes of design, process, or management system occurs.

10-2) If any problems occurs in relation to the description in the present specifications or other relevant items, it shall be eliminated in all sincerity through discussion.

Pack the lamp unit in the air cap, and put it in the inner carton.



1 carton contains 20 sets

Fig.4.Packing form