

CUSTOMER APPROVE

SPECIFICATION

**FOR
TFT-LCD MODULE**

LED750Q-OD28

Edition : Preliminary spec 1.0

Date of issue : 2016-12-08

Product No. : V750DK1-QS3

APPROVED	CHECKED	PREPARED

Revision History

Date	Rev.	Page	Old Description	New Description	Remark
2016-12-08	1.0	All	The specification was first issued		

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1.Scope

This specifications is applicable to 75" diagonal module : "75Q "designed for TFT-LCD TV.

1.1 Features

- Super Wide viewing angle
- Super High contrast ratio
- Super Fast response time
- High color saturation
- DE(Data Enable) only mode
- LVDS Interface
- RoHS compliance

1.2 Application

TFT-LCD TV
Multi-Media Display

1.3 General Specifications

Item	Specifications	Unit	Note
Driving Method	a-Si TFT active matrix		Note 1
Active Area	1650.24(H)x928.26(V)	mm	
Bezel opening area	1650.24 (H) x 928.26 (V) x 1.705(D) Typ	mm	
Number of Pixels	3840 × 2160	pixel	
Pixel Pitch	0.143 (H) x 0.430 (V)	mm	
Pixel Arrangement	RGB Vertical Stripe		
Transmissive Mode	Normally Black		
Surface Treatment	Anti-Glare, 3H		Haze=2%
Display Colors	8 bit, 16.7M	color	

1.4 Mechanical Specification

Item		Min	Typ	Max	Unit	Note
Weight		-	TBD	-	g	-
Module Size	Horizontal(H)	(TYP)-0.5	1831.8	(TYP)+0.5	mm	
	Vertical (V)		998.9		mm	
	Depth(D)		90.1		mm	

Note 1: Please refer to the "outline dimension" for more information of back and front outline dimensions.

2. Electrical Specifications

2.1. Electrical Characteristics

(Ta = 25 ± 2 °C)

Parameter		Symbol	Value			Unit	Note
			Min.	Typ.	Max.		
Power Supply Voltage		V _{CC}	10.8	12	13.2	V	(1)
Rush Current		I _{RUSH}			6.5	A	(2)
Power consumption	White Pattern	P _T		18	21.72	W	(3)
	Black Pattern	P _T		17.88	21.48		
	Heavy Loading pattern Ex: Horizontal Stripe (by cell and platform)	P _T		64.81	72.84		
Power Supply Current	White Pattern	P _T		1.57	1.81	A	
	Black Pattern	P _T		1.52	1.79		
	Heavy Loading pattern Ex: Horizontal Stripe (by cell and platform)	P _T		5.44	6.07		
LVDS interface	Differential Input High Threshold Voltage	VLVTH	–	–	+50	mV	(4)
	Differential Input Low Threshold Voltage	VLVTH	-50	–	–	mV	
	Common Input Voltage	V _{CM}	1.0	1.2	1.4	V	
	Terminating Resistor	RRIN	80	100	120	ohm	
CMOS interface	Input High Threshold Voltage	V _{IH}	2.7	–	3.3	V	
	Input Low Threshold Voltage	V _{IL}	0	–	0.7	V	

2.2 Backlight Unit

Backlight system

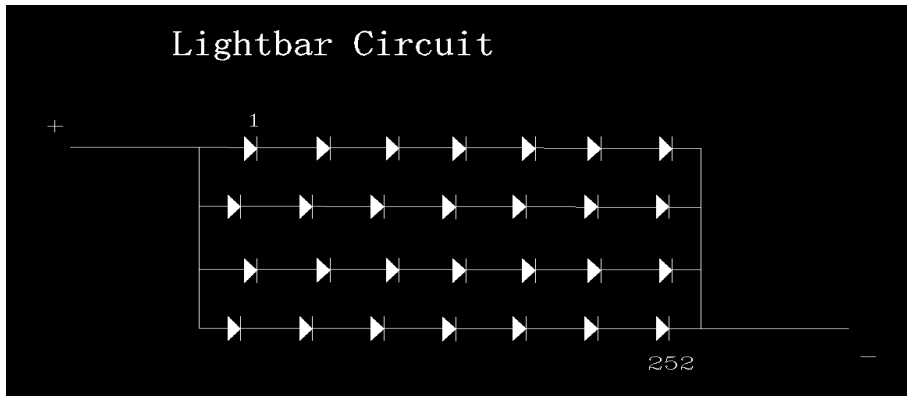
ITEM	SYMBOL	MIN	TYP	MAX	UNIT	Remark
LightBar Voltage	V_L	182.7	—	214.2	V	Note 1
LightBar Current	I_L	—	1400	1540	mA	
Power Consumption	P_{BL}	—	282	—	W	LightBar
LED Life Time	L_{BL}	30000	—	—		

Note 1 The LED LightBar connector part No: HY2.0-10 or equivalent, as shown next page.

Note 2: $P_{BL} = I_L \times V_L$, The LED LightBar circuit is 63 Series,4 Parallel.

Note 3: The lifetime of LED is defined as the time when LED packages continue to operate under the conditions at $T_a = 25 \pm 2 \text{ }^\circ\text{C}$ and $I = (1400)\text{mA}$ (per chip) until the brightness becomes $\cong 50\%$ of its original value.

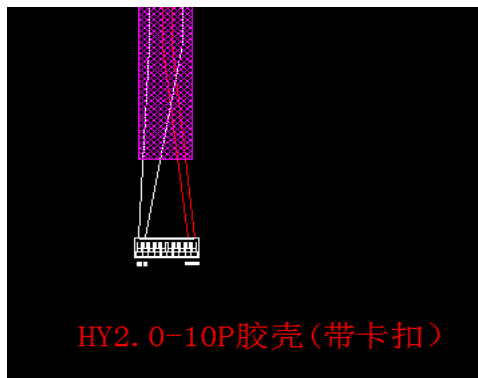
2.3 Backlight Unit



63 Series, 4 Parallel

2.4 Backlight wire

Backlight Input connector model: **HY2.0-10PIN(带卡扣)**



3. Electrical Specifications

3.1 LCD Module

CNV1 Connector Pin Assignment (187059-51221, P-Two)

Pin	Name	Description	Note
1	Vin	Power input (+12V)	(12)
2	Vin	Power input (+12V)	
3	Vin	Power input (+12V)	
4	Vin	Power input (+12V)	
5	Vin	Power input (+12V)	
6	Vin	Power input (+12V)	
7	Vin	Power input (+12V)	
8	Vin	Power input (+12V)	
9	N.C.	No Connection	(10)
10	GND	Ground	
11	GND	Ground	
12	GND	Ground	
13	GND	Ground	
14	GND	Ground	
15	L/R_O	Output signal for Glasses Left Right signal,	(5)
16	L/R	Input signal for Left/Right synchronous signal.	(3) (7)
17	2D/3D	2D/3D Enable	(2) (7)
18	SDA	I2C Data signal	(11)
19	SCL	I2C Clock signal	(11)
20	WP	Write Protection (0V~0.7V/Open→Disable, 2.7V~3.3V→Enable) (for Auto-Vcom)	
21	N.C.	No Connection	(10)
22	N.C.	No Connection	(10)
23	N.C.	No Connection	(10)
24	N.C.	No Connection	(10)
25	HTPDN	Hot plug detect output, Open drain.	
26	LOCKN	Lock detect output, Open drain.	
27	GND	Ground	
28	RX0N	1 ST Pixel Negative VbyOne differential data input in area A. Lan 0	(1)
29	RX0P	1 ST Pixel Positive VbyOne differential data input in area A. Lan 0	
30	GND	Ground	

30	GND	Ground	
31	RX1N	2 ND Pixel Negative VbyOne differential data input in area A. Lan 1	(1)
32	RX1P	2 ND Pixel Positive VbyOne differential data input in area A. Lan 1	
33	GND	Ground	
34	RX2N	3 RD Pixel Negative VbyOne differential data input in area A. Lan 2	(1)
35	RX2P	3 RD Pixel Positive VbyOne differential data input in area A. Lan 2	
36	GND	Ground	
37	RX3N	4 TH Pixel Negative VbyOne differential data input in area A. Lan 3	(1)
38	RX3P	4 TH Pixel Positive VbyOne differential data input in area A. Lan 3	
39	GND	Ground	
40	RX4N	5 TH Pixel Negative VbyOne differential data input in area A. Lan 4	(1)
41	RX4P	5 TH Pixel Positive VbyOne differential data input in area A. Lan 4	
42	GND	Ground	
43	RX5N	6 TH Pixel Negative VbyOne differential data input in area A. Lan 5	(1)
44	RX5P	6 TH Pixel Positive VbyOne differential data input in area A. Lan 5	
45	GND	Ground	-
46	RX6N	7 TH Pixel Negative VbyOne differential data input in area A. Lan 6	(1)
47	RX6P	7 TH Pixel Positive VbyOne differential data input in area A. Lan 6	
48	GND	Ground	-
49	RX7N	8 TH Pixel Negative VbyOne differential data input in area A. Lan 7	(1)
50	RX7P	8 TH Pixel Positive VbyOne differential data input in area A. Lan 7	
51	GND	Ground	-

3.3 Colors Data Input Assignment

The brightness of each primary color (red,green,blue) is based on the 8-bits gray scale data input for the color.The higher the binary input, the brighter the color.The table below provide the assignment of color versus data input.

Color		Data Signal																																						
		Red								Green								Blue																						
		R9	R8	R7	R6	R5	R4	R3	R2	R1	R0	G9	G8	G7	G6	G5	G4	G3	G2	G1	G0	B9	B8	B7	B6	B5	B4	B3	B2	B1	B0									
Basic Colors	Black	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Green	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Blue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	Cyan	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
	Magenta	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Yellow	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	White	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gray Scale Of Red	Red (0) / Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Red (1)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Red (2)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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	Red (1021)	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Red (1022)	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Red (1023)	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Gray Scale Of Green	Green (0) / Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Green (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
	Green (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
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	Green (1021)	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Green (1022)	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Green (1023)	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Gray Scale Of Blue	Blue (0) / Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Blue (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	Blue (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
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	Blue (1021)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	
	Blue (1022)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	
Blue (1023)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		

Note (1) 0: Low Level Voltage · 1: High Level Voltage

4、 Optical Characteristics

4.1 Test Condition

Item	Symbol	Value	Unit
Ambient Temperature	Ta	25 ±2	°C
Ambient Humidity	Ha	50 ± 10	%RH
Supply Voltage	Vcc	12	V
Input Signal	According to typical value in "3. Electrical characteristics		
LED LightBar Current	I _L	1440	mA

4.2 Optical Characteristics

The relative measurement methods of optical characteristics are shown in the 7.2. The following items should be measured under the test condition in 7.1 and the stable environment shown in the in 7.1.

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Contrast Ratio	CR	T	3500	5000	—	—	—
Response Time	Gray to gray average		—	8	12	ms	Note 3
Transmittance			—	4.6	—	%	
Brightness uniformity	BU		—	1.33	1.42	—	Note 2
Center Luminance of White	Lc		300	350	—	cd/m2	—
The color chromaticity	Red		Rx	-0.03	0.659	+0.03	—
		Ry	0.324		—		
	Green	Gx	0.267		—		
		Gy	0.585		—		
	Blue	Bx	0.133		—		
		By	0.107		—		
	White	Wx	0.285		—		
		Wy	0.295		—		
Viewing Angle	Horizontal	θx+	CR ≥ 10	89	—	Deg	Note 1、 2
		θx-		89	—		
	Vertical	θy+		89	—		
		θy-		89	—		

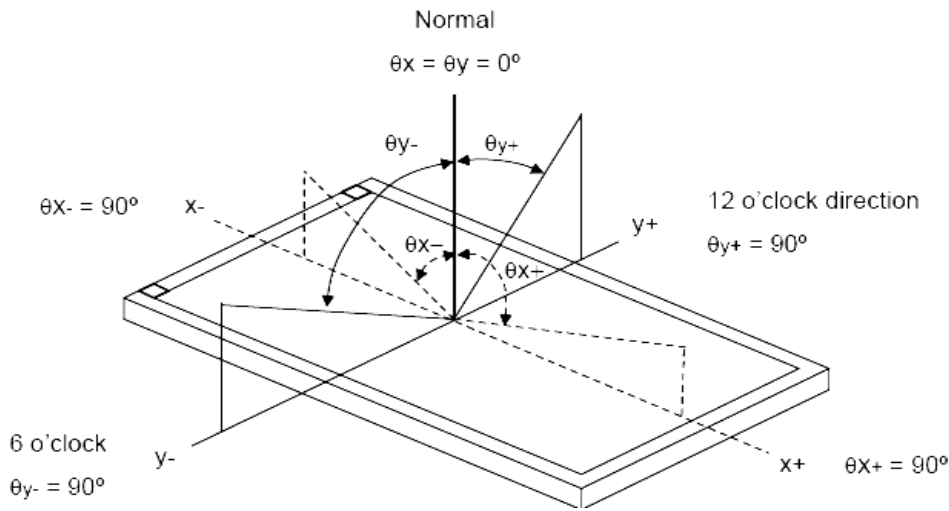
Note 0: Light source is the standard light source "C" which is defined by CIE and driving voltage are based on suitable gamma voltages. The calculating method is as following:

1. Measure Module's and BLU's spectrum at center point. White and R,G,B are with signal input. BLU (for V546HK3-LS5) is supplied by CMI.
2. Calculate cell's spectrum.
3. Calculate cell's chromaticity by using the spectrum of standard light source "C".

Note 1: Light source is the BLU which supplied by CMI and driving voltage are based on suitable gamma voltages.

Note 2: Definition of Viewing Angle (x, y):

Viewing angles are measured by Autronic Conoscope Cono-80



Note 3: Definition of Contrast Ratio (CR):

The contrast ratio can be calculated by the following expression.

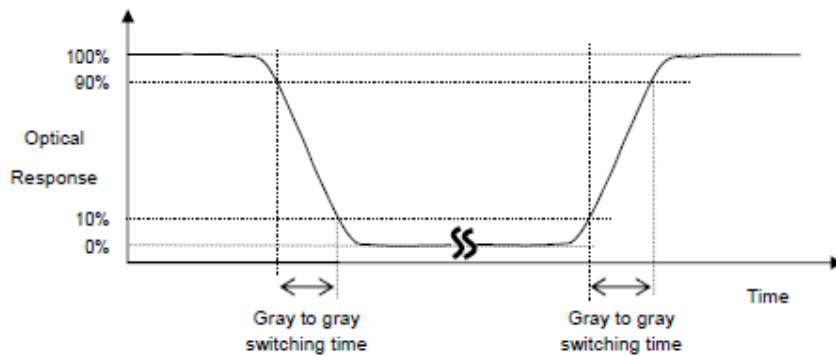
$$\text{Contrast Ratio (CR)} = \frac{\text{Surface Luminance of L255}}{\text{Surface Luminance of L0}}$$

L255: Luminance of gray level 255

L 0: Luminance of gray level 0

CR = CR (X), where CR (X) is corresponding to the Contrast Ratio of the point X at the figure in Note (5).

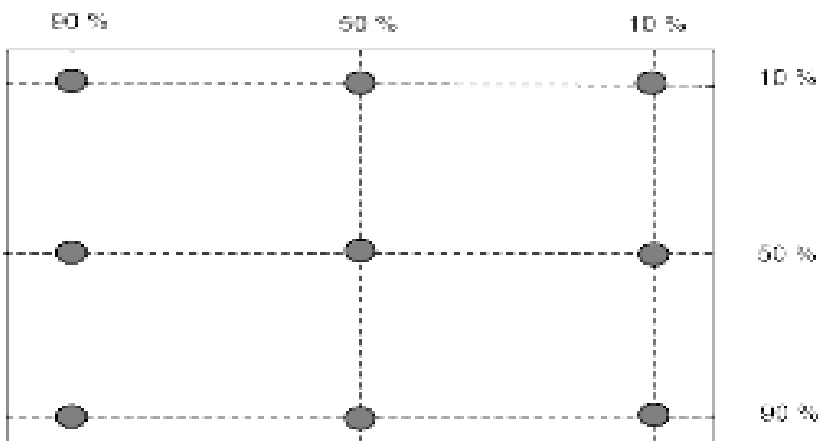
Note 4: Definition of Gray-to-Gray Switching Time:



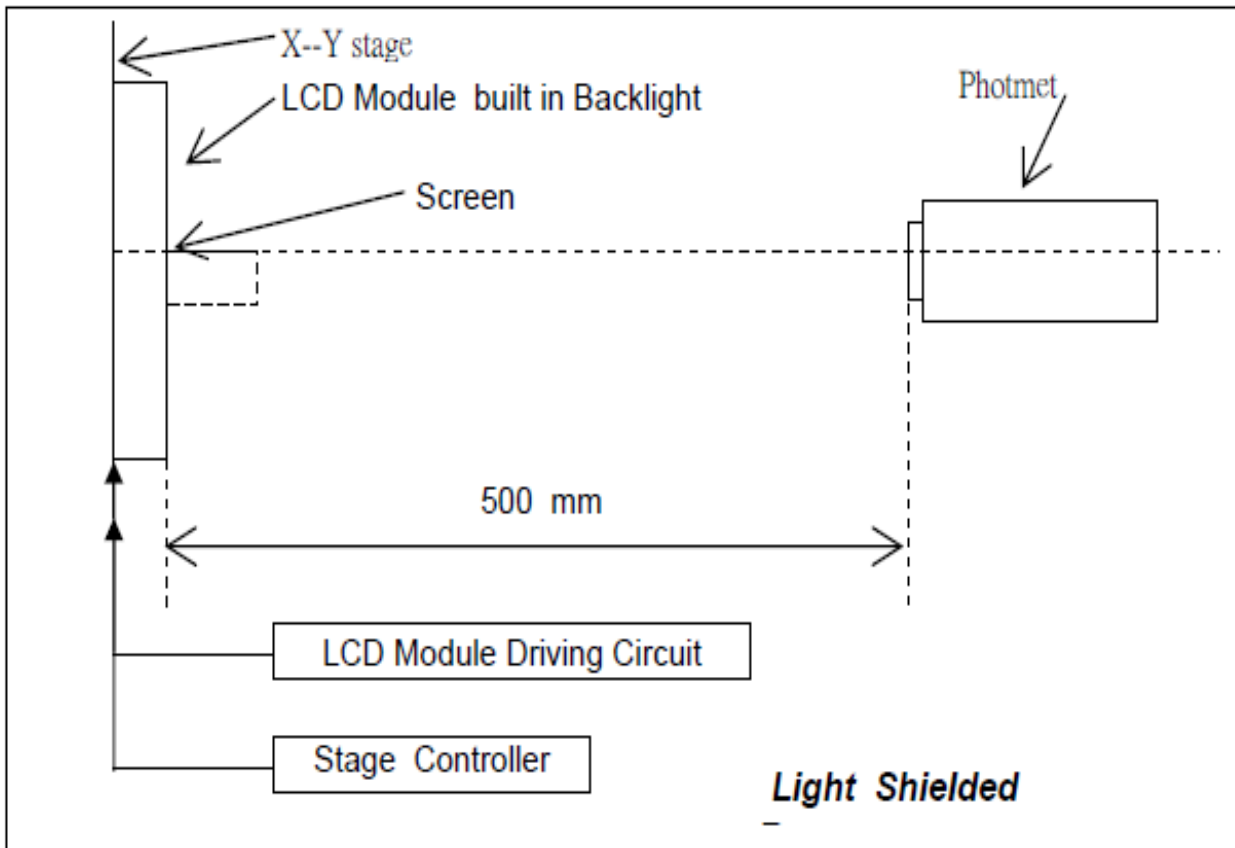
The driving signal means the signal of gray level 0, 124, 252, 380, 508, 636, 764, 892 and 1023.

Gray to gray average time means the average switching time of gray level 0, 124, 252, 380, 508, 636, 764, 892 and 1023 to each other.

Note 5: Definition of White Variation :



Note6: The measure method



Note(1): The measurement point is the center of the active area except for the measurement of Luminance Uniformity

Note (2): Photometer :BM-7 TOPCON (Aperture 2deg.)

5. Labels

5.1 Panel Label:

- 1 Model No:
- 2 Product Code
 - A----Open cell Manufacturer (Y--AUO, Q--CMO, C--CPT, J--BOE, R--IPS)
 - B----Backlight Type (D--DLED, E--LED)
 - C----Brightness Code (H--High Brightness, N--Normal Brightness, L--Low Brightness)
 - DEF----Product Size (315--31.5")
 - GH----Year (11--2011)
 - I---Months (1,2,3.....9,A-11,B-12) Line1)
 - JK----Days (01,02,03.....12...31Line 1
 - L----Line (作业流水线别)
 - MNOP----Serial Code (000000---999999)
- 3 Open cell Model:
- 4 MADE IN CHINA
- 5 INPut: current voltage

CEJZ750LQ6Q1



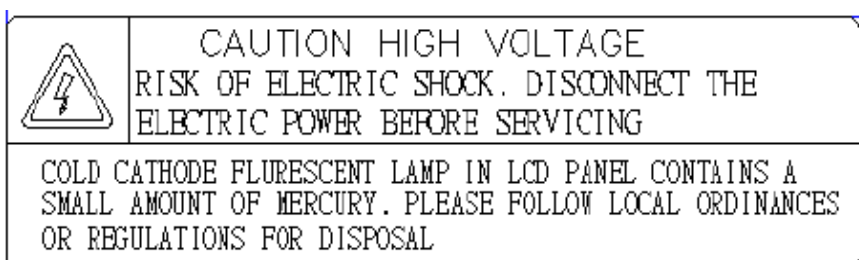
ABCDEFGHIJKLMNOP

CELL:XXXXXXXXXXXX

MADE IN CHINA

IN PUT: XXXX MA XXXX V

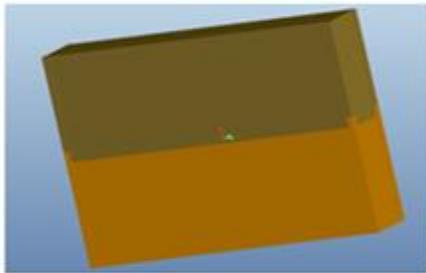
8.2 Caution Label:



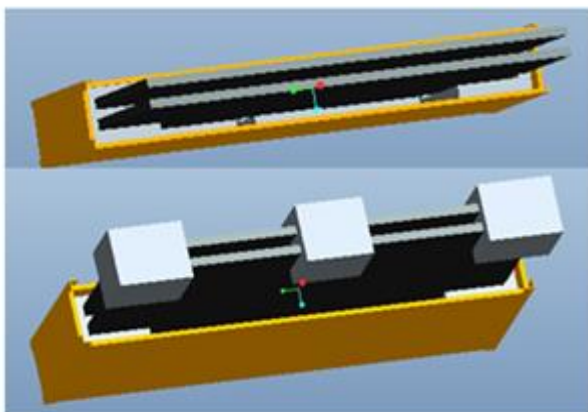
6. Packaging

6.1 Carton(internal package)

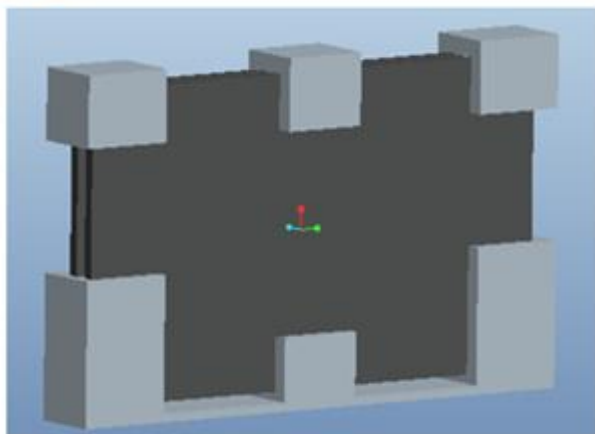
(TWO pcs product in the box)



使用蜂窝纸箱上下盖



产品四周用 20kgEPE 保护



底部增高 500mmEPE 加强防护

6.2 Pakaging Mark



RECYCLABLE

7. PRECAUTION

7.1 ASSEMBLY AND HANDLING PRECAUTIONS

- 1 Do not apply rough force such as bending or twisting to the module during assembly.
- 2 To assemble or install module into user's system can be in clean working areas. The dust and oil may cause electrical short or worsen the polarizer.
- 3 It's not permitted to have pressure or impulse on the module because the LCD panel and Backlight will be damaged.
- 4 Always follow the correct power sequence when LCD module is connecting and operating. This can prevent damage to the CMOS LSI chips during latch-up.
- 5 Do not pull the I/F connector in or out while the module is operating .
- 6 Do not disassemble the module.
- 7 Use a soft dry cloth without chemicals for cleaning, because the surface of polarizer is very soft and easily scratched.
- 8 It is dangerous that moisture come into or contacted the LCD module, because moisture may damage LCD module when it is operating.
- 9 High temperature or humidity may reduce the performance of module. Please store LCD module within the specified stored conditions.
- 10 When ambient temperature is lower than 10 °C may reduce the display quality. For example, the response time will become slowly, and the starting voltage of CCFL will be higher than room temperature.

7.2 SAFETY PRECAUTIONS

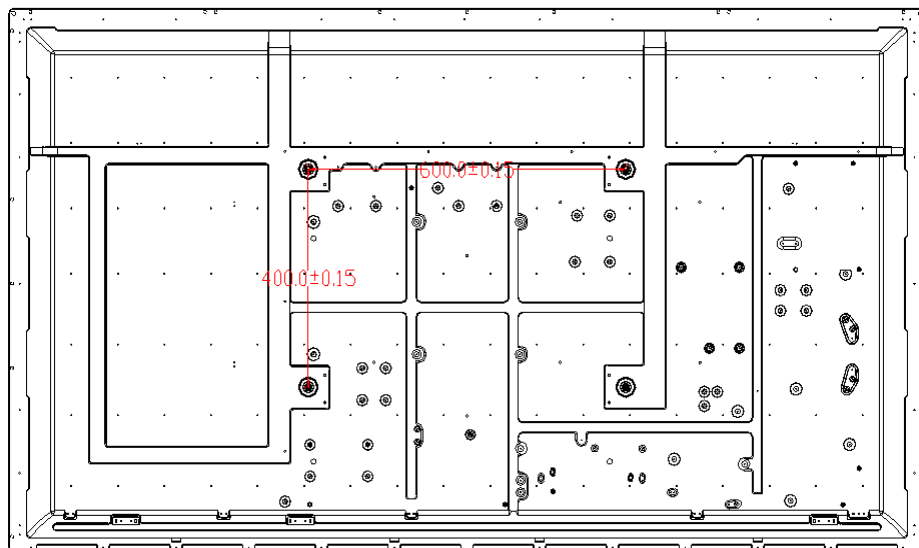
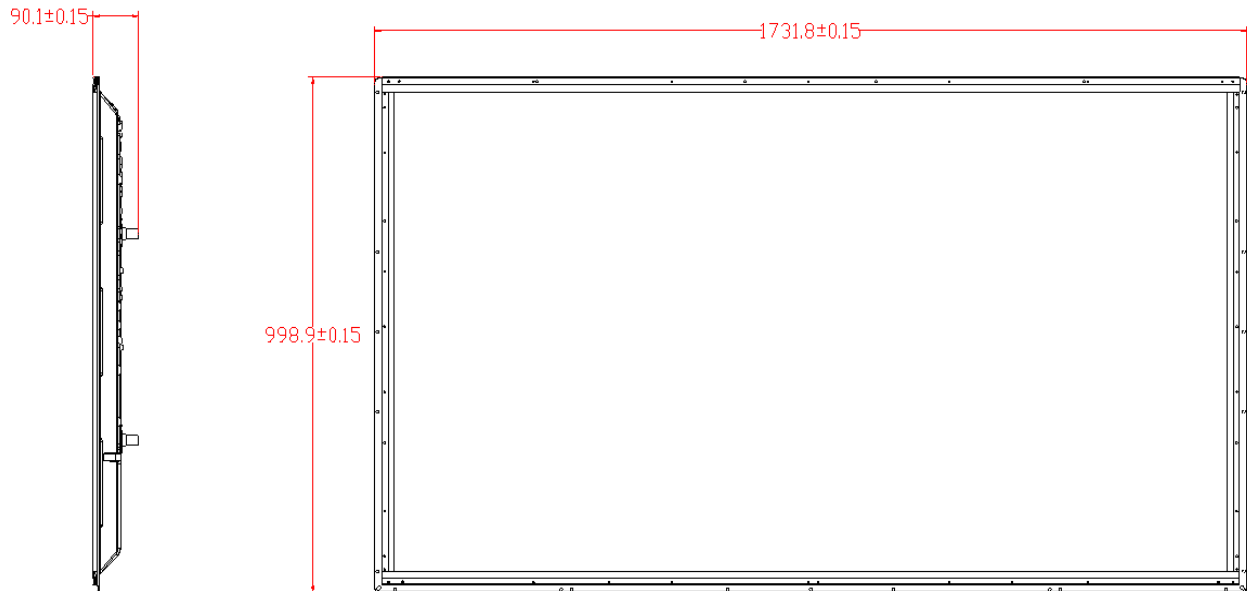
- 1 The startup voltage of Backlight is approximately 2000 Volts. It may cause electrical shock while assembling with inverter. Do not disassemble the module or insert anything into the Backlight unit.
- 2 If the liquid crystal material leaks from the panel, it should be kept away from the eyes or mouth, in case of contact with hands, skin or clothes, it has to be washed away thoroughly with soap.
- 3 After the module's end of life, it is not harmful in case of normal operation and storage.

8 Outline dimension

Front dimension

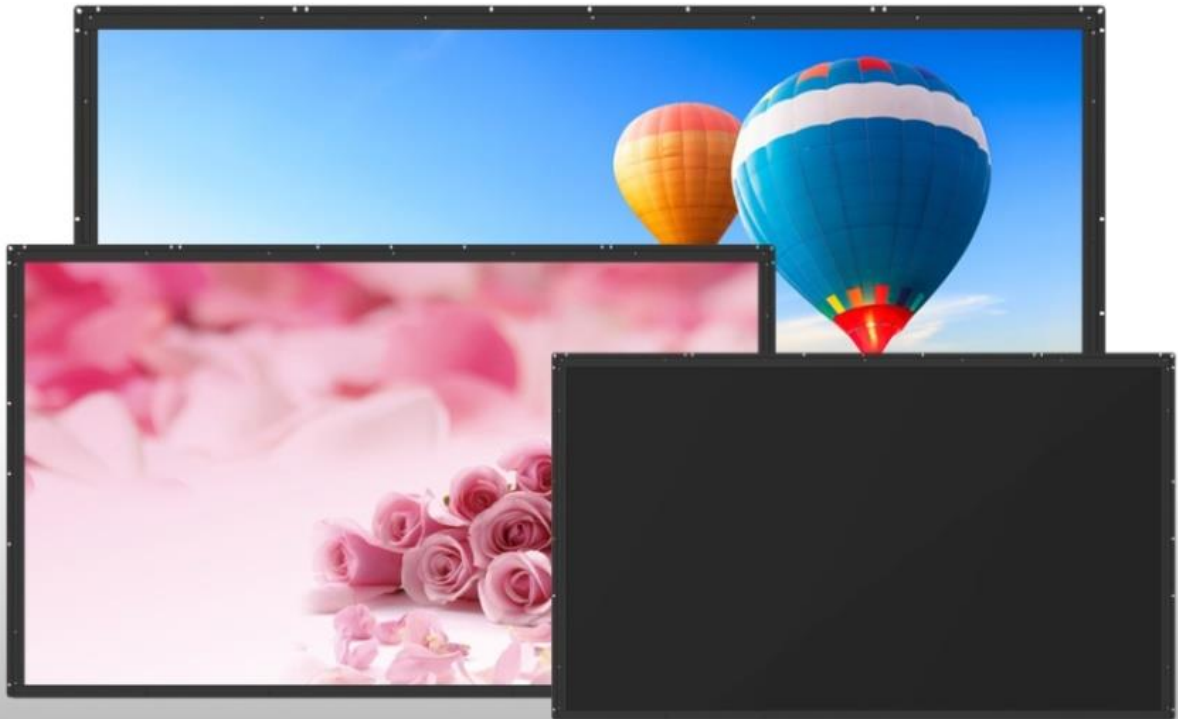
Unit :mm

Standard Tolerance : ± 0.5



9 Impression Drawing

CE FC U RoHS



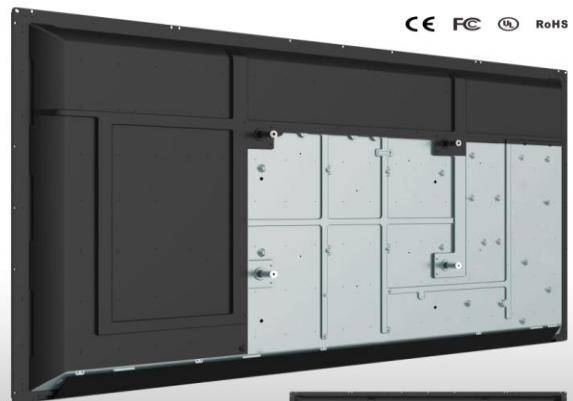
75寸液晶屏

CE FC U RoHS



75寸液晶屏

CE FC U RoHS



75寸液晶屏

