SPEC.NO.	TQ3C-8EAC0-E4AAXX51-01
DATE	December 6, 1997

S P E C

FOR :

INVERTER SPECIFICATION FOR CFL

TYPE:KCI-12

CONTENTS

KYOCERA CORPORATION
KAGOSHIMA HAYATO PLANT
LCD Division

Original	Designed by :Engineering Dept.			Confirmed by :QA Dept.	
Issue Data	Prepared	Checked	Approved	Checked	Approved
September 16, 1997	S. Matsuo	S. Kojima		S. Hayashi	T. Yoshida

Revision Record

Date	Designed by :Engineering Dept.			Confirmed by :QA Dept.	
	Prepared	Checked	Approved	Checked	Approved
December 6, 1997	S. Matsuo	S. Kojima		S. Hayashi	T. Yoshida

Rev. No.	Date	Page	Descriptions
01	Dec 6 1997	-	Cover page ~Add "8.Lot Number Identification"
		4	~Add "8.Lot Number Identification" ~Add the explanatory drawing of Lot Number

1 . Mechanical Specifications

KCI-12(MINEBEA ELECTRONICS)

ITEM	Standardized value	UNIT
Outline Dimensions	25.0(W) × 130.0(H) × 8.0$_{MAX}$(D)	mm
Weight	30	g

2 . Absolute Maximum Ratings

ITEM	SYMBOL	MIN.	MAX.	UNIT
Operating temperature	Top	0	40	℃
Storage temperature *1	Tsto	-20	60	℃
Operating humidity *2	Hop	10	85	%RH
Storage humidity *2	Hsto	10	*3	%RH

*1 Temp. = -20°C < 24 Hr. , Temp. = 60°C < 24 Hr.
No Vibration and shock

*2 Non-condensation

*3 Temp. ≦ 40°C , 85% RH MAX.
Temp. > 40°C , Absolute humidity shall be less than 85% RH at 40°C.

* As for Vibration and Shock,refer to the data of the LCD module

3 . Inverter Characteristics

3-1 Electrical Characteristics Temp. = 25°C

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT	NOTE
Input voltage	Vin	9.0	12.0	16.0	V	
Power consumption	Pin	—	—	11.0	W	Vin = 12.0v
Non-load output voltage	Vout	1400	—	—	V rms	Vin = 9.0v
Output current Ratings *1	Iout	5.5	6.0	6.5	mA rms	Vin = 9.0v ~16.0v
Operating Frequency	f	55	70	85	KHz	Vin = 9.0v ~16.0v

* Electrical characteristics is defined under the following conditions: 20~25°C temperature circumstances,over 10 minutes after CFL light is turned on.
*1 Values measured at 1CFL

3-2.Input Brightness adjustment

Connect external adjusting volume(5kΩ) to fit the brightness.

Volume resistor	Function		NOTE
0 Ω	MAX. Brightness	Tube current 6.0mArms TYP.	—
5K Ω	MIN. Brightness	40% TYP.of Maximum tube current	—

3-3.CFL ON/OFF

Switch lamp on and off by connecting open-collector.

Input signal	Specification	Function
Low	0.8VMAX.	Operated Inverter
Open	—	Inoperated Inverter

4 . Interface signals

4-1.Inverter input connector : CN1

Pin NO	SYMBOL	CONTENTS
1	Vin	Input voltage
2	GND	GND
3	CONT	ON/OFF terminal
4	VR(GND)	Adjusting volume Terminal
5	VR(5KΩ)	Adjusting volume Terminal

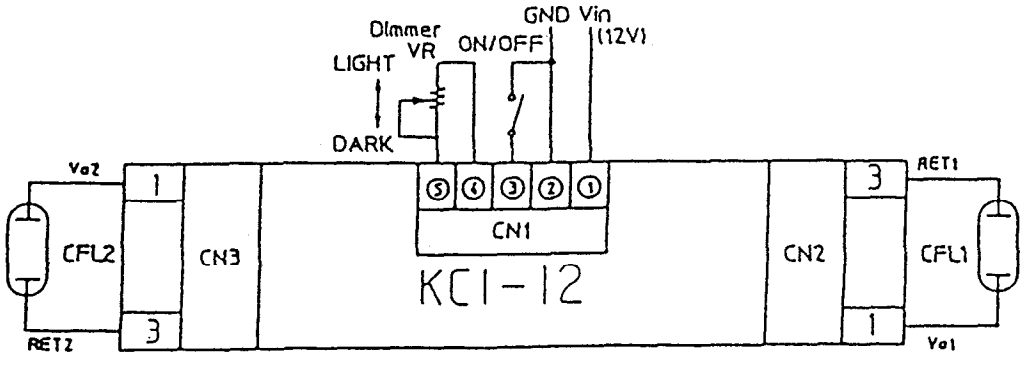
INV side connector : S5B-ZR-SM3 (JST)
Matching connector : ZHR-5 (JST)

4-2.Inverter output connector : CN2,CN3

Pin NO.	CONTENTS	
	C N 2	C N 3
1	VO1 (High voltage terminal)	VO2 (High voltage terminal)
2	N.C.	N.C.
3	RET1 (Return terminal)	RET2 (Return terminal)

INV side connector : SM02(8.0)B-BHS-1 (JST)
Matching connector : BHR-03VS-1 (JST)

4-3.Circuit figure



5 . Precaution for use

5-1.About 1400 V of high voltage will be supplied to the transfer and output connector(CN2,CN3). Please be careful for description below.

(1)Please make sure power is off when both connectors are connected.
(2)Please see to it that additional insulation is well prepared,assembling inverter to the unit.

5-2.Please consider the influence of float capacitor about connection between inverter and lamp.

(1)Please shorten the wiring to the lamp as much as possible.
(2)Please avoid the wire tightly restricted to the high voltage terminal and return terminal.
(3)Putting the conductor near by the lamp will might decrease the brightness or might have an effect on the nature of starting the CFL operation.

5-3.On using inverter itself please be careful about description below.

(1)Do not make any stress to the base board or transfer.
(2)Do not use the inverter which once dropped.

5-4.GND of the inverter shall be connected to either the VSS GND or one of the mounting holes of the LCD module.

6 . Reliability Test

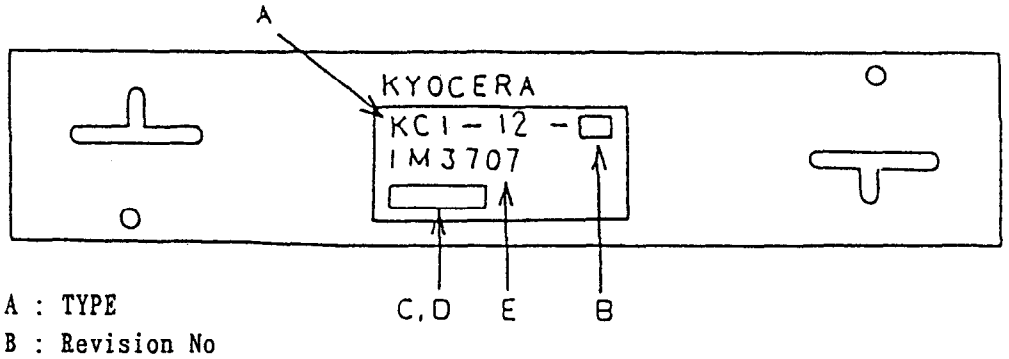
Please look at the specification for LCD module. Actually this reliability test is result for our standard backlight module, so use this as only for reference.

7 . Warranty

Please look at the specification for the LCD module.

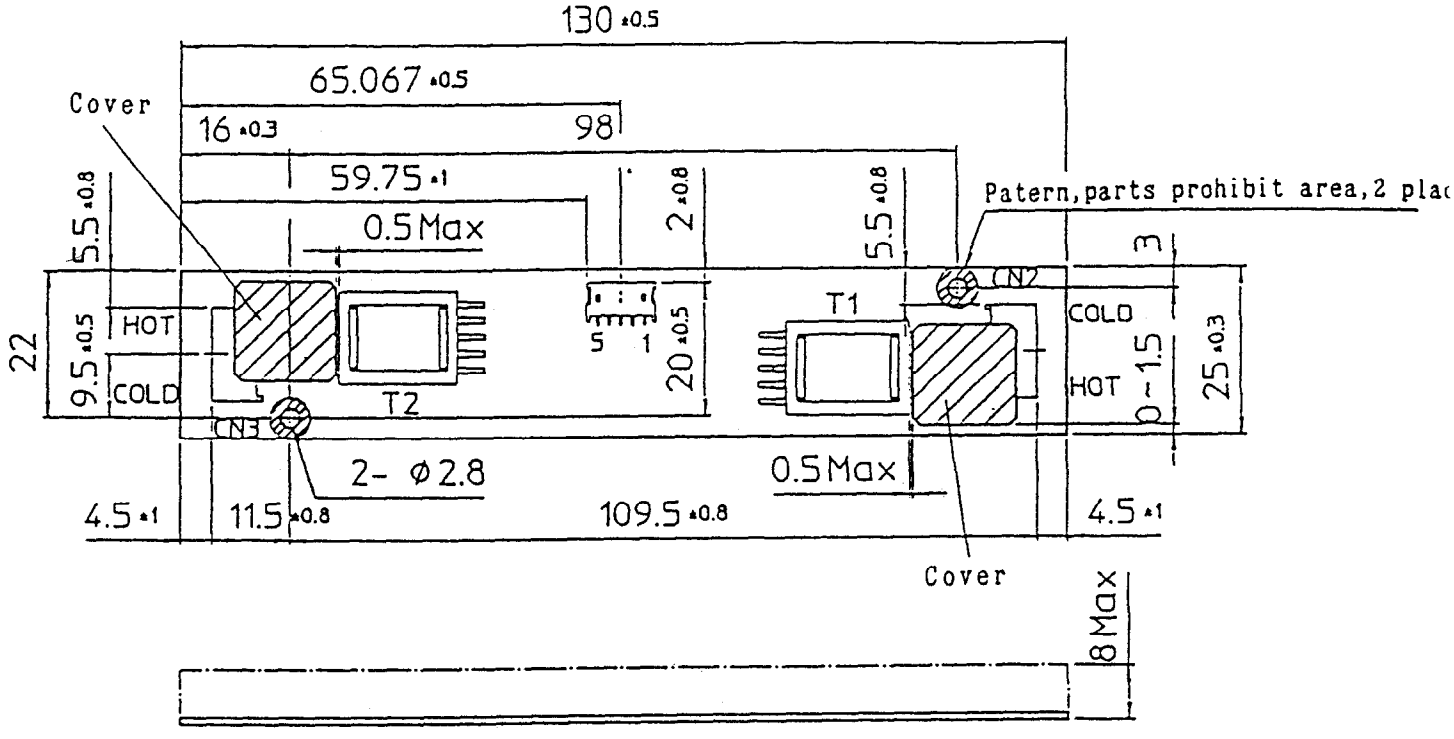
8 . Lot Number Identification

The lot number shall be indicated on the back of the inverter.



A : TYPE
B : Revision No
C,D : Lot No
E : Product No

9 . Outline Drawing



Tolerance without indication: ±0.2