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		APPLICABLE GROUP Liquid Crystal Display Group

**SHARP**  
LIQUID CRYSTAL DISPLAY GROUP  
SHARP CORPORATION  
**SPECIFICATION**

DEVICE SPECIFICATION FOR  
**BACKLIGHT UNIT**

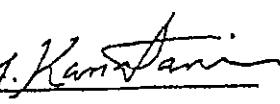
MODEL No. L Q 0 B 1 0 1

CUSTOMER'S APPROVAL

DATE \_\_\_\_\_

BY \_\_\_\_\_

PRESENTED

BY   
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LIQUID CRYSTAL DISPLAY GROUP  
SHARP CORPORATION

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### 1. Application

This specification deals with the LQOB101 backlight maintenance fluorescent tube assembly which is used in the 10.4" TFT-LCD module.

### 2. General

As it has the feature identical to the hot cathode fluorescent tubes for the backlight which is equipped standard to the LQ10D01 series 10.4" TFT-LCD module, it is used as maintenance parts for the module.

### 3. Outline dimensions

Fig. 1 shows the outline view of the fluorescent tubes.

The replacement method for the fluorescent tubes is shown in Fig. 2.

### 4. Electrical characteristics

Table I

Ta=25°C

Parameter	Symbol	MIN	TYP	MAX	Unit	Remarks
Lamp voltage	V <sub>t</sub>	51	61	71	Vrms	
Lamp current	I <sub>t</sub>	90	100	110	mArms	(Nominal value)
Filament voltage	V <sub>f</sub>	6.5	7.5	8.5	Vrms	[Note 1]
Filament current	I <sub>f</sub>	95	105	115	mArms	
Operating frequency	f <sub>t</sub>	20		60	kHz	
Kick-off voltage	V <sub>s</sub>	-	-	360	Vrms	(Ta=0°C)
Power consumption	W <sub>t</sub>	-	6.1	7.8	W	[Note 2]
Lamp life	T <sub>t</sub>	-	5,000	-	Hours	[Note 3]

[Note 1] Must be preheated at least for three second before activating.

[Note 2] Nominal value obtained by calculation (I<sub>t</sub> × V<sub>t</sub>)

[Note 3] Lamp life terminates when one of the following occurs after the continuous operation under rated power and the room temperature.

- 1) When the luminance under the rated power reached 50% of the initial value.
- 2) When a normal operation became obstructed.

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### 5. Optical characteristics

Table 2

Ta=25°C

Parameter	Symbol	MIN	TYP	MAX	Unit	Remarks
Lamp luminance	$Y_L$	13,000	17,000	-	nt	(Nominal value)
Lamp chromaticity	x	0.251	0.281	0.311		
	y	0.244	0.274	0.304		[Note 4]

[Note 4] The value measured in fifteen minutes after the activation at the center of the fluorescent tube at a viewing cone 0.2° using the TOPCON luminance meter BM-7.

### 6. Environmental conditions

6-1) Operating temperature range 0 ~ +50 °C

6-2) Storage temperature range -25 ~ +60 °C

### 7. Fluorescent tubes replacement method

7-1) Turn the TFT-LCD module back side up (① in Fig. 2).

7-2) Remove the fluorescent tube cover (⑤ in Fig. 2).

a. Move the fluorescent tube cover to right.

b. Unlatch the cover from the pawl on the left.

c. Slide it to the right to remove with care not to be caught by the pawl.

(Any direction will do.)

7-3) Remove the fluorescent tube holders (③ and ④ in Fig. 2).

7-4) Remove the fluorescent tube (② in Fig. 2).

7-5) Do the reverse sequence 1) thru 4) to install the new fluorescent tubes.

(Hints)

The tubes need to be replaced by a pair. Also, note that tube leads differ in their length.

### 8. Packaging

Fig. 3 shows how it is packaged.

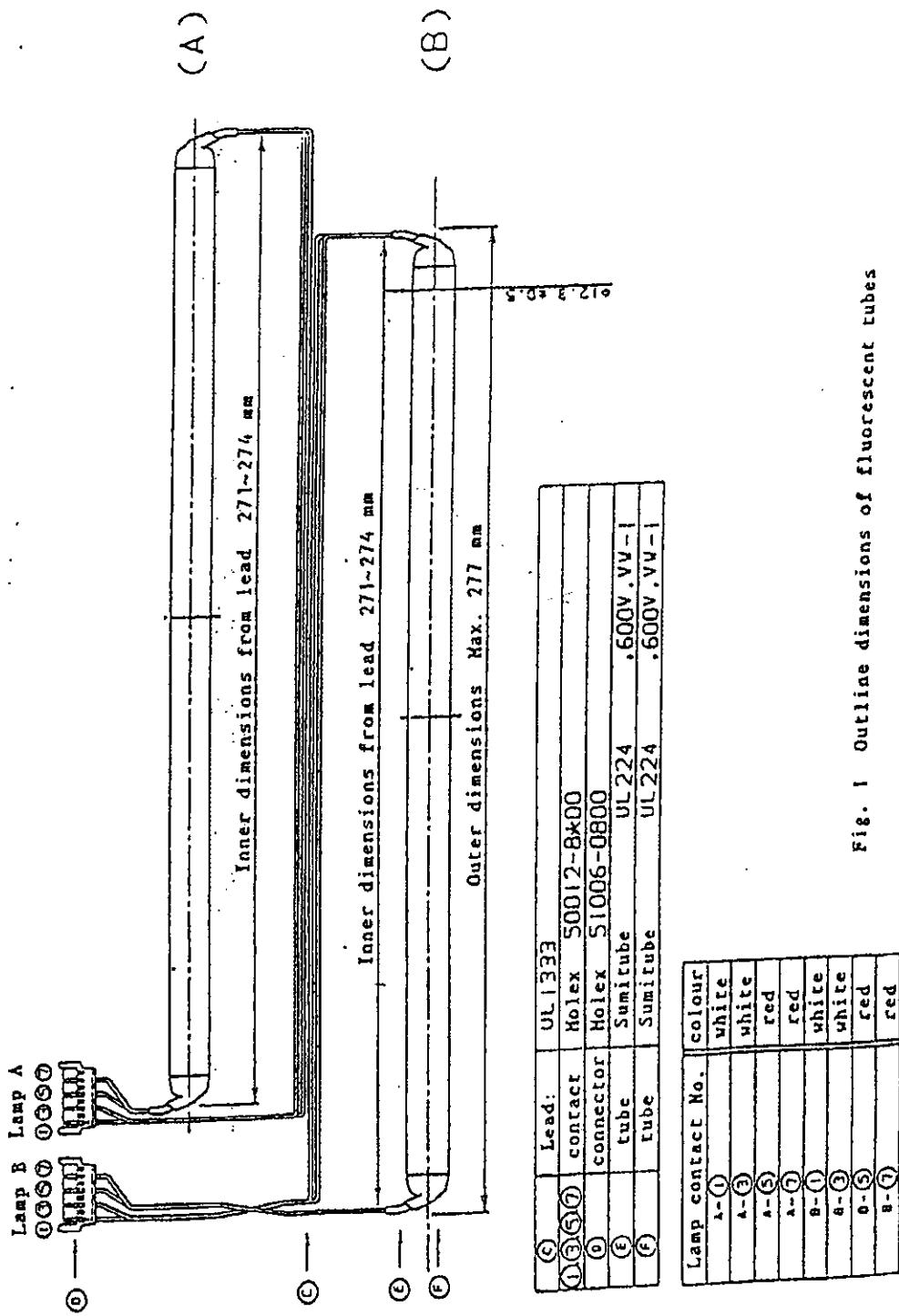
### 9. Others

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.

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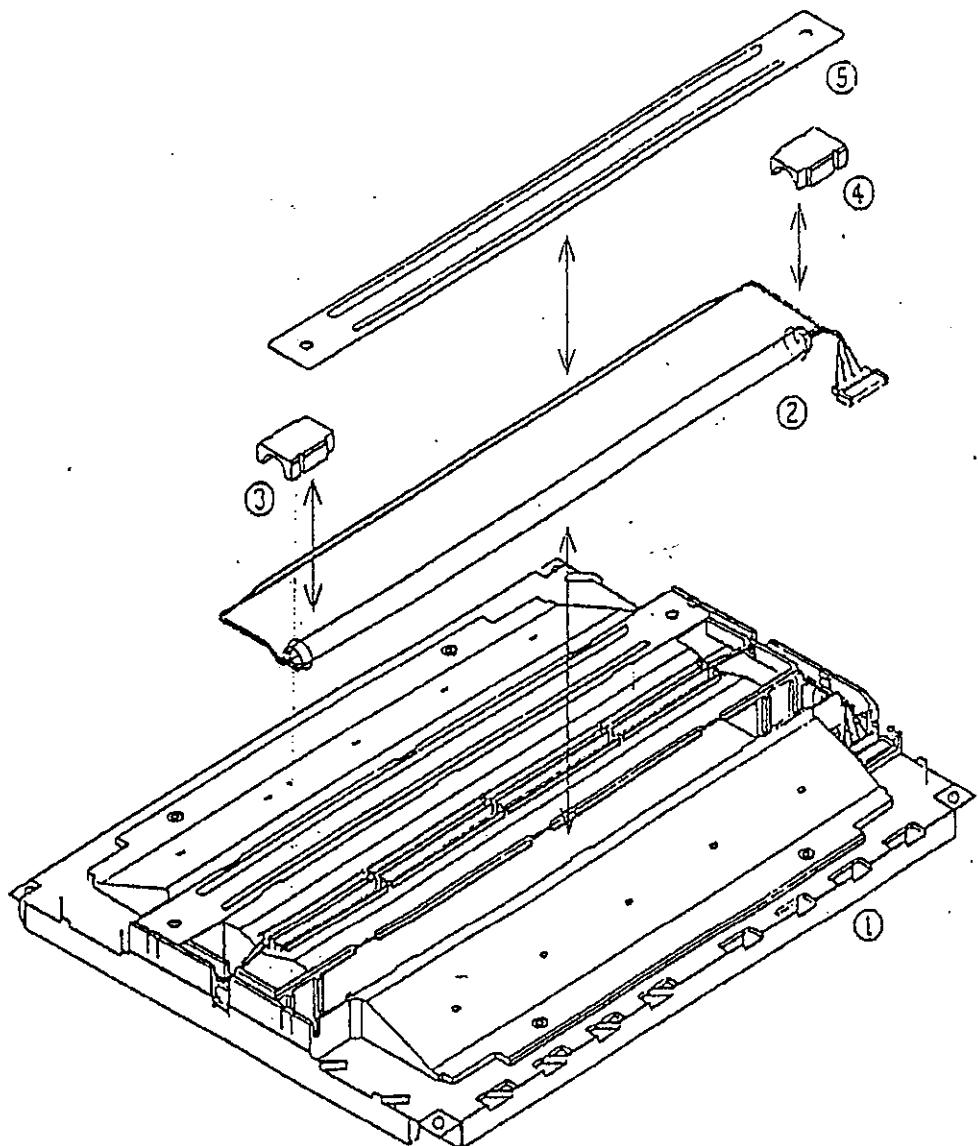
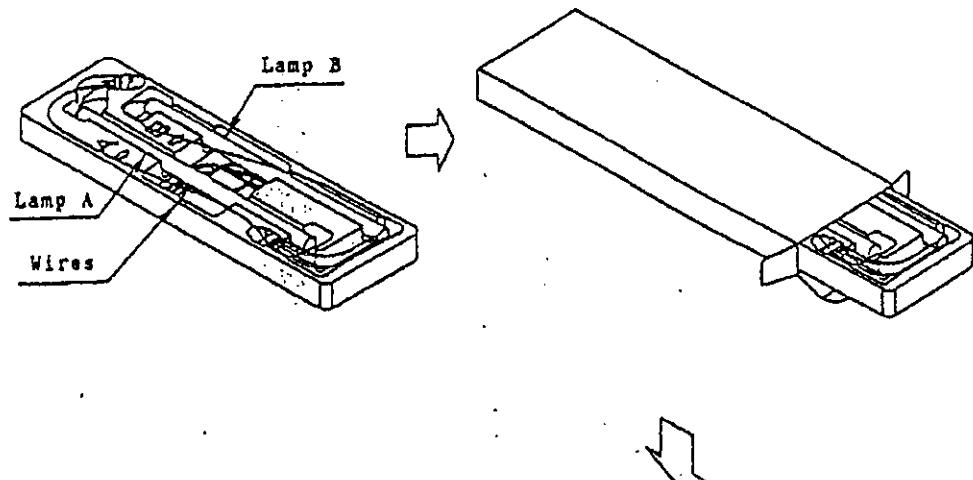
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Fig. 2 Fluorescent tubes replacement method

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**Inner carton****Outer carton**

20 units in each carton  
 Inner carton (mm) : 353×107×29  
 Outer carton (mm) : 366×228×323  
 Weight (g) : 2700

TYPE	L008101
QUANTITY	20
LOT (DATE)	

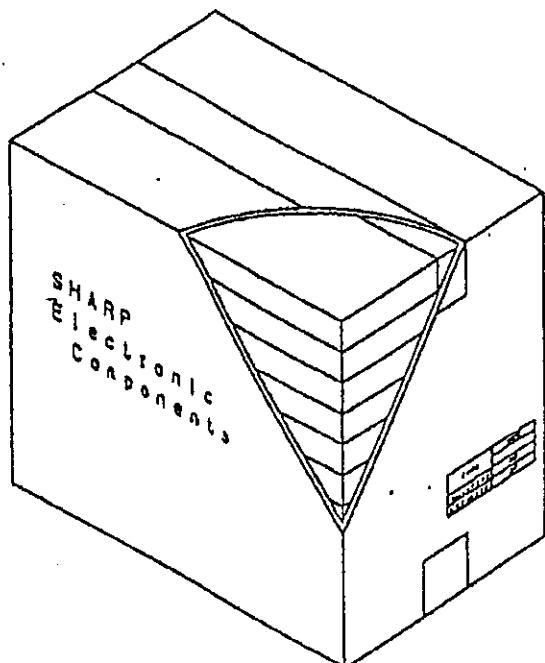


Fig. 3 Packing form