TITLE : BP101WX1-300

Product Specification

Rev. P0

BEIJING BOE OPTOELECTRONICS TECHNOLOGY

REVISION HISTORY

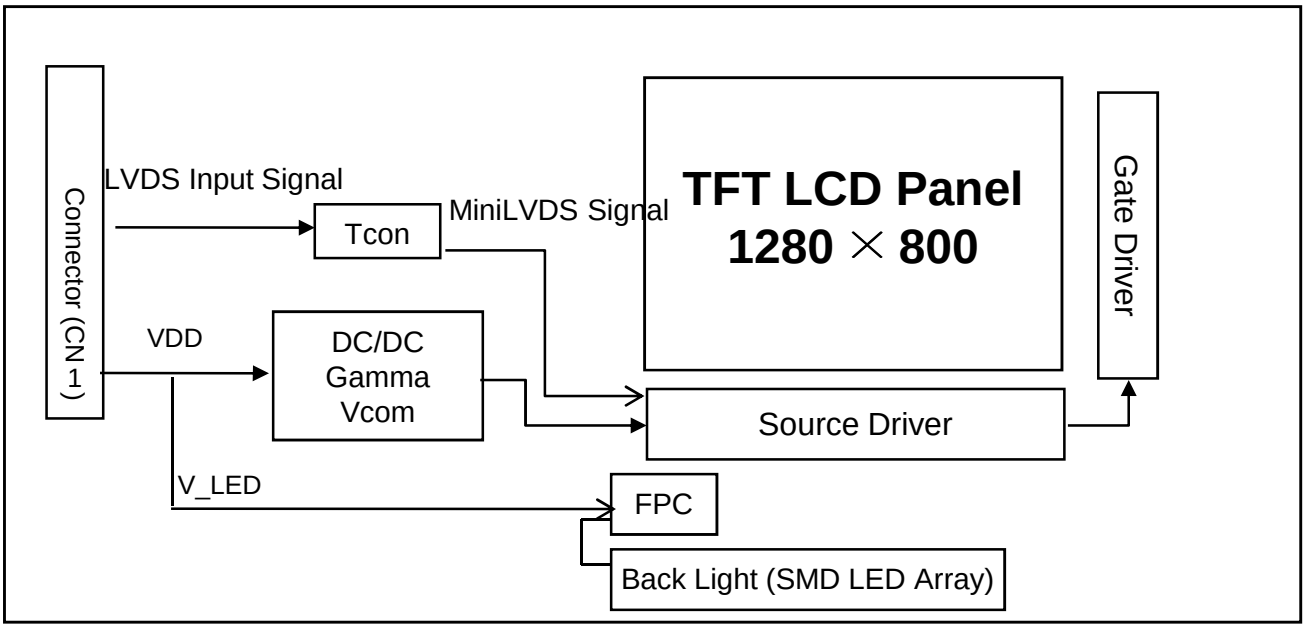
REV.	ECN NO.	DESCRIPTION OF CHANGES	DATE	PREPARED
P0	-	Initial Release	2012.04.17.	Mengzhaohui

Contents

1.0 GENERAL DESCRIPTION

1.1 Introduction

7WXGA is a color active matrix TFT LCD module using amorphous silicon TFT's (Thin Film Transistors) as an active switching devices. This module has a 7.01 inch diagonally measured active area with WXGA resolutions (1280 horizontal by 800 vertical pixel array). Each pixel is divided into RED, GREEN, BLUE dots which are arranged in vertical stripe and this module can display 262144 colors. The TFT-LCD panel used for this module is adapted for a low reflection and higher color type.



1.2 Features

- 1 Channel LVDS Interface with 1 pixel / clock
- Thin and light weight
- Display 16777216 colors
- High luminance and contrast ratio, low reflection and wide viewing angle
- DE (Data Enable) signal mode
- 3.3V for Logic Power and LED Back Light Power
- RoHS Compliant

1.3 Application

- Tablet & Application Mini-PC (Wide Type)

1.4 General Specification

< Table 1. General Specifications >

Parameter	Specification	Unit	Remarks
Active area	216.96(H) x 139.6(V)	mm	
Number of pixels	1280(H) ×800(V)	pixels	
Pixel pitch	0.1695 (H) X0.1695 (V)×RGB	mm	
Pixel arrangement	Pixels RGB stripe arrangement		
Display colors	16777216(8bits)	colors	
Display mode	Transmission mode, Normally Black		
Outline Dimension	228.9(H) ×148.86(V) × 2.4(D) typ.	mm	
Weight	145 (max)	gram	
Surface Treatment	Hard Coating, 3H, Low Reflection (Front Polarizer)		
Back-light	Bottom edge side, 1-LED Lighting Bar Type		40* LED Array

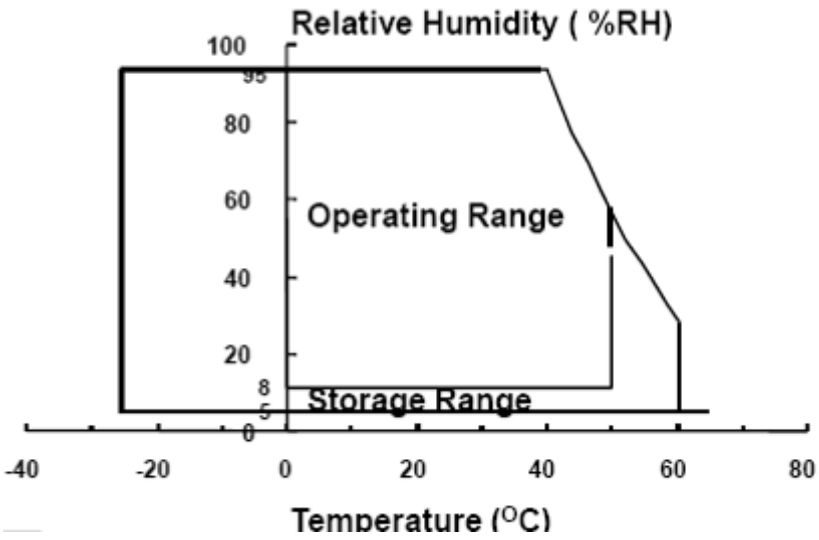
2.0 ABSOLUTE MAXIMUM RATINGS

The followings are maximum values which, if exceed, may cause faulty operation or damage to the unit. The operational and non-operational maximum voltage and current values are listed in Table 2.

< Table 2. LCD Module Electrical Specifications > [Ta =25±2 ℃]

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remarks
Power Supply Voltage (LCD Module)	V_{DD}	3	3.3	3.6	V	
Back-light Power Supply Voltage	HV_{DD}	-	-	31	V	
Back-light LED Current	I_{LED}	-		80	mA	
Back-light LED Reverse Voltage	V_R	-		3.1	V	
Operating Temperature	T_{OP}	-20		+65	℃	
Storage Temperature	T_{ST}	-40		+85	℃	

Note : 1) Temperature and relative humidity range are shown in the figure below.
Wet bulb temperature should be 39 ℃ max. and no condensation of water.



3.0 ELECTRICAL SPECIFICATIONS

3.1 TFT LCD Module

< Table 3. LCD Module Electrical Specifications > [Ta =25±2 ℃]

Parameter	Symbol	Values			Unit	Notes
		Min	Typ	Max		
Power Supply Input Voltage	V_{DD}	3.0	3.3	3.6	V	-
Power Supply Current	I_{DD}	-	-	260	mA	
Back-light Power Supply Voltage	H_{VDD}			17	V	-
Back-light Power Supply Current	I_{HVDD}		72		mA	
Positive-going Input Threshold Voltage	V_{IT+}	-	-	+100	mV	Vcom = 1.2V typ.
Negative-going Input Threshold Voltage	V_{IT-}	-100	-	-	mV	
Differential input common mode voltage	V_{com}	-	1.2	-	V	V_{IH}=100mV, V_{IL}=-100mV
Power Consumption	P_D	-	-	0.85	W	Note 1
	P_{BL}	-	-	2.2	W	Note 2
	P_{Total}		-	3.05	W	

Notes : 1. The supply voltage is measured and specified at the interface connector of LCM.
The current draw and power consumption specified is for 3.3V at 25℃.
b) Typ. : Color Bar Pattern
a) Max. : White(L255) Pattern

2. Calculated value for reference (V_{LED} × I_{LED}) w/o LED Driver's efficiency

3.2 Back-light Unit

< Table 4. LED Driving guideline specifications > Ta=25+/-2°C

Parameter		Min.	Typ.	Max.	Unit	Remarks
LED Forward Voltage	V_F		-	3.1	V	-
LED Forward Current	I_F	-	17.2	-	mA	-
LED Power Consumption	P_{LED}	-	-	2.2	W	Note 1
LED Life-Time	N/A	15,000			Hour	IF = 20mA Note 2

Notes : 1. Calculator Value for reference $I_{LED} \times V_{LED} = P_{LED}$

2. The LED Life-time define as the estimated time to 50% degradation of initial luminous.

4.0 OPTICAL SPECIFICATION

4.1 Overview

The test of view angle range shall be measured in a dark room (ambient luminance ≤ 1lux and temperature = 25±2℃) with the equipment of Luminance meter system (Goniometer system and TOPCON BM-5A) and test unit shall be located at an approximate distance 50cm from the LCD surface at a viewing angle of θ and Φ equal to 0°. We refer to θØ=0 (=θ3) as the 3 o'clock direction (the "right"), θØ=90 (= θ12) as the 12 o'clock direction ("upward"), θØ=180 (= θ9) as the 9 o'clock direction ("left") and θØ=270(= θ6) as the 6 o'clock direction ("bottom"). While scanning θand/or Ø, the center of the measuring spot on the Display surface shall stay fixed. The luminance, color and uniformity should be tested by CA210. The backlight should be operating for 30 minutes prior to measurement. VDD shall be 3.7 ± 0.5V at 25°C. Optimum viewing angle direction is 6 'clock.

4.2 Optical Specifications

<Table 5. Optical Specifications>

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit	Remark
Viewing Angle range	Horizontal	Θ_3	CR > 10	80	80	-	Deg.	Note 1
		Θ_9		80	80	-	Deg.	
	Vertical	Θ_{12}		80	80	-	Deg.	
		Θ_6		80	80	-	Deg.	
Color Gamut				-	50	-	%	
Luminance Contrast ratio		CR	Θ = 0°	600	800			Note 2
Luminance of White	9 Points	Yw	Θ = 0°		450	-	cd/m2	Note 3
White Luminance uniformity	9 Points	ΔY5		80%	90%	-		Note 4
	13 Points	ΔY13		65%	-			
Reproduction of color	White	Wx	Θ = 0°	Typ. -0.03	T.B.D.	Typ. +0.03		
		Wy			T.B.D.			
	Red	R_x			T.B.D.			
		R_y			T.B.D.			
	Green	G_x			T.B.D.			
		G_y			T.B.D.			
	Blue	B_x			T.B.D.			
		B_y			T.B.D.			
Response Time (Rising + Falling)		T_{RT}	Ta= 25° C Θ = 0°	-	30	-	ms	Note 6
Cross Talk		CT	Θ = 0°	-	-	2.0	%	Note 7

Notes : 1. Viewing angle is the angle at which the contrast ratio is greater than 10. The viewing angles are determined for the horizontal or 3, 9 o'clock direction and the vertical or 6, 12 o'clock direction with respect to the optical axis which is normal to the LCD surface (see FIGURE 1).

2. Contrast measurements shall be made at viewing angle of Θ= 0 and at the center of the LCD surface. Luminance shall be measured with all pixels in the view field set first to white, then to the dark (black) state . (see FIGURE 1) Luminance Contrast Ratio (CR) is defined mathematically.

$$CR = \frac{\text{Luminance when displaying a white raster}}{\text{Luminance when displaying a black raster}}$$

3. Center Luminance of white is defined as luminance values of 5point average across the LCD surface. Luminance shall be measured with all pixels in the view field set first to white. This measurement shall be taken at the locations shown in FIGURE 2 for a total of the measurements per display. The luminance is measured by CA210 when the LED current is set at 18.8m.

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4. The White luminance uniformity on LCD surface is then expressed as : ΔY = Minimum Luminance of 5 points / Maximum Luminance of 5 points (see FIGURE 2).

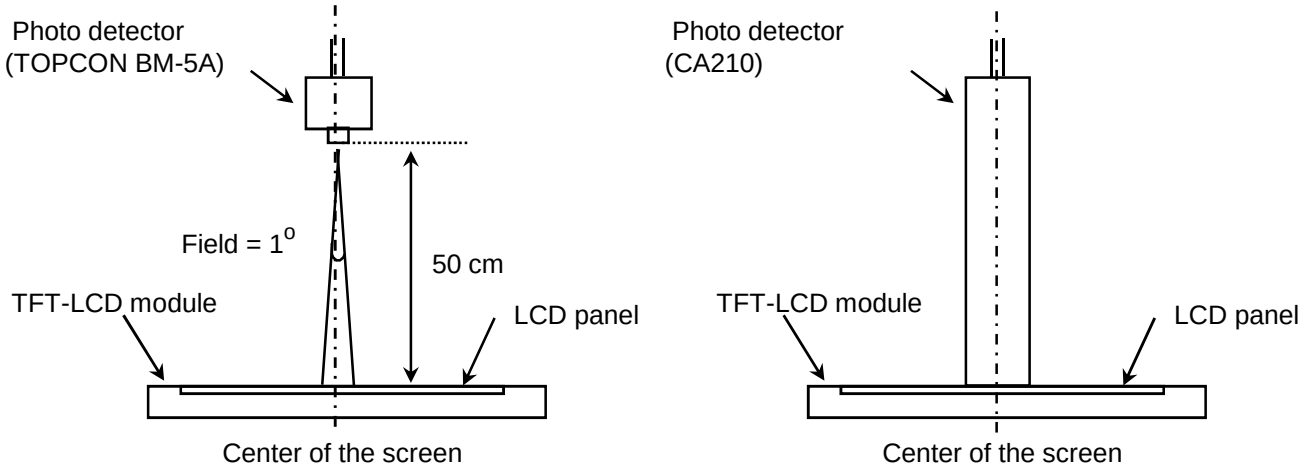
5. The color chromaticity coordinates specified in Table 5 shall be calculated from the spectral data measured with all pixels first in red, green, blue and white. Measurements shall be made at the center of the panel.

6. The electro-optical response time measurements shall be made as FIGURE 3 by switching the "data" input signal ON and OFF. The times needed for the luminance to change from 10% to 90% is Tr, and 90% to 10% is Td.

7. Cross-Talk of one area of the LCD surface by another shall be measured by comparing the luminance (YA) of a 25mm diameter area, with all display pixels set to a gray level, to the luminance (YB) of that same area when any adjacent area is driven dark. (See FIGURE 4).

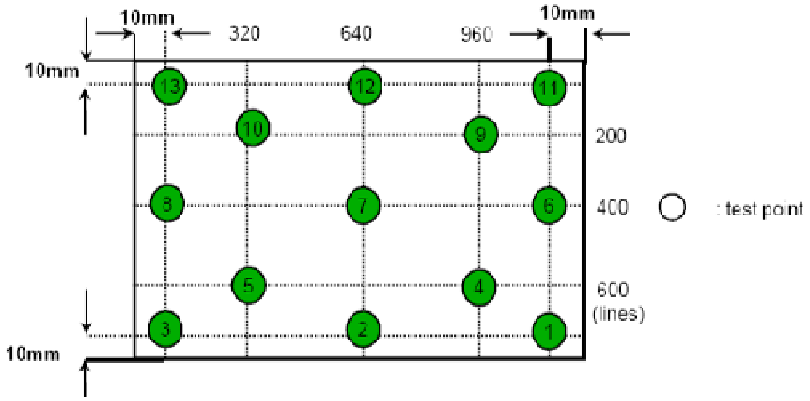
4.3 Optical measurements

Figure 1. Measurement Set Up



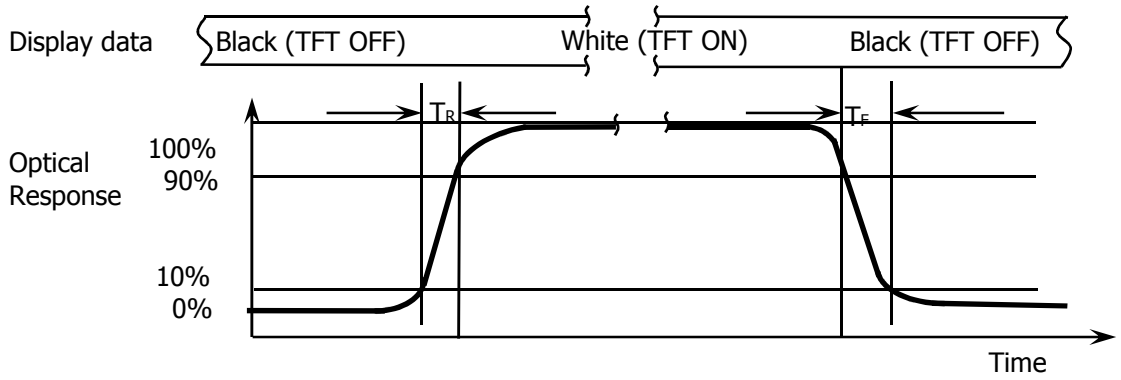
View angel range measurement setup Luminance , uniformity and color measurement setup

Figure 2. White Luminance and Uniformity Measurement Locations (13 points)



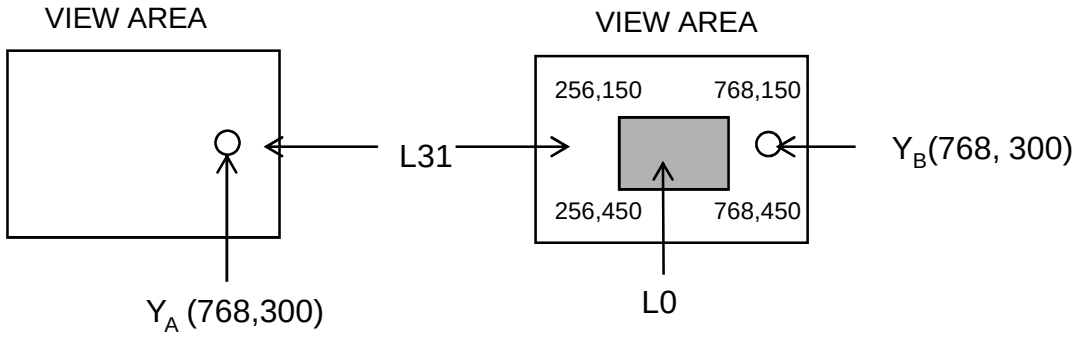
Center Luminance of white is defined as luminance values of center 5 points across the LCD surface. Luminance shall be measured with all pixels in the view field set first to white. This measurement shall be taken at the locations shown in FIGURE 2 for a total of the measurements per display.
The White luminance uniformity on LCD surface is then expressed as : ΔY5 = Minimum Luminance of 5 points / Maximum Luminance of 5points (see FIGURE 2).

Figure 3. Response Time Testing



The electro-optical response time measurements shall be made as shown in FIGURE 3 by switching the “data” input signal ON and OFF. The times needed for the luminance to change from 10% to 90% is Tr and 90% to 10% is Td.

Figure 4. Cross Modulation Test Description



$$\text{Cross-Talk (\%)} = \left| \frac{Y_B - Y_A}{Y_A} \right| \times 100$$

Where:

Y_A = Initial luminance of measured area (cd/m^2)
Y_B = Subsequent luminance of measured area (cd/m^2)

The location measured will be exactly the same in both patterns

Cross-Talk of one area of the LCD surface by another shall be measured by comparing the luminance (YA) of a 25mm diameter area, with all display pixels set to a gray level, to the luminance (YB) of that same area when any adjacent area is driven dark (Refer to FIGURE 4).

5.0 INTERFACE CONNECTION.

5.1 Electrical Interface Connection

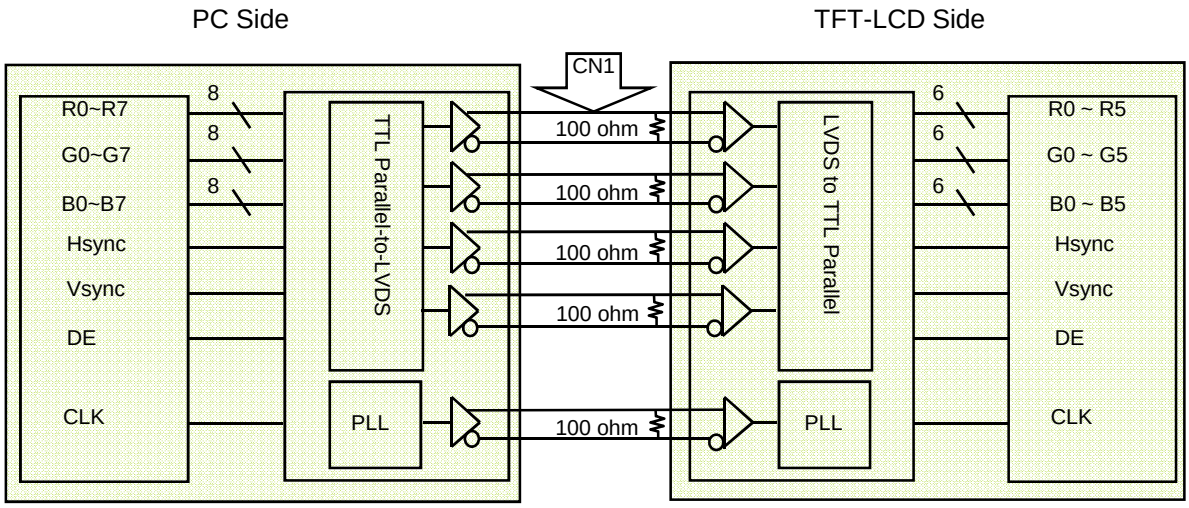
The electronics interface connector is FF12-31A-R11B.

The connector interface pin assignments are listed in Table 6.

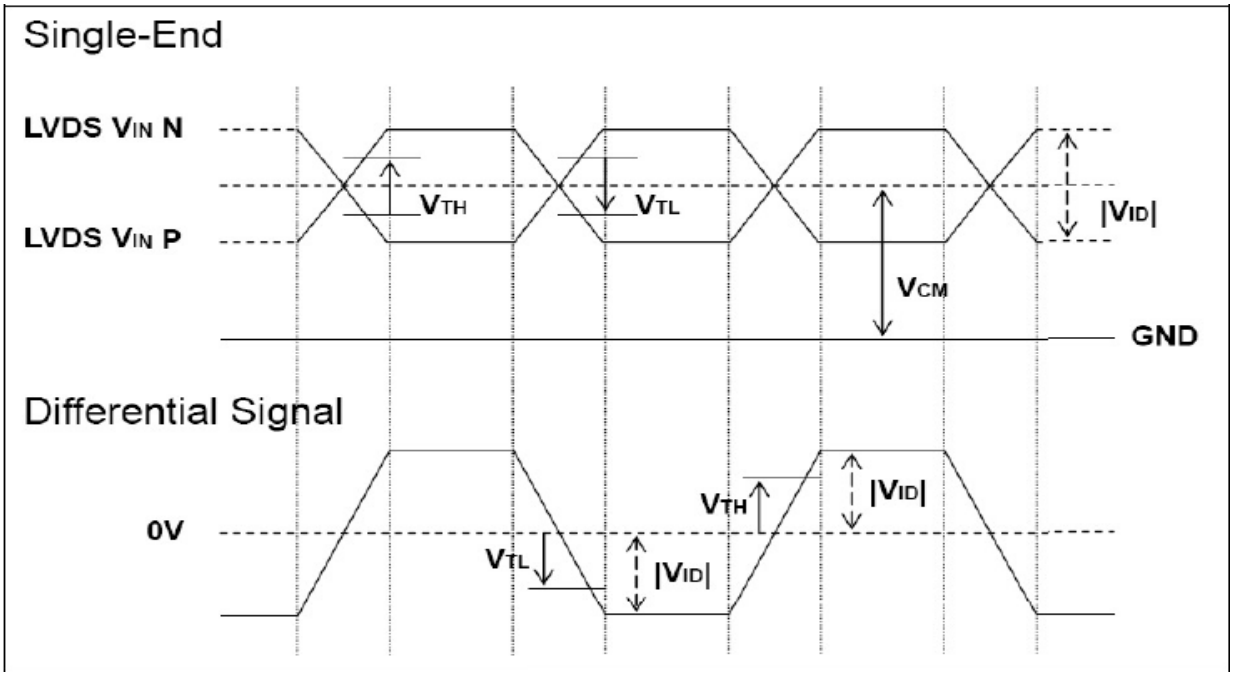
<Table 6. Pin Assignments for the Interface Connector>

Pin	Symbol	Functions	Pin	Symbol	Functions
1	GND1	Ground	24	RXin1N	-LVDS differential data (G1-G5, B0-B1)
2	GND2	Ground	25	RXin1P	+LVDS differential data (G1-G5, B0-B1)
3	NC1	No connection	26	GND9	Ground
4	3.3V	Logic power 3.3V	27	RXin0N	-LVDS differential data (R0-R5, G0)
5	3.3V	Logic power 3.3V	28	RXin0P	+LVDS differential data (R0-R5, G0)
6	3.3V	Logic power 3.3V	29	GND10	Ground
7	3.3V	Logic power 3.3V	30	GND11	Ground
8	3.3V	Logic power 3.3V	31	NC2	No connection
9	WPN	No connection	32	FB1	LED FB1
10	SCL	No connection	33	FB2	LED FB2
11	SDA	No connection	34	FB3	LED FB3
12	GND3	Ground	35	FB4	LED FB4
13	GND4	Ground	36	FB5	No connection
14	GND5	Ground	37	FB6	No connection
15	RXin3N	-LVDS differential data (R6,R7,G6,G6,B6,B7)	38	NC3	No connection
16	RXin3P	+LVDS differential data (R6,R7,G6,G6,B6,B7)	39	VLED1	LED Power supply Voltage
17	GND6	Ground	40	VLED2	LED Power supply Voltage
18	LVDS_RX_N	- LVDS differential clock input	41	VLED3	LED Power supply Voltage
19	LVDS_RX_P	+ LVDS differential clock input	42	VLED4	LED Power supply Voltage
20	GND7	Ground	43	VLED5	LED Power supply Voltage
21	RXin2N	-LVDS differential data (B2-B5, HS, VS, DE)	44	NC4	No connection
22	RXin2P	+LVDS differential data (B2-B5, HS, VS, DE)	45	GND12	Ground
23	GND8	Ground			

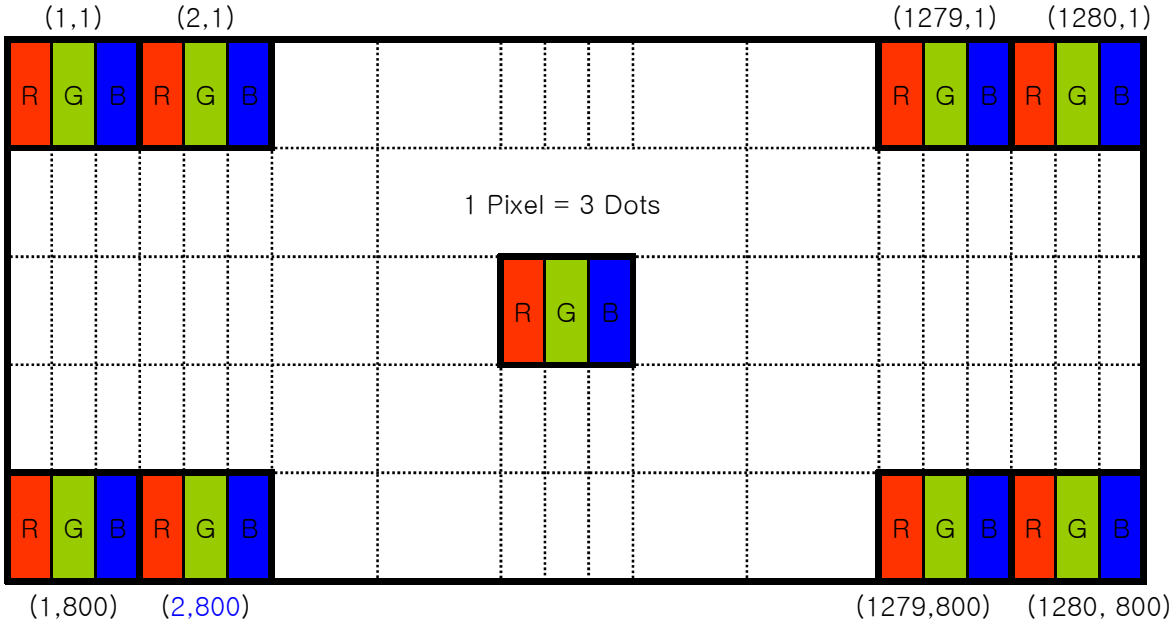
5.2 LVDS Interface



5.3 LVDS Input signal



5.4 Data Input Format

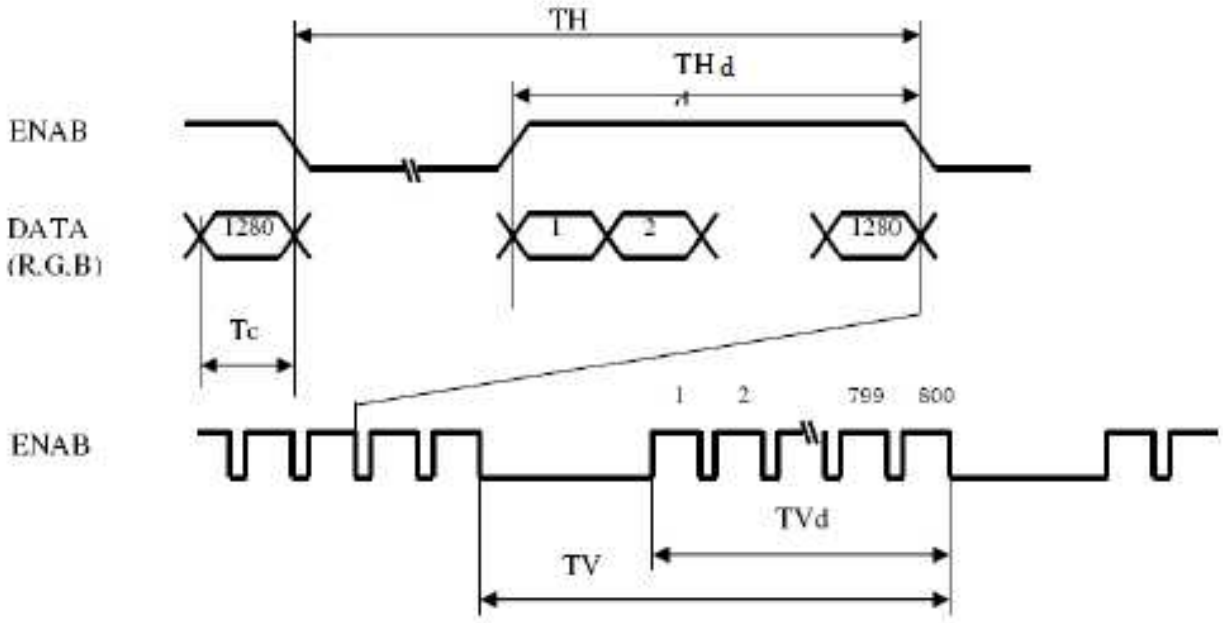


Display Position of Input Data (V-H)

6.0 SIGNAL TIMING SPECIFICATION

6.1 The BP101WX1-300 is operated by the DE mode.

Signal	Item	Symbol	Min	Type	Max	Unit
DCLK	Frequency	1/TC	60	65	80	MHz
	Cycle	Tc	16.66	15.38	12.5	ns
DE	Horizontal Period	THd	1280	1280	1280	Tc
	Horizontal Cycle	TH	1310	1330	1560	Tc
		TH_time	19.5	20.46	21.83	ns
	Vertical Period	TVd	800	800	800	Tc
	Vertical Cycle	TV	-	812	-	Tc

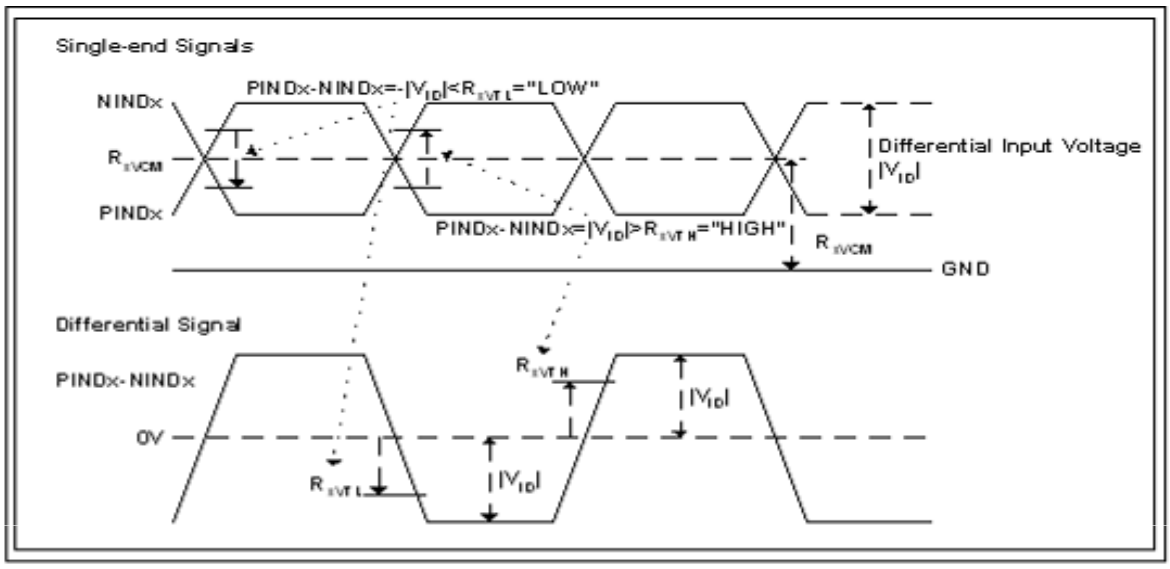


Interface Timing

6.2 LVDS Rx Interface Timing Parameter

The specification of the LVDS Rx interface timing parameter is shown in Table 8.

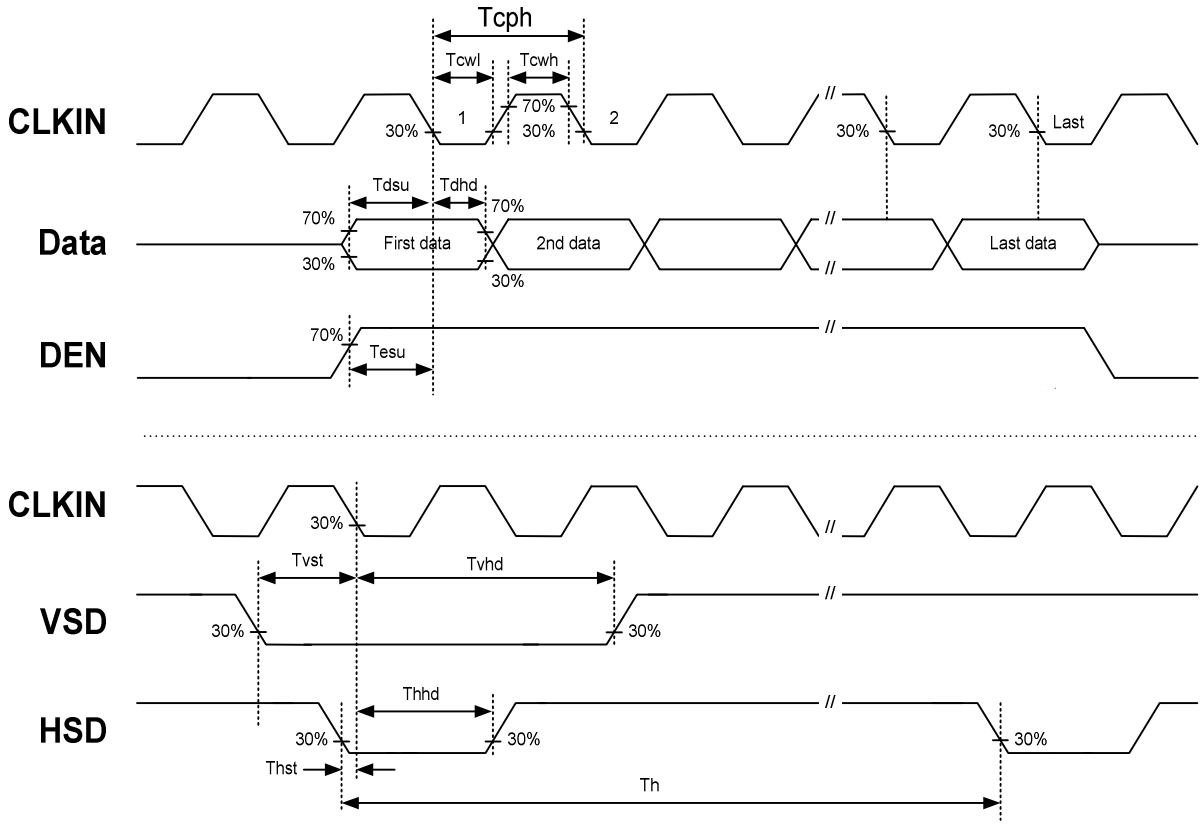
<Table 8. LVDS Rx Interface Timing Specification>



* Vdiff = (RXO/Ez+)-(RXO/Ez-),…. ,(RXO/ECLK+)-(RXO/ECLK-)

7.0 SIGNAL TIMING WAVEFORMS OF INTERFACE SIGNAL

7.1 Input Clock and Data Timing Diagram



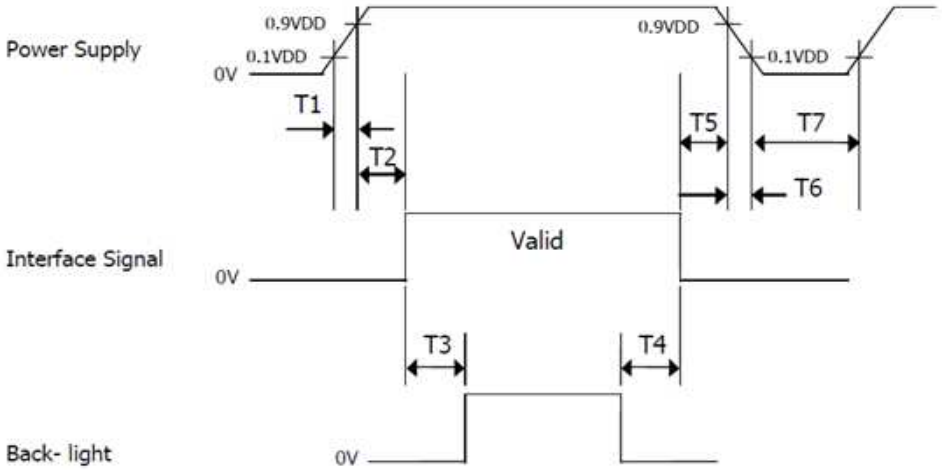
8.0 INPUT SIGNALS, BASIC DISPLAY COLORS & GRAY SCALE OF COLORS

Color & Gray Scale		Input Data Signal																							
		R7	R6	R5	R4	R3	R2	R1	R0	G7	G6	G5	G4	G3	G2	G1	G0	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
	Blue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	Green	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	Cyan	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Red	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Magenta	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0
	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
Gray Scale of Red	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Darker	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	△	↑								↑								↑							
	▽	↓								↓								↓							
	Brighter	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	▽	1	1	1	1	1	1	1	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray Scale of Green	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	1	0	0	0	0	0	0	0	0
	Darker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	△	↑								↑								↑							
	▽	↓								↓								↓							
	Brighter	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0
	▽	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
	Green	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Gray Scale of Blue	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	0	0	0	0	0	0	0	0	1
	Darker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	△	↑								↑								↑							
	▽	↓								↓								↓							
	Brighter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1
	▽	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0
	Blue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
Gray Scale of White	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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
	Darker	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
	△	↑								↑								↑							
	▽	↓								↓								↓							
	Brighter	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1
	▽	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0
	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

9.0 POWER SEQUENCE

To prevent a latch-up or DC operation of the LCD module, the power on/off sequence shall be as shown in below

Power-On/Off Timing Sequence:



Parameter	Values			Units
	Min	Typ	Max	
T1	0	-	10	ms
T2	0	-	50	ms
T3	200	-	-	ms
T4	200	-	-	ms
T5	0.5	-	50	ms
T6	0	-	10	ms
T7	500	-	-	ms

Notes:

1. When the power supply VDD is 0V, keep the level of input signals on the low or keep high impedance.
2. Do not keep the interface signal high impedance when power is on. Back Light must be turn on after power for logic and interface signal are valid.

10.0 Connector Description

Physical interface is described as for the connector on LCM.
These connectors are capable of accommodating the following signals and will be following components.

10.1 TFT LCD Module

Connector Name /Description	For Signal Connector
Manufacturer	**UJU**
Type/ Part Number	**PF030-B45B-N09**

10.2 LED Connector

Pin No.	Symbol	For Signal Connector
1	VLEDN1	LED Cathode Power Supply
2	VLEDN2	LED Cathode Power Supply
3	VLEDN3	LED Cathode Power Supply
4	VLEDN4	LED Cathode Power Supply
5	NC	No Connection
6	NC	No Connection
7	VLED	LED Anode Power Supply
8	VLED	LED Anode Power Supply
9	VLED	LED Anode Power Supply

11.0 MECHANICAL CHARACTERISTICS

11.1 Dimensional Requirements

FIGURE 5 shows mechanical outlines for the model HV070WSA-100.
Other parameters are shown in Table 9.

<Table 9. Dimensional Parameters>

Parameter	Specification	Unit
Active Area	216.96 (H) ×135.6 (V)	
Number of pixels	1280(H) X800 (V) (1 pixel = R + G + B dots)	
Pixel pitch	0.1695 (H) X0.1695 (V)	
Pixel arrangement	RGB Vertical stripe	
Display colors	16777216	
Display mode	Normally Black	
Dimensional outline	228.9*148.86*2.4 (Typ.)	mm
Weight	145 (Max)	gram
Back-light	LED, Horizontal-LED Array type	

11.2 Mounting

See FIGURE 6.

11.3 Glare and Polarizer Hardness.

The surface of the LCD has an low reflection coating and hard coating to reduce scratching.

11.4 Light Leakage

There shall not be visible light from the back-lighting system around the edges of the screen as seen from a distance 50cm from the screen with an overhead light level of 150lux.

12.0 RELIABILITY TEST

The Reliability test items and its conditions are shown in below.

<Table 10. Reliability test>

No	Test Items	Conditions
1	High temperature storage test	Ta = 80 ℃, 240 hrs
2	Low temperature storage test	Ta = -20 ℃, 240 hrs
3	High temperature & high humidity operation test	Ta = 60 ℃, 90%RH, 240 hrs
4	High temperature operation test	Ta = 60 ℃, 240 hrs
5	Low temperature operation test	Ta = -20 ℃, 240hrs
6	Thermal shock	Ta = -20 ℃ ↔ 70 ℃ (30min), 100 cycle

13.0 HANDLING & CAUTIONS

(1) Cautions when taking out the module
- Pick the pouch only, when taking out module from a shipping package.

(2) Cautions for handling the module
- As the electrostatic discharges may break the LCD module, handle the LCD module with care. Peel a protection sheet off from the LCD panel surface as slowly as possible.
- As the LCD panel and back - light element are made from fragile glass material, impulse and pressure to the LCD module should be avoided.
- As the surface of the polarizer is very soft and easily scratched, use a soft dry cloth without chemicals for cleaning.
- Do not pull the interface connector in or out while the LCD module is operating.
- Put the module display side down on a flat horizontal plane.
- Handle connectors and cables with care.

(3) Cautions for the operation
- When the module is operating, do not lose CLK, ENAB signals. If any one of these signals is lost, the LCD panel would be damaged.
- Obey the supply voltage sequence. If wrong sequence is applied, the module would be damaged.

(4) Cautions for the atmosphere
- Dew drop atmosphere should be avoided.
- Do not store and/or operate the LCD module in a high temperature and/or humidity atmosphere. Storage in an electro-conductive polymer packing pouch and under relatively low temperature atmosphere is recommended.

(5) Cautions for the module characteristics
- Do not apply fixed pattern data signal to the LCD module at product aging.
- Applying fixed pattern for a long time may cause image sticking.

(6) Other cautions
- Do not disassemble and/or re-assemble LCD module.
- Do not re-adjust variable resistor or switch etc.
- When returning the module for repair or etc., Please pack the module not to be broken. We recommend to use the original shipping packages.

14.0 LABEL

(1) Product label

1	2	3	4	5	6	7
X X	X	X	X X	1	0 0 X X	X X X X X X

Type designation

No 1. Control Number

No 2. Rank / Grade

No 3. Line classification (BOE OT:A/BC)

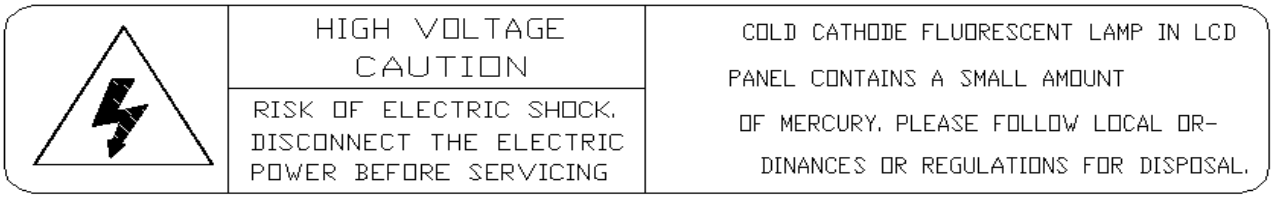
No 4. Year (09 : 2009, 10: 2010, ...)

No 5. Month (1, 2, 3, ..., 9, X, Y, Z)

No 6. Product Identification (FG)

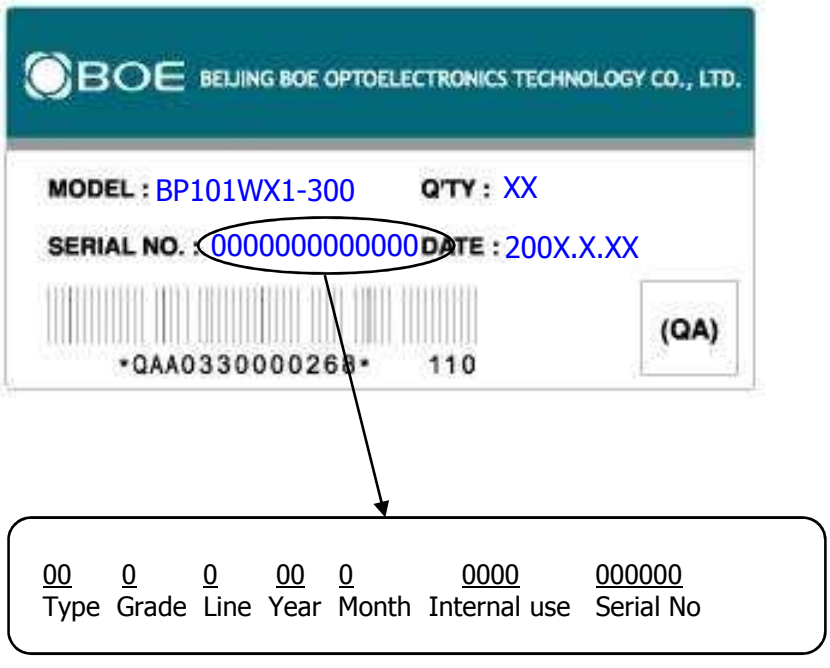
No 7. Serial Number

(2) High voltage caution label



(3) Box label

Label Size: 110 mm (L) × 56 mm (W)
Contents
Model: BP070WX1-100
Q`ty: Module Q`ty in one box
Serial No.: Box Serial No. See next figure for detail description.
Date: Packing Date
Internal use of Product

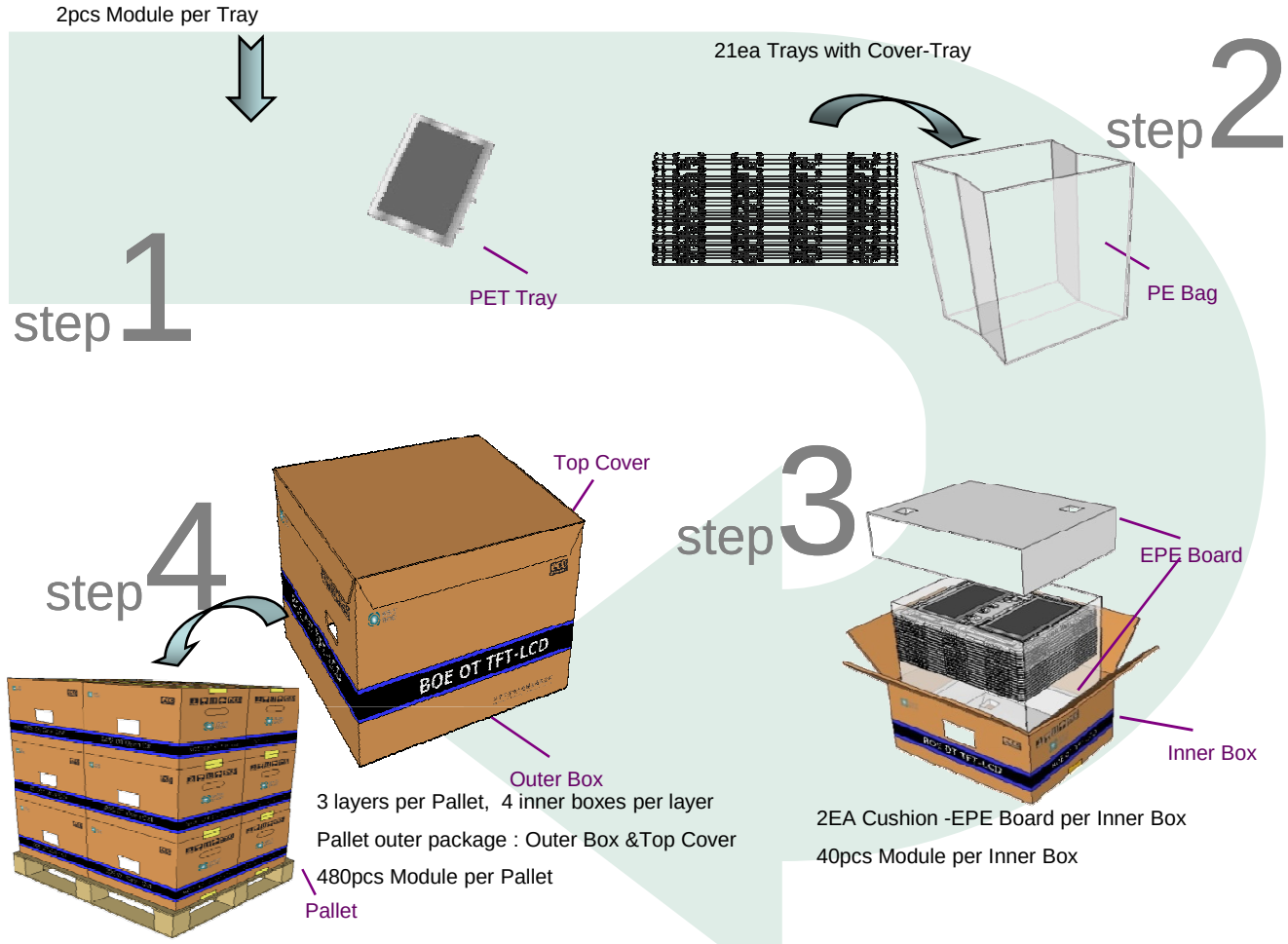


15.0 PACKING INFORMATION

15.1 Packing Description

Packing Condition	Contents
Packing type	PET + Antistatic Backing packing type
PET material model	PET (10^6~10^{10} Ω/ sq)
PET packing type	
Number of panels per PET	2 pieces
Number of PET per inner box	21units (20 units + 1 unit empty)
Number of inner box per out box	12 pcs
Number of panels per inner box	40 pieces
Number of panels per out box	480 pieces

15.2 Packing order

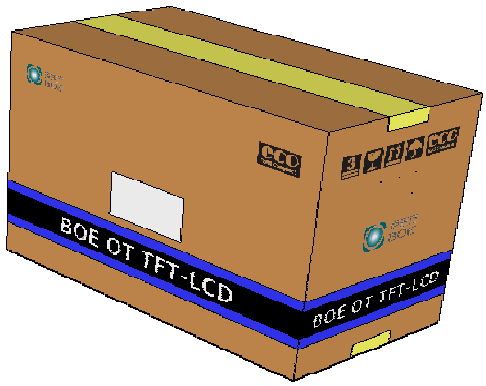


No.	Description	Quantity
1	TFT-LCD	480pcs
2	Module/PET Tray	2pcs
3	PET Tray	21 ea (1ea : empty)
4	Inner Box	12ea
5	PE Bag	12ea
6	Outer Box	1 ea
7	Belt tape	1,440~1,488 cm
8	Distribution label	1pcs

※ Standard packing dimensions is 520×420×252mm, it would be observed strictly.

15.3 Description of packing procedure (picture)

Inner Box

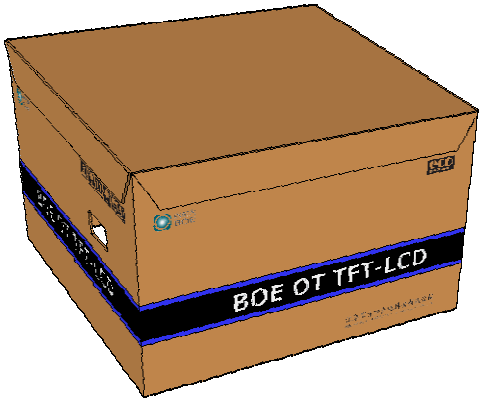


Inner Box On Pallet

Outer Box

&

Top Cover



16.0 MECHANICAL OUTLINE DIMENSION

Figure 6. TFT-LCD Module Outline Dimension (Front View)

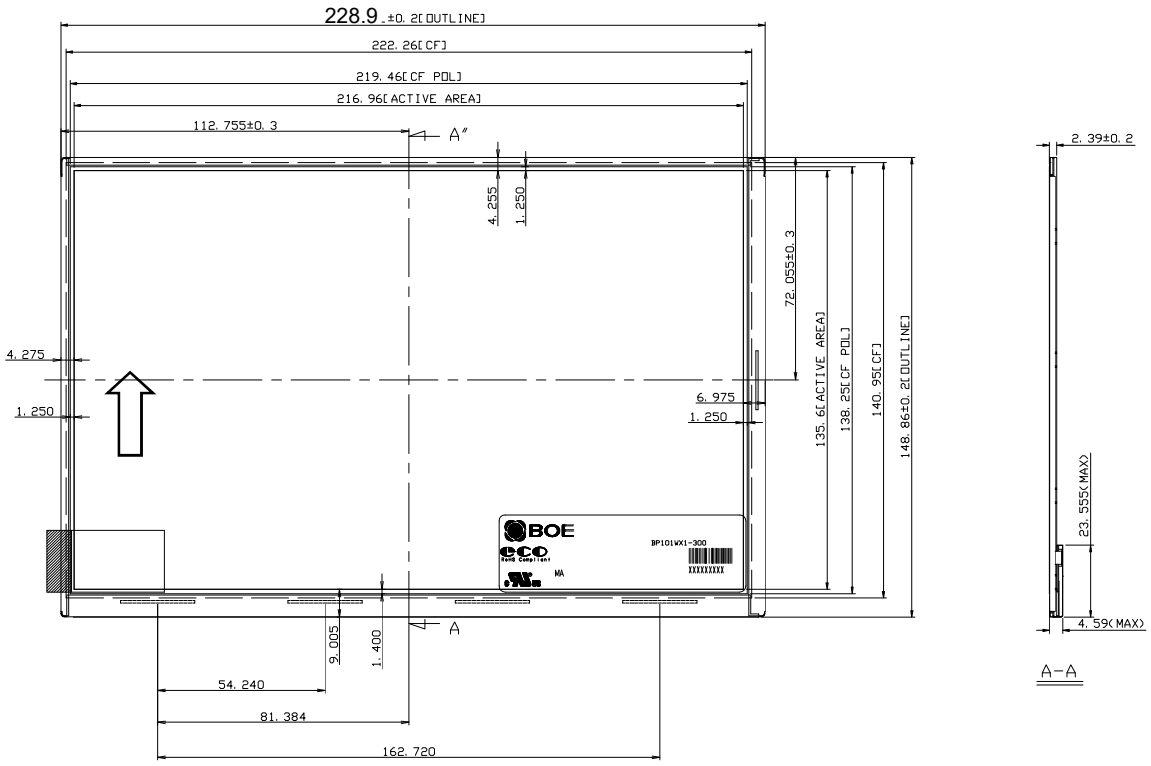


Figure 7. TFT-LCD Module Outline Dimensions (Rear view)