

SPECIFICATION

Product : LED Backlight Driver

Model Name : GH749A(P1) GCCT

Name : GCCT749PA

Supportable Dimming : External PWM

OCT. 2017

Revision History

No	Date	Revision	Page
	May 2017	Engineering Sample Issued	Page 3
	Oct 2017	Addition of efficiency Chapter 2.3. Output Characteristics Input Current change from 2.0 max to 1.6 typ $1.6\text{A} \times 24\text{V} = 38.4\text{W}$ $8\text{CH} \times 0.047\text{A} \times 95.2\text{V} = 35.8\text{W}$ $35.8\text{ W} / 38.4\text{ W} = 0.93229$ (≒ 93%)	

1. Application

This specification is an users' guidance for the adoption of mating LED driver.

The target TFT LCD Module is AUO 21.5", P215HAN02.0 which has not been built-in of the LED driver for 8 CH type Backlight.

2. Electrical Characteristics

2.1 Absolute Maximum Ratings

Item	Symbol	Spec	Unit	Remarks
Input Voltage1	Vin1	21.6 ~ 26.4	V	
Input Voltage2	On/Off	5.25	V	
Operating Temperature	Top	0 ~ 60	°C	
Storage Temperature	Tstg	-30~80	°C	
Relative Humidity	RH	80	%	

2.2 Control Signal

Pin No.	Symbol	Status	Action	Remarks
CN1 #12	On/Off	HIGH	LAMP-ON	2.4~5.25V
		LOW	LAMP-OFF	0.8V MAX

2.3 Output Characteristics

No.	Item	SYM	Condition	Min.	Typ.	Max.	Unit
1	Input Voltage	Vin	-	21.6	24.0	26.4	Vdc
2	Input Current	Lin	Vin=24.0V, DIM= 100%	-	1.6		A
3	Output Current	Iout (Max)	Vin=24.0V, DIM= 100%	41.0	47.0	53.0	mAmean
4	Backlight On/Off Control	ON	-	2.4	-	5.00	Vdc
		OFF	-	-0.3	-	0.8	
5	PWM Signal	Vpwm	High(ON)	2.4	-	5.0	Vdc
		Vpwm	High(OFF)	-0.3	-	0.8	Vdc

	Fpwm	-	100	-	300	Hz
	Duty	Active High Level	10	-	100	%

* Output Voltage is bigger than the Input Voltage at least 3V or more.

* Duty of the PWM Signal has to be more than 1% at step 1 of Brightness. * Addition of **Efficiency**

The actual LCD panel demand is just 1.6 A, $1.6A \times 24V = 38.4W$,

$8CH \times 0.047A \times 95.2V = 35.8W$ therefore $35.8 W / 38.4 W = 0.93229$ ($\approx 93\%$)

3. Interface

3.1 CN1 Connector (Input) : 20022WR-14AML (YEONHO) or Equivalent

Pin No.	Symbol	Description
1,2,3,4,5	VIN	Voltage Input : 24V (typ)
6,7,8,9,10	GND	Ground
11	N.C	No Connection
12	On / Off	LED Driver On / Off Control
13	DIM	External Burst dimming mode (100Hz~300 Hz, 10~100%)
14	N.C	No Connection

3.2 CN2 Connector (Output) : 12507WR-06L (YEONHO) or Equivalent

Pin No.	Symbol	Description
1	FB1	LED BAR1_Feedback 1
2	FB2	LED BAR1_Feedback 2
3	FB3	LED BAR1_Feedback 3
4	FB4	LED BAR1_Feedback 4
5	N.C	No Connection
6	VLED	LED BAR1_LED Output

3.3 CN3 Connector (Output) : 12507WR-06L (YEONHO) or Equivalent

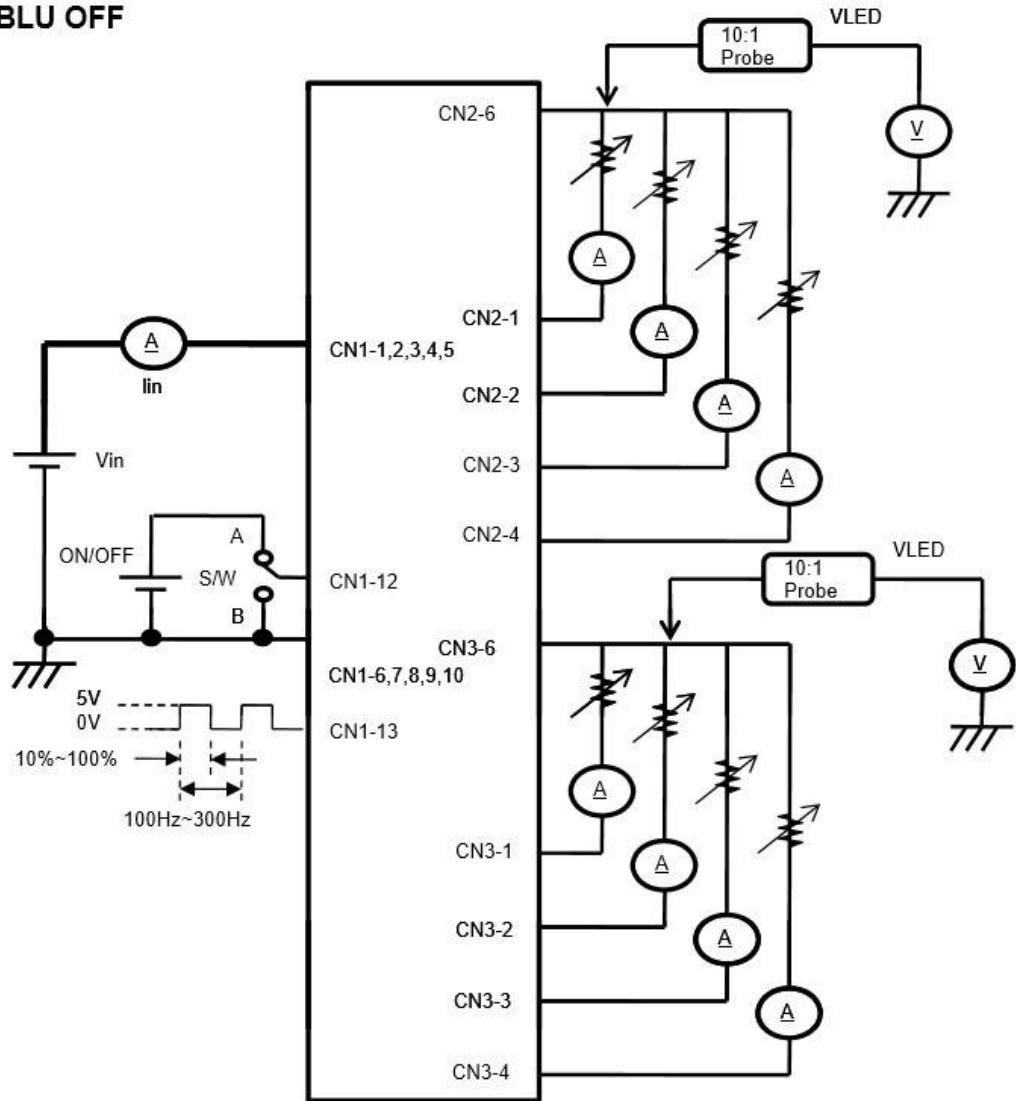
Pin No.	Symbol	Description
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1	FB1	LED BAR2_Feedback 1
2	FB2	LED BAR2_Feedback 2
3	FB3	LED BAR2_Feedback 3
4	FB4	LED BAR2_Feedback 4
5	N.C	No Connection
6	VLED	LED BAR2_LED Output

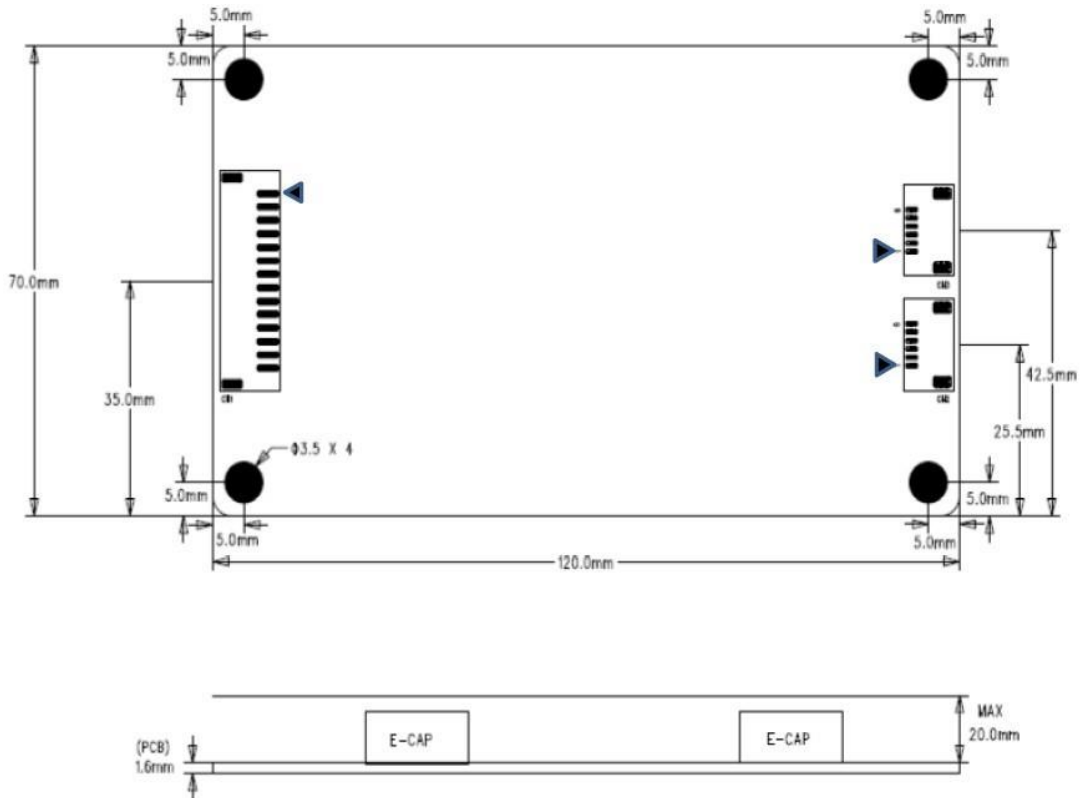
3.4

Test Circuit

- S/W : A --> BLU ON
 B --> BLU OFF

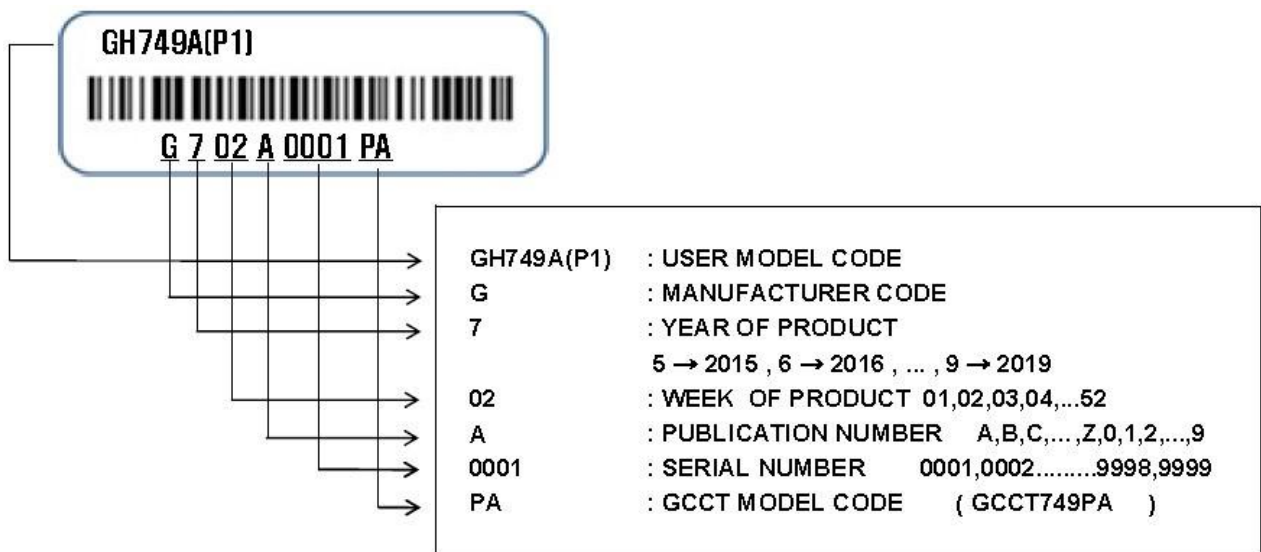


4. Dimension (120 mm x 70 mm)
 (Tolerance : +0.8mm, -0.2mm)



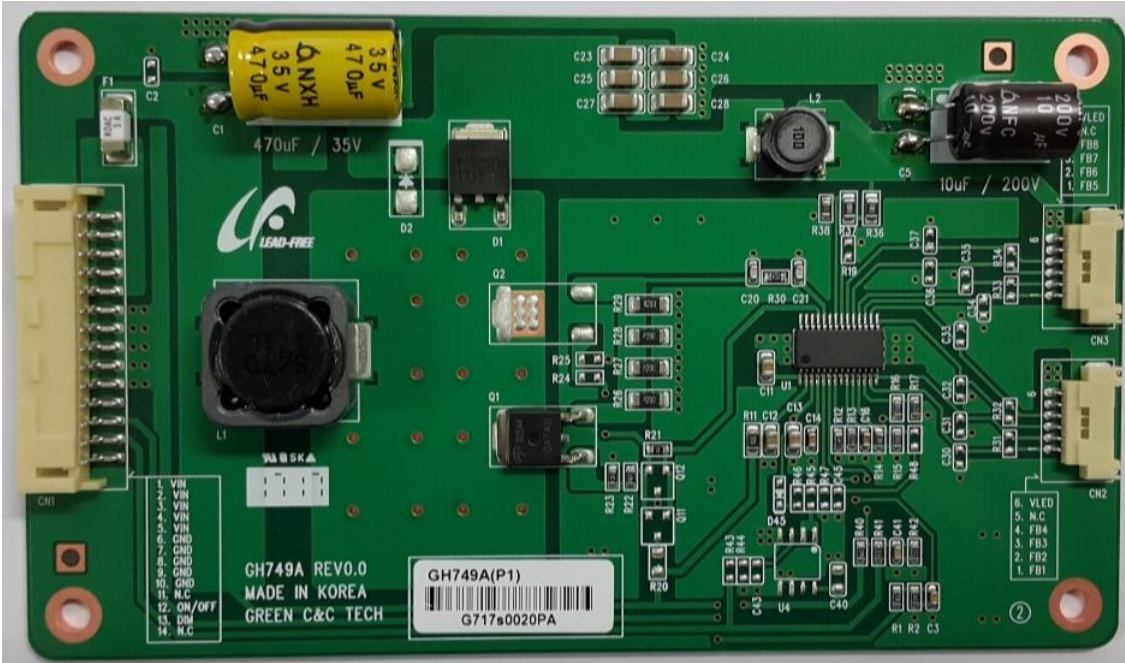
5. Product Label on the rear surface of PCB

Label on the rear surface of PCB

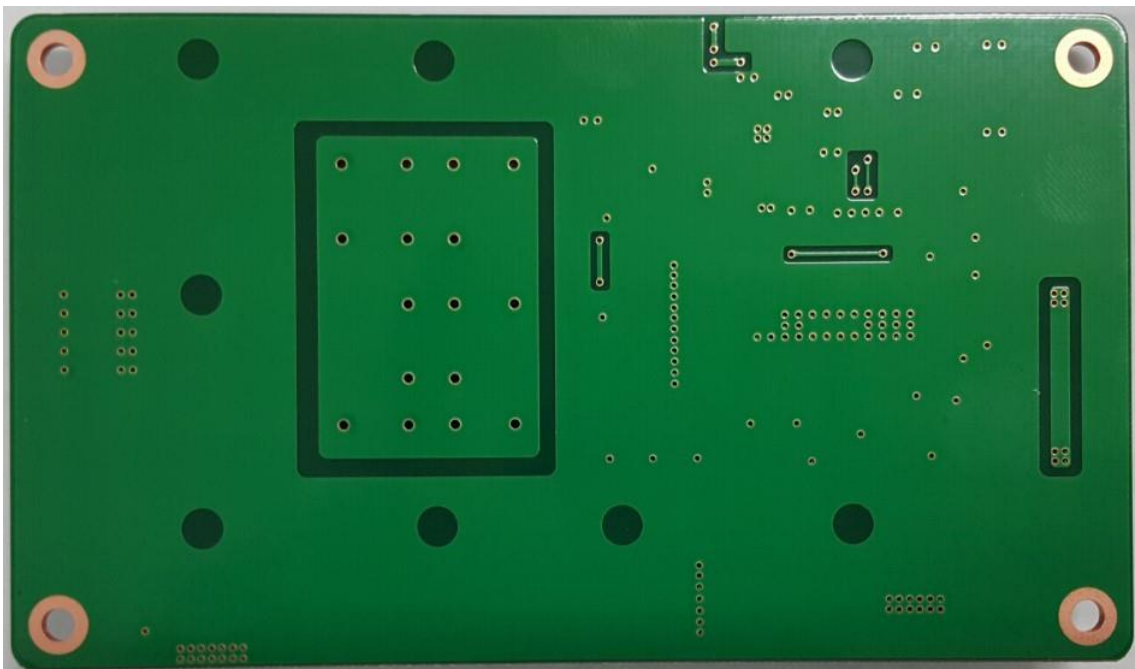


6. Product Pictures

Top View



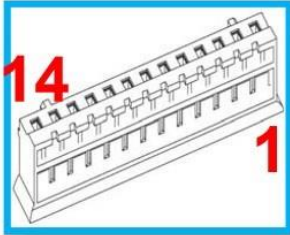
Bottom View



7. Connection cable

IN Cable(Between the Driving Board and this LED Driver)

PN : CBL301-GH749A(P1)-OPEN



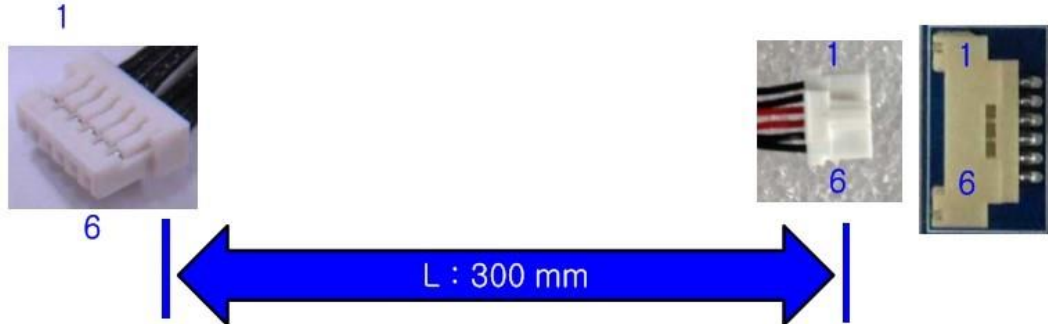
LED Driver / GH749A(P1) / CN1
 WAFER : 20022WR-14AML(YEONHO)
 HOUSING : 20022HS-14(YEONHO)



OUT Cable(Between the LED Driver and the LCD Panel) :

OUTPUT 1

PN : CBL301-LED4CH-GH749A-P215HAN02.0



WAFER : CH16M1VRA-NH
HOUSING : H112K-P06N-00B (ENTERY)

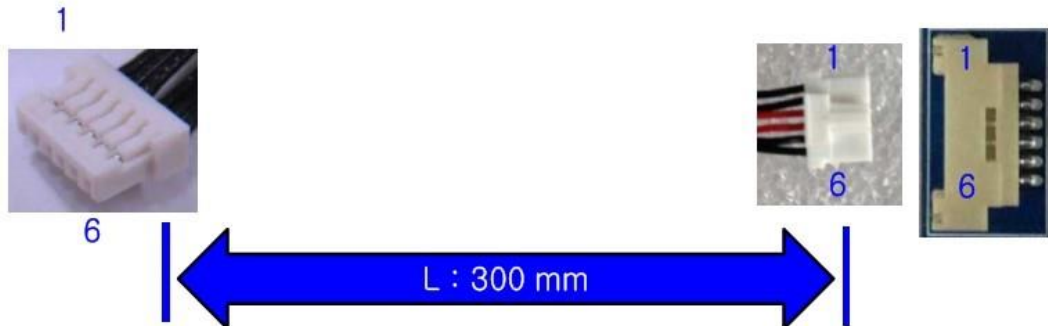
WAFER : 12507WR-06L (YEONHO)
HOUSING : 12507HS-06L (YEONHO)

COLOR	SPEC	PIN
BLK	IRLED/C1	1
BLK	IRLED/C2	2
BLK	IRLED/C3	3
BLK	IRLED/C4	4
-	NC	5
RED	VLED/A1	6

PIN	SPEC	COLOR
1	FB1/C1	BLK
2	FB2/C2	BLK
3	FB3/C3	BLK
4	FB4/C4	BLK
5	NC	-
6	VLED1/A1	RED

OUTPUT 2

PN : CBL301-LED4CH-GH749A-P215HAN02.0



WAFER : CH16M1VRA-NH
HOUSING : H112K-P06N-00B (ENTERY)

WAFER : 12507WR-06L (YEONHO)
HOUSING : 12507HS-06L (YEONHO)

COLOR	SPEC	PIN
BLK	IRLED/C1	1
BLK	IRLED/C2	2
BLK	IRLED/C3	3
BLK	IRLED/C4	4
-	NC	5
RED	VLED/A1	6

PIN	SPEC	COLOR
1	FB1/C1	BLK
2	FB2/C2	BLK
3	FB3/C3	BLK
4	FB4/C4	BLK
5	NC	-
6	VLED1/A1	RED

