Product Specification

(   ) Product Information

(   ) Preliminary Specification

(√) Approval Specification

Any modification of Spec is not allowed without SDC's permission.

CUSTOMER	R/A Customer
DATE OF ISSUE	2016/06/19

MODEL NO.	185-E10-PD
EXTENSION CODE	-V(0)

Customer Approval & Feedback

Approved by	2016/06/19
Prepared by	2016/06/19

GV185FHM-N10

Product Specification

Rev. 0

FUZHOU BOE OPTOELECTRONICS TECHNOLOGY Co.,LTD

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A4(210 X 297)

1.0 GENERAL DESCRIPTION

1.1 Introduction

GV185FHM-N10 is a color active matrix TFT LCD MDL using amorphous silicon TFT's (Thin Film Transistors) as an active switching devices. This MDL has a 18.5 inch diagonally measured active area with FHD resolutions (1920 horizontal by 1080 vertical pixel array). Each pixel is divided into RED, GREEN, BLUE dots which are arranged in vertical stripe and this module can display 16.7M colors. The TFT-LCD MDL panel is adapted for a low reflection and higher color type.
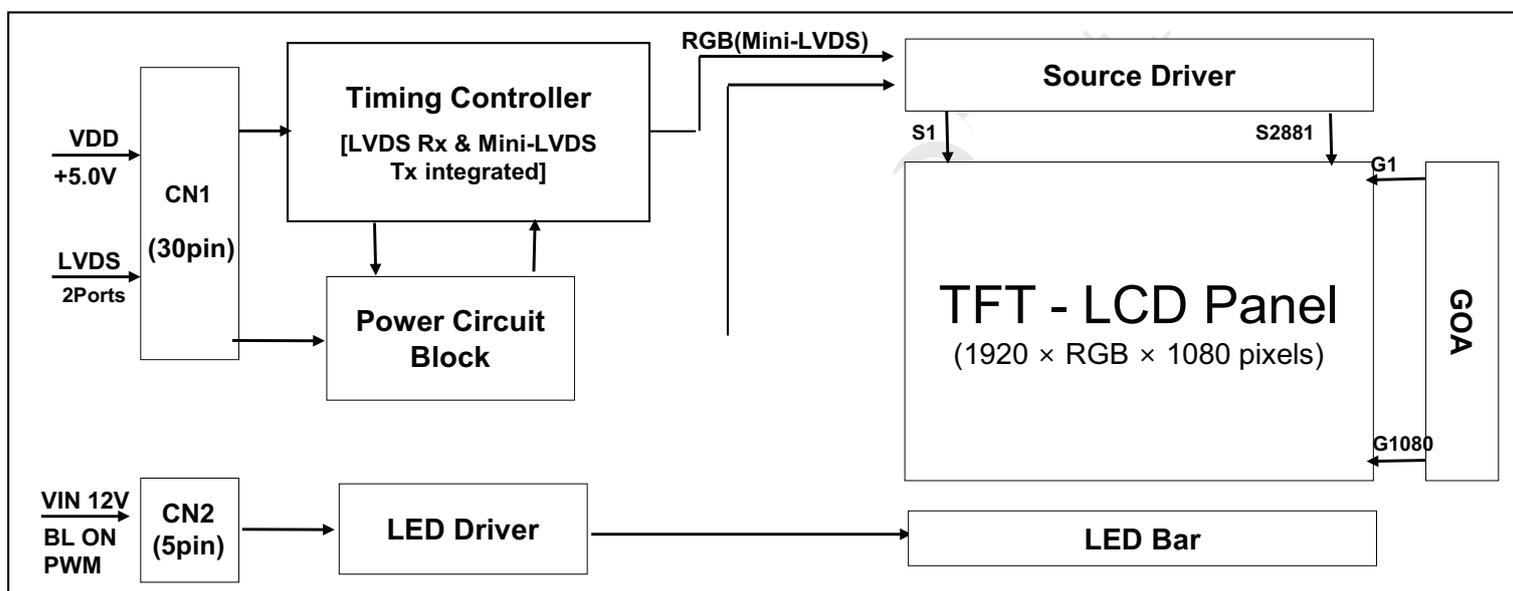
1.2 Features

● LVDS interface with 2 pixel / clock

● High-speed response

● Low color shift image quality

● 8-bit color depth, display 16.7M colors

    Wide viewing angle

    DE (Data Enable) only mode

    HADS technology is applied for high display quality

    RoHS compliant

1.3 Application

● Commercial Digital Display

1.4 General Specification

< Table 1. General Specifications >

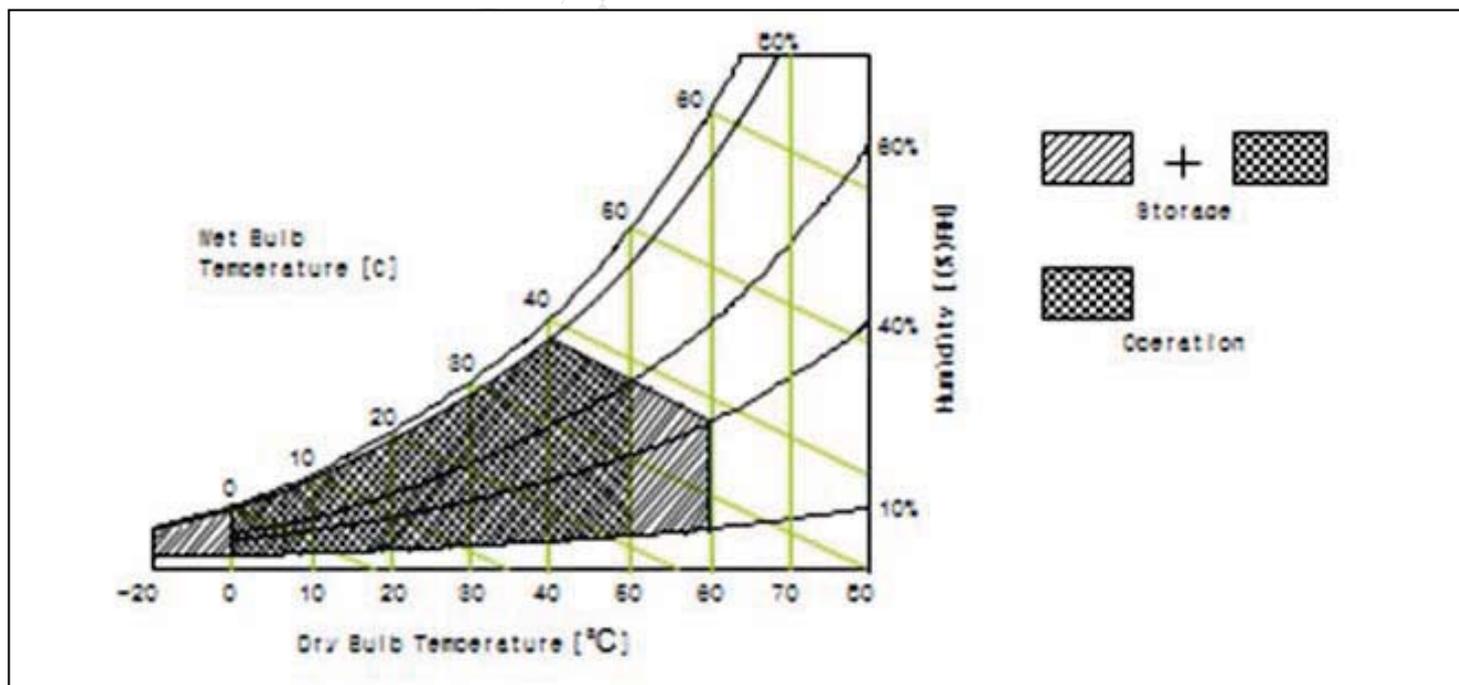| Parameter	Specification	Unit	Remarks
Active area	408.96 (H) × 230.04 (V)	mm	
Number of pixels	1920(H) ×1080(V)	pixels	
Pixel pitch	71(H) ×213(V)	um	
Pixel arrangement	Pixels RGB Vertical stripe		
Display colors	16.7M	colors	Real 8bits
Display mode	Normally Black		
Dimensional outline	430.4(H) ×254.6(V) 12.0(D)	mm	Detail refer to drawing
Weight	1400	g	
Power Consumption	23.3W typ 26.66W max	Watt	BLU Consumption 20.4W typ 23.76W max
Bezel width (L/R/U/D)	9.72/9.72/11.28/11.28	mm	
Surface Treatment	Haze 25%, 3H		
Back-light	Down edge side, 1- LED Light bar		
Possible display type	Landscape and Portrait Enabled		

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. Open Cell Electrical Specifications >

[VSS=GND=0V]

Parameter	Symbol	Min.	Max.	Unit	Remark
Power Supply Voltage	VDD	-0.3	6.0	V	Ta = 25 ℃
BL Powe Supply Voltage	VIN 12V	-0.3	14.4	V	
Logic Supply Voltage	VIN	VSS-0.3	VDD+0.3	V	
Operating Temperature	T_{OP}	-20	+80	℃	Note 1
Storage Temperature	T_{SUR}	-20	+80	℃	
	T_{ST}	-20	+80	℃	
Operating Ambient Humidity	Hop	10	80	%RH	
Storage Humidity	Hst	10	80	%RH	

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.

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3.0 ELECTRICAL SPECIFICATIONS

3.1 TFT LCD Open Cell

< Table 3. Open Cell Electrical Specifications >

[Ta =25±2 ℃]

Parameter		Symbol	Values			Unit	Remark
			Min	Typ	Max		
Power Supply Input Voltage		VDD	4.5	5.0	5.5	Vdc	
Power Supply Ripple Voltage		VRP	-	-	200	mV	
Power Supply Current		IDD	-	580	1400	mA	Note 1
Power Consumption		PDD	-	2.9	6.0	Watt	
Rush current		IRUSH	-		3.0	A	Note 2
LVDS Interface	Differential Input High Threshold Voltage	VLVTH	+100	-	+300	mV	
	Differential Input Low Threshold Voltage	VLVTL	-300	-	-100	mV	
	Input Differential Voltage	| VID |	200	-	600	mV	
	Differential input common mode voltage	VCM	1.0	1.2	1.4	V	

Note 1 : The supply voltage is measured and specified at the interface connector of LCM.

The current draw and power consumption specified is for VDD=5.0V,
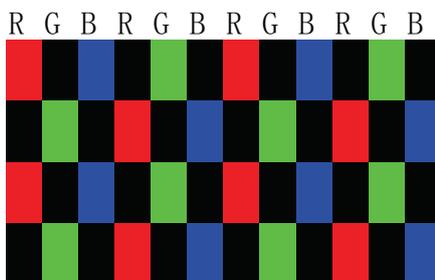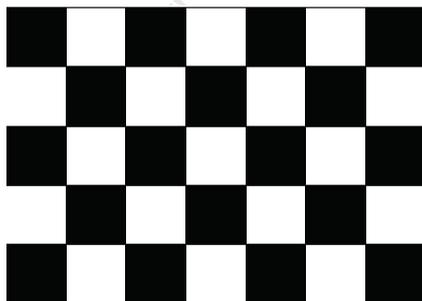
Frame rate f_V=60Hz and Clock frequency = 74.25MHz.

Test Pattern of power supply current

a) Typ : Mosaic 7X5 (L0/L255)　　　b) Max : Skip 1 dot Pattern　　　c) Flicker Pattern

Note 2 : The duration of rush current is about 2ms and rising time of Power Input is 1ms(min)

3.2 Backlight Unit

< Table 3. Backlight Unit Electrical Specifications > [Ta =25±2 ℃]

Parameter			Min.	Typ.	Max.	Unit	Remarks
BL Power Supply Input Voltage		VDD	10.8	12	13.2	Vdc	
BL Power Supply Ripple Voltage		VRP	-	-	400	mV	
BL Power Supply Current		IDD	-	1.7	1.8	A	
BL Power Consumption		PDD	-	20.4	23.76	Watt	
LED Forward Voltage		V_F	2.7	3.0	3.2	V	-
LED Forward Current		I_F		300		mA	
LED Power Consumption		P_{LED}		40.5	43.2	W	Note 1
LED Life-Time		N/A	50000	-	-	Hour	IF = 75mA
PWM&EN Control Level	High Level		2.7	3.3	3.6	V	
	Low Level		-	0	0.6	V	
PWM Control Frequency		F_{PWM}	-	180	-	Hz	
Duty Ratio		-	-	-	100	-	%	

Notes : 1. Calculator Value for reference IF × VF ×45ea= PLED
   2. The LED Life-time define as the estimated time to 50% degradation of initial luminous.

4.0 INTERFACE CONNECTION
4.1 Open Cell Input Signal & Power （CN101）
- LVDS Connector : IS100-L30R-C23 (UJU) or Equivalent.

1 |||||||||||||||||||||||||||| 30

< Table 4. Open Cell Input Connector Pin Configuration >

Pin No	Symbol	Description	Pin No	Symbol	Description
1	RXO0-	Negative Transmission data of Pixel 0 (ODD)	16	RXE1+	Positive Transmission data of Pixel 1 (EVEN)
2	RXO0+	Positive Transmission data of Pixel 0 (ODD)	17	GNG	Power Ground
3	RXO1-	Negative Transmission data of Pixel 1 (ODD)	18	RXE2-	Negative Transmission data of Pixel 2 (EVEN)
4	RXO1+	Positive Transmission data of Pixel 1 (ODD)	19	RXE2+	Positive Transmission data of Pixel 2 (EVEN)
5	RXO2-	Negative Transmission data of Pixel 2 (ODD)	20	RXEC-	Negative Transmission Clock (EVEN)
6	RXO2+	Positive Transmission data of Pixel 2 (ODD)	21	RXEC+	Positive Transmission Clock (EVEN)
7	GND	Power Ground	22	RXE3-	Negative Transmission data of Pixel 3 (EVEN)
8	RXOC-	Negative Transmission Clock (ODD)	23	RXE3+	Positive Transmission data of Pixel 3 (EVEN)
9	RXOC+	Positive Transmission Clock (ODD)	24	GND	Power Ground
10	RXO3-	Negative Transmission data of Pixel 3 (ODD)	25	NC	No. Connection
11	RXO3+	Positive Transmission data of Pixel 3 (ODD)	26	NC	No. Connection
12	RXE0-	Negative Transmission data of Pixel 0 (EVEN)	27	NC	No. Connection
13	RXE0+	Positive Transmission data of Pixel 0 (EVEN)	28	VDD	Power Supply: +5V
14	GND	Power Ground	29	VDD	
15	RXE1-	Negative Transmission data of Pixel 1 (EVEN)	30	VDD	

Note : 1. Pin 24 should be connected with GND.

2. NC(Not Connected) : This pins are only used for BOE internal operations.

3. Input Level of LVDS signal is based on the EIA-644 Standard.

4. Data format: VESA only.

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4.2 Back Light Input Signal & Power （CN2）

- Back Light Connector CI4205M2HR0-NH （CviLux） or Equivalent.

< Table 4. Open Cell Input Connector Pin Configuration >

Pin No	Symbol	Description
1	NC	No Connection
2	Dimming	PWM Dimming
3	Enable	3.3V-On / 0V-Off
4	GND	Ground
5	VCC	Power Supply: +12V

30   1   5   CN2   1
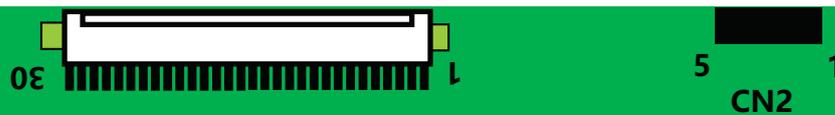
4.3 LVDS Interface
- LVDS Receiver : Timing Controller (LVDS Rx merged) / LVDS Data : Pixel Data

< Table 5. Open Cell Input Connector Pin Configuration >

Channel No.	Data No.	8-bit LVDS Type
		NS
0	Bit-0	R0
	Bit-1	R1
	Bit-2	R2
	Bit-3	R3
	Bit-4	R4
	Bit-5	R5
	Bit-6	G0
1	Bit-0	G1
	Bit-1	G2
	Bit-2	G3
	Bit-3	G4
	Bit-4	G5
	Bit-5	B0
	Bit-6	B1
2	Bit-0	B2
	Bit-1	B3
	Bit-2	B4
	Bit-3	B5
	Bit-4	HS
	Bit-5	VS
	Bit-6	DE
3	Bit-0	R6
	Bit-1	R7
	Bit-2	G6
	Bit-3	G7
	Bit-4	B6
	Bit-5	B7
	Bit-6	-

4.4 LVDS Rx Interface Timing Parameter

The specification of the LVDS Rx interface timing parameter is shown in Table 6.
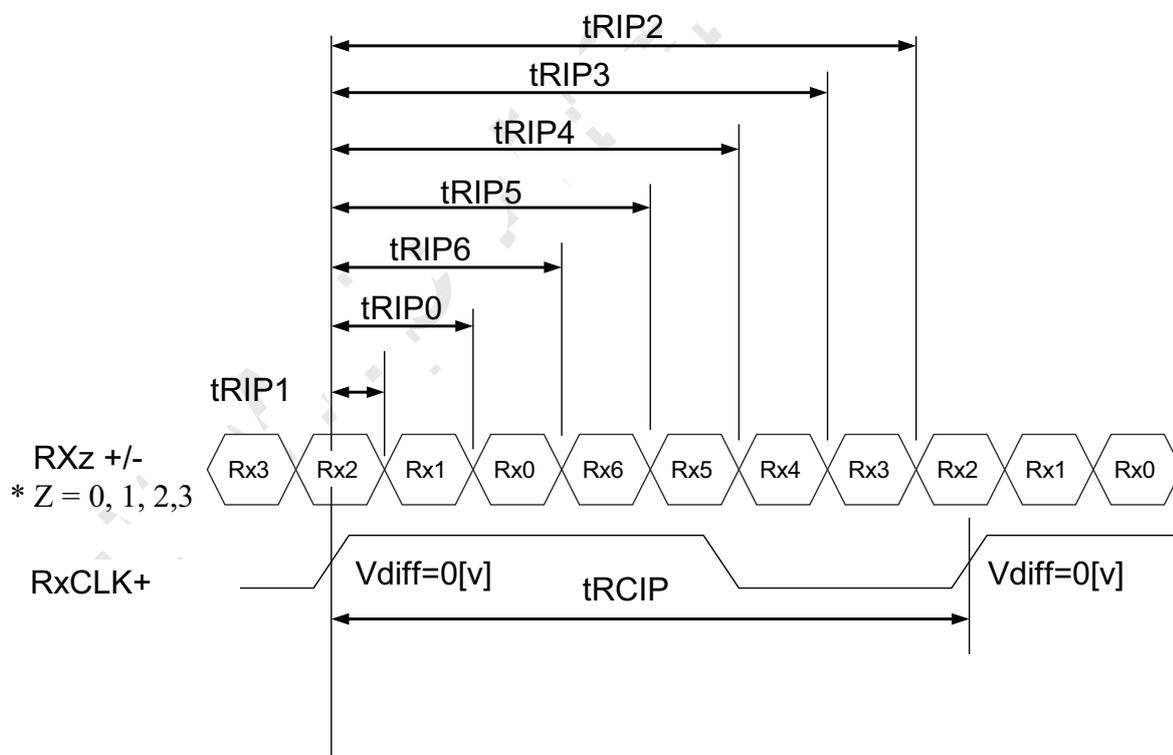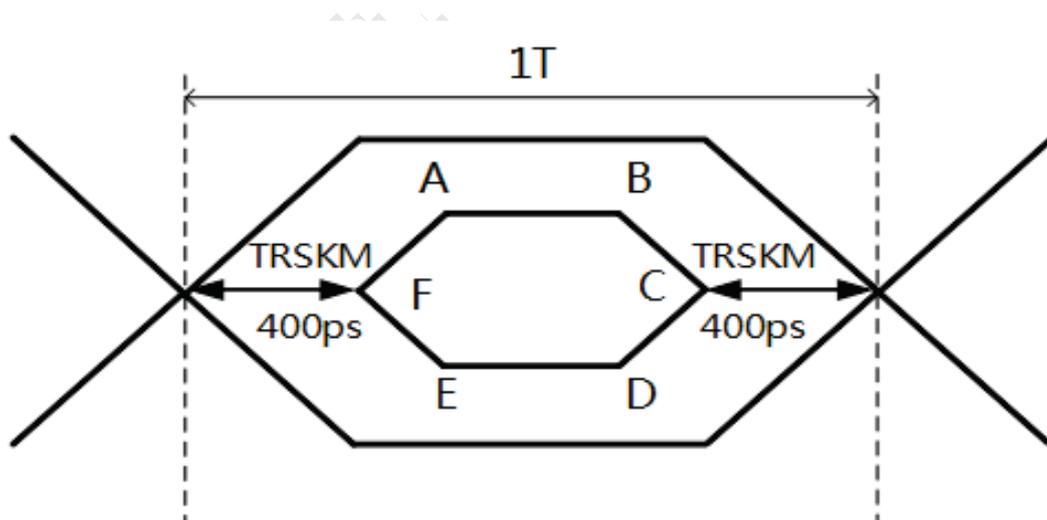
<Table 6. LVDS Rx Interface Timing Specification>

Item	Symbol	Min	Typ	Max	Unit	Remark
CLKIN Period	tRCIP	12.83	13.47	16.66	nsec	
Input Data 0	tRIP1	-0.42	0.0	+0.42	nsec	
Input Data 1	tRIP0	tRCIP/7-0.42	tRCIP/7	tRCIP/7+0.42	nsec	
Input Data 2	tRIP6	2 ×tRCIP/7-0.42	2 ×tRCIP/7	2 ×tRCIP/7+0.42	nsec	
Input Data 3	tRIP5	3 ×tRCIP/7-0.42	3 ×tRCIP/7	3 ×tRCIP/7+0.42	nsec	
Input Data 4	tRIP4	4 ×tRCIP/7-0.42	4 ×tRCIP/7	4 tRCIP/7+0.42	nsec	
Input Data 5	tRIP3	5 ×tRCIP/7-0.42	5 ×tRCIP/7	5 tRCIP/7+0.42	nsec	
Input Data 6	tRIP2	6 ×tRCIP/7-0.42	6 ×tRCIP/7	6 tRCIP/7+0.42	nsec	

* Vdiff = (RXz+)-(RXz-),…. ,(RXCLK+)-(RXCLK-)

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4.5 LVDS Rx Interface Eye Diagram

< Table 7. LVDS Rx Interface Eye Diagram>

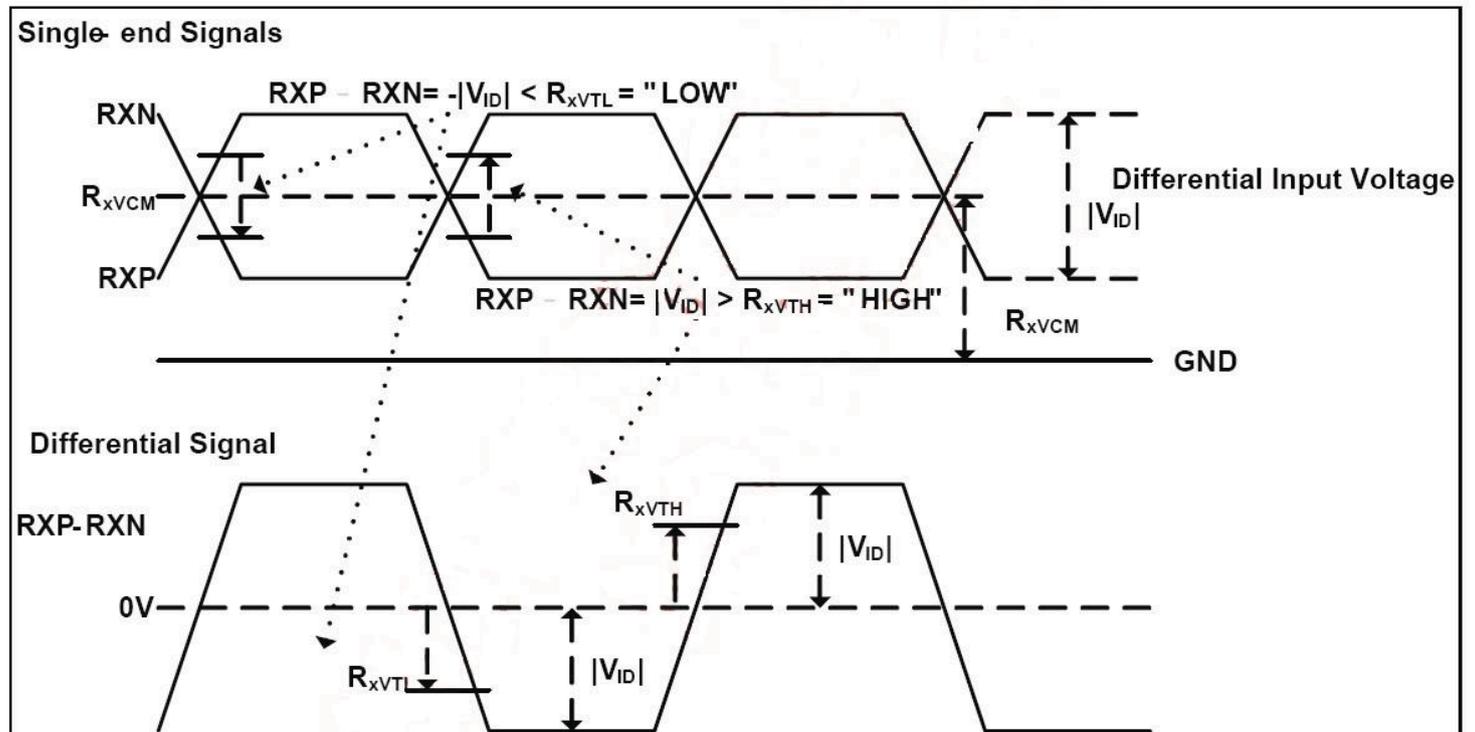| Symbol	Min	Typ	Max	Unit	Note
A	–	150	–	mV	
B	–	150	–	mV	
C	–	0	–	mV	
D	–	-150	–	mV	
E	–	-150	–	mV	
F	–	0	–	mV	

Notes: 1. Time F to A,B to C,C to D,E to F is 150p second.
   2. LVDS clock=85Mhz.
   3. The time A to B=1T-2*TRSKM-2*150ps.

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4.6 LVDS Receiver Differential Input

< Table 7-1. LVDS Receiver Differential Input>

Symbol	Parameter	Min	Typ	Max	Unit	Condition
R_{xVTH}	Differential input high threshold voltage	+0.1			V	RxVCM =1.2V
R_{xVTL}	Differential input low threshold voltage			-0.1	V	
R_{XVIN}	Input voltage range (singled-end)	0		2.4	V	
R_{xVCM}	Differential input common mode voltage	$\|V_{ID}\|/2$		$2.4-\|V_{ID}\|/2$	V	
$\|V_{ID}\|$	Differential input voltage	0.1		0.6	V	

5.0 SIGNAL TIMING SPECIFICATION

5.1 Timing Parameters (DE only mode)

< Table 8. Timing Table >

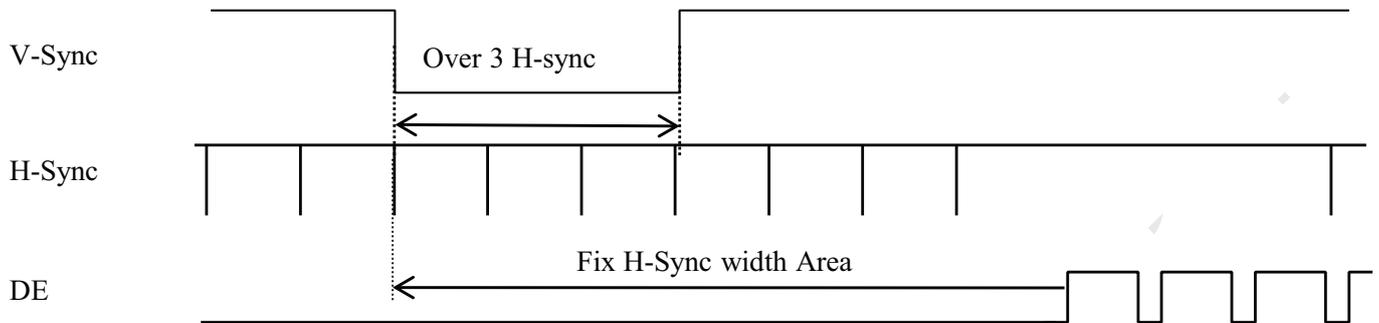| Item		Symbols		Min	Typ	Max	Unit
Clock	Frequency	1/Tc		60	74.25	78	MHz
	High Time	Tch		-	4/7Tc	-	
	Low Time	Tcl		-	3/7Tc	-	
Frame Period		Tv		1100	1125	1149	lines
				48.5	60	63	Hz
Horizontal Active Display Term	Valid	t_{HV}		-	960	-	t_{CLK}
	Total	t_{HP}		1060	1100	1200	t_{CLK}
Vertical Active Display Term	Valid	t_{VV}		-	1080	-	t_{HP}
	Total	t		1100	1125	1149	t_{HP}

Notes: This product is DE only mode. The input of Hsync & Vsync signal does not have an effect on normal operation.

< Table 9. LVDS Input SSCG>

Symbol	Parameter	Condition	Min	Typ	Max	Unit
F	LVDS Input frequency	-	60	74.25	78	MHz
T_{LVSK}	LVDS channel to channel skew	F=100MHz V_{IC}=1.2V V_{ID}=±400mV	-380	-	+380	ps
F_{LVMOD}	Modulating frequency of input clock during SSC		60	-	85	KHz
F_{LVDEV}	Maximum deviation of input clock frequency during SSC		-3	-	+3	%
T_{CY-CY}	Cycle to Cycle jitter		-	-	100	ps

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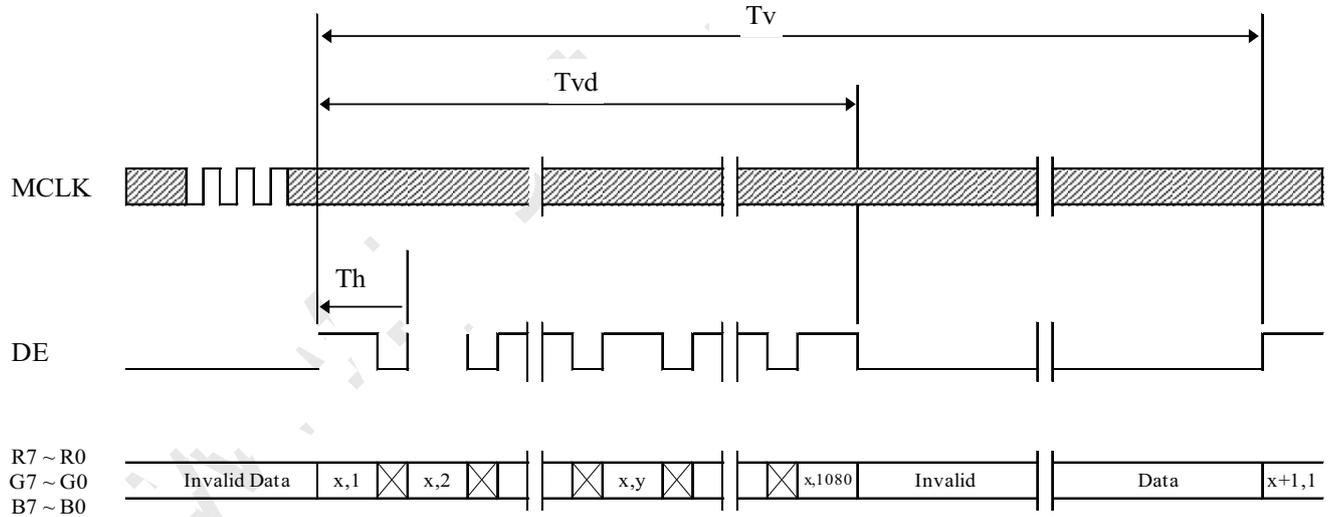
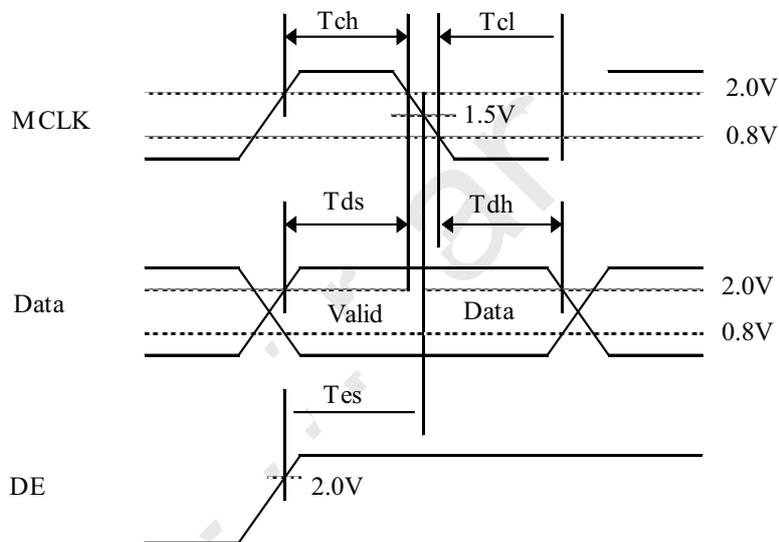## 5.2 Signal Timing Waveform

5.2.1 Sync Timing Waveforms

1) Need over 3 H-sync during V-Sync Low

2) Fix H-Sync width from V-Sync falling edge to first rising edge

5.2.2 Vertical Timing Waveforms

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5.2.3 Horizontal Timing Waveforms

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5.3 Input Signals, Basic Display Colors and Gray Scale of Colors

< Table 10. Input Signal and Display Color Table >

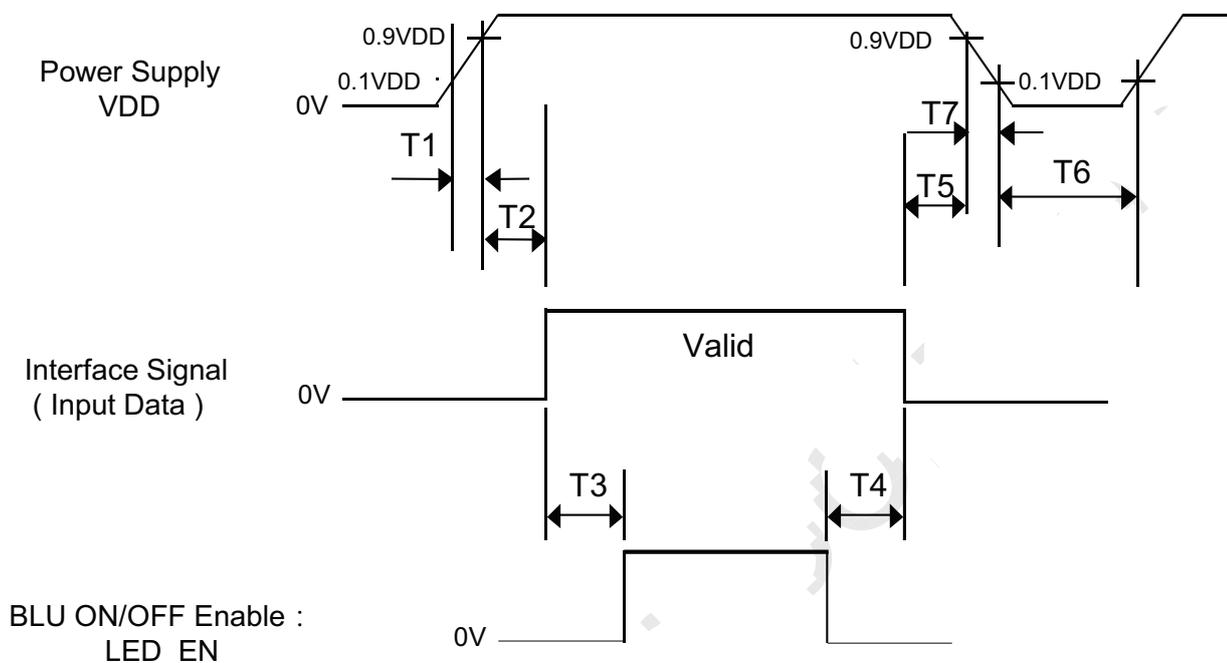| Color & Gray Scale		Red Data R7 R6 R5 R4 R3 R2 R1 R0	Green Data G7 G6 G5 G4 G3 G2 G1 G0	Blue Data B7 B6 B5 B4 B3 B2 B1 B0
Basic Colors	Black	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
	Blue	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	1 1 1 1 1 1 1 1
	Green	0 0 0 0 0 0 0 0	1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0
	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

5.4 Power Sequence

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

Power Supply VDD

0.9VDD
0.1VDD
0V
T1
T2
0.9VDD
0.1VDD
T7
T5
T6

Interface Signal (Input Data)

0V
Valid
T3
T4

BLU ON/OFF Enable : LED_EN

0V

< Table 11. Sequence Table >

Parameter	Values			Units
	Min	**Typ**	**Max**	
T1	0.5	-	20	ms
T2	10	-	100	ms
T3	200	-	-	ms
T4	200	-	-	ms
T5	0	-	-	ms
T6	1	-	-	s

Notes: 1. Back Light must be turn on after power for logic and interface signal are valid.

2. Even though T1 is out of SPEC, it is still ok if the inrush current of VDD is below the limit.

3. When VDD<0.9VDD(Typ.),Power off.

4. T7 decreases smoothly, if there were rebounding voltage, it must smaller than 5 volts.

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6.0 OPTICAL SPECIFICATIONS

The test of optical specifications shall be measured in a dark room (ambient luminance 1 lux and temperature=25 2℃) with the equipment of Luminance meter system (Goniometer system and PR730) and test unit shall be located at an approximate distance 180cm from the LCD surface at a viewing angle of θ and Φ equal to 0 . We refer to $\theta_{\varnothing=0}$ (=θ_3) as the 3 o'clock direction (the "right"), $\theta_{\varnothing=90}$ (= θ_{12}) as the 12 o'clock direction ("upward"), $\theta_{\varnothing=180}$ (= θ_9) as the 9 o'clock direction ("left") and $\theta_{\varnothing=270}$(= θ_6) as the 6 o'clock direction ("bottom"). While scanning θ and/or Ø, the center of the measuring spot on the Display surface shall stay fixed. The measurement shall be executed after 30 minutes warm-up period. VDD shall be 12.0V at 25 C. Optimum viewing angle direction is 6 'clock.

< Table 12. Optical Table >

[VDD = 12.0V, Frame rate = 60Hz, Ta =25±2 ℃]

Parameter		Symbol	Condition	Min	Typ	Max	Unit	Remark
Viewing Angle	Horizontal	Θ_3	CR > 10	80	89	-	Deg.	Note 1
		Θ_9		80	89	-	Deg.	
	Vertical	Θ_{12}		80	89	-	Deg.	
		Θ_6		80	89	-	Deg.	
Brightness		Lv		900	1000	-	nit	
Contrast ratio		CR		700:1	1000:1	-		Note 2
White luminance uniformity		ΔY		80	85	-	%	Note 3
Reproduction of color	White	W_x	Θ = 0 (Center) Normal Viewing Angle	TYP. - 0.05	0.299	TYP. + 0.05		Note 4
		W_y			0.315			
	Red	R_x			0.649			
		R_y			0.339			
	Green	G_x			0.306			
		G_y			0.613			
	Blue	B_x			0.149			
		B_y			0.062			
Color Gamut (NTSC)				68	72	-	%	
Response Time	G to G	T_g		-	14	20	ms	Note 5

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Note :

1. Viewing angle is the angle at which the contrast ratio is greater than 10. The viewing are dete rmined for the horizontal or 3, 9 o'clock direction and the vertical or 6, 12 o'clock direction wit h respect to the optical axis which is normal to the LCD surface.

2. Contrast measurements shall be made at viewing angle of = 0 and at the center of the L CD surface. Luminance shall be measured with all pixels in the view field set first to white, th en to the dark (black) state. (See Figure 1 shown in Appendix) Luminance Contrast Ratio (C R) is defined mathematically.

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

3. The White luminance uniformity on LCD surface is then expressed as :
ΔY = (Minimum Luminance of 9 points / Maximum Luminance of 9 points) * 100
(See Figure 5 shown in Appendix).

4. The color chromaticity coordinates specified in Table 9.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. The BLU is used by BOE.

5. Response time Tg is the average time required for display transition by switching the input signal as below table and is based on Frame rate fV =60Hz to optimize.
Each time in below table is defined as Figure 2 and shall be measured by switching the signa l for "any level of gray(bright)"and "any level of gray(dark)".

Measured Response Time		Target																
		0	15	31	47	63	79	95	111	127	143	159	175	191	207	223	239	255
Start	0																	
	15																	
	31																	
	47																	
	63																	
	79																	
	95																	
	111																	
	127																	
	143																	
	159																	
	175																	
	191																	
	207																	
	223																	
	239																	
	255																	

6. Definition of Transmittance (T%) :
Module is with white(L255) signal input

$$\text{Transmittance} = \frac{\text{Luminance of LCD Module}}{\text{Luminance of BLU}} \times 100\%$$

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7.0 MECHANICAL CHARACTERISTICS

7.1 Dimensional Requirements

Figure 3(located in Appendix) shows mechanical outlines for the model QV185FHM-N80. Other parameters are shown in Table 13.

< Table 13. Dimensional Parameters >

Parameter	Specification	Unit
Dimensional outline	430.4(H) ×254.6(V)×12.0(D)	mm
Weight	1400	g
Active area	408.96(H)*230.04(V)	mm
Pixel pitch	71(H) ×213(V)	um
Number of pixels	1920(H) ×1080(V)(1 pixel = R + G + B dots)	pixels
Back-light	Down edge side 1-LED Light bar Type	

7.2 Mounting

See FIGURE 3 & FIGURE 4. (shown in Appendix)

7.3 Anti-Glare and Polarizer Hardness.

The surface of the LCD has an anti-glare coating to minimize reflection and a coating to reduce scratching.

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8.0 RELIABILITY TEST

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

< Table 14. Reliability Test Parameters >

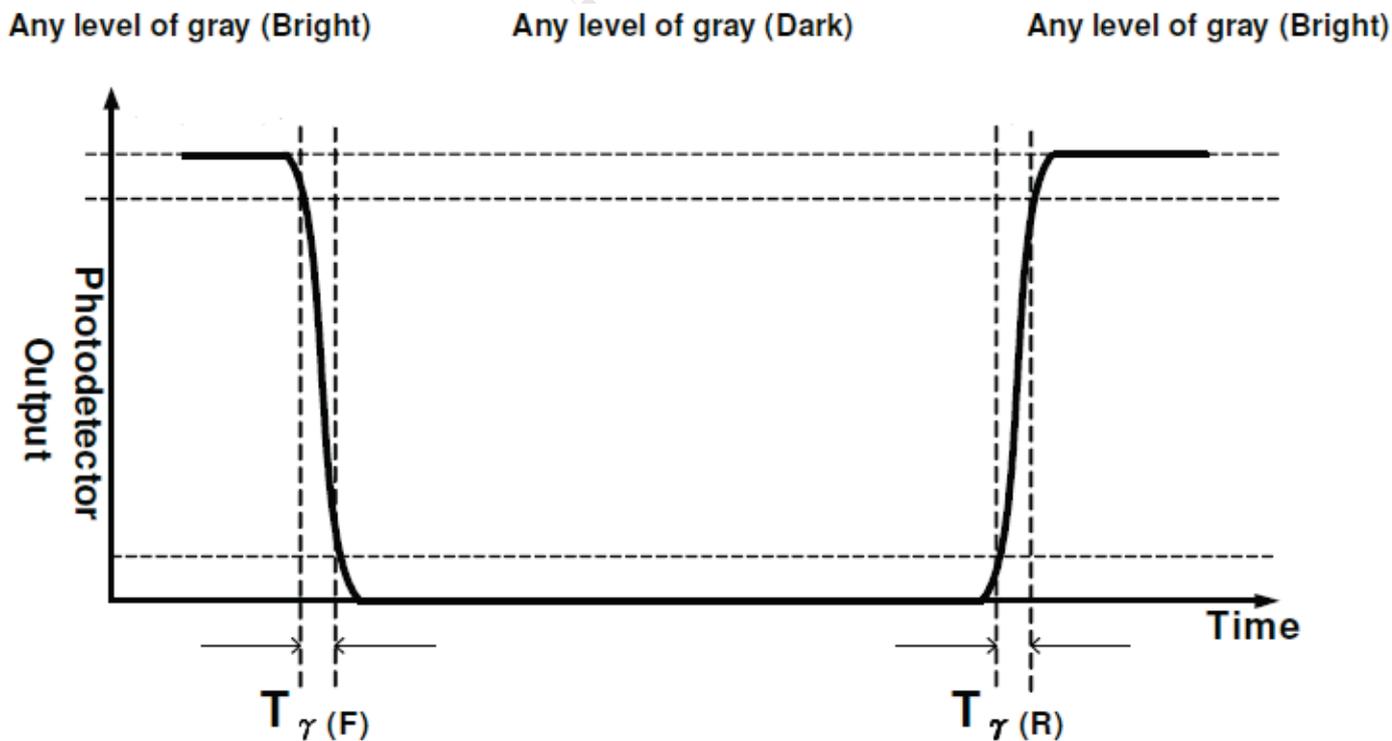| No	Test Items	Conditions
1	High temperature storage test	Ta = 70 ℃, 240 hrs
2	Low temperature storage test	Ta = -20 ℃, 240 hrs
3	High temperature & high humidity operation test	Ta = 50 ℃, 80%RH, 240hrs
4	High temperature operation test	Ta = 70 ℃, 240hrs
5	Low temperature operation test	Ta = -20 ℃, 240hrs
6	Thermal shock	Ta = -20 ℃ ↔ 60 ℃ (0.5 hr), 100 cycle

This test condition is based on BOE module.

12.0 APPENDIX

< Figure 1. Measurement Set Up >

< Figure 2. Response Time Testing >

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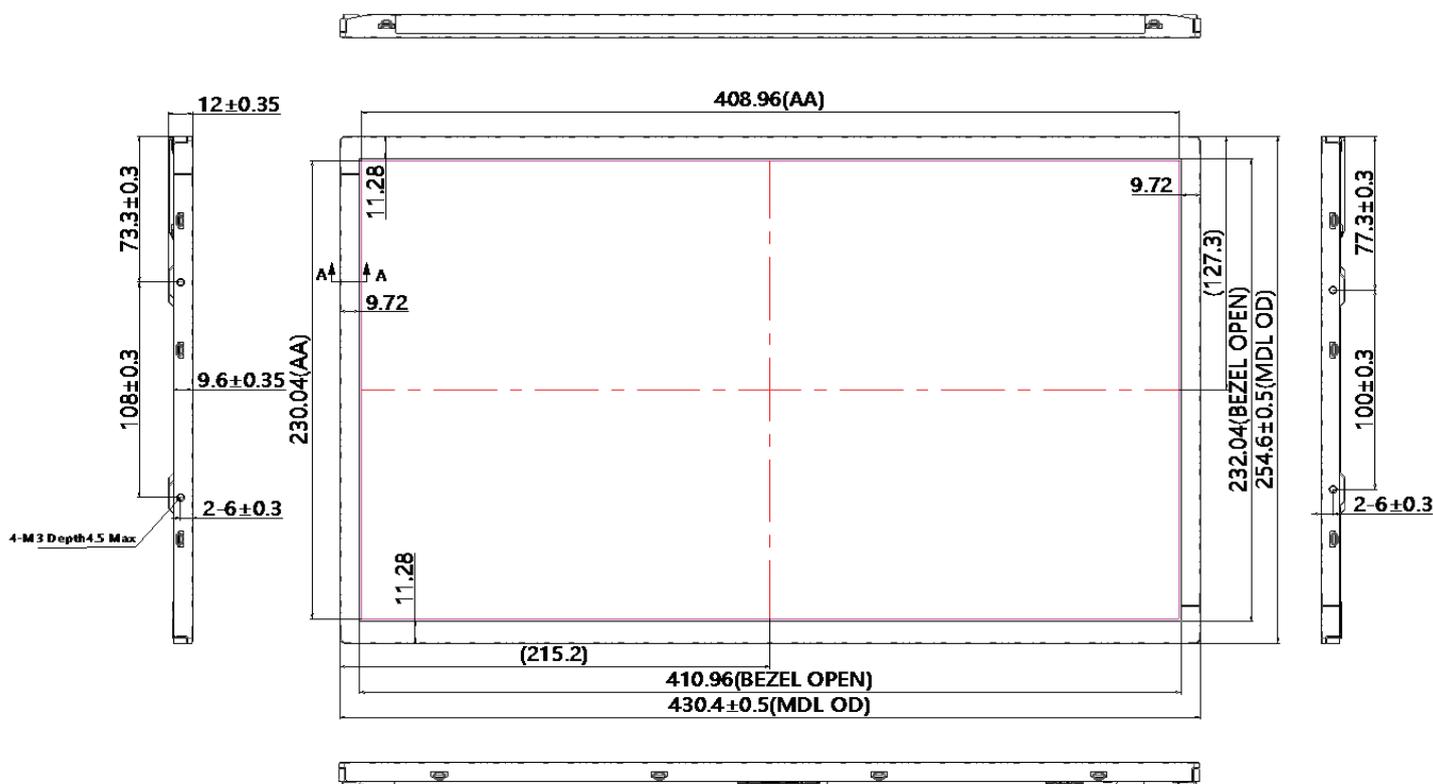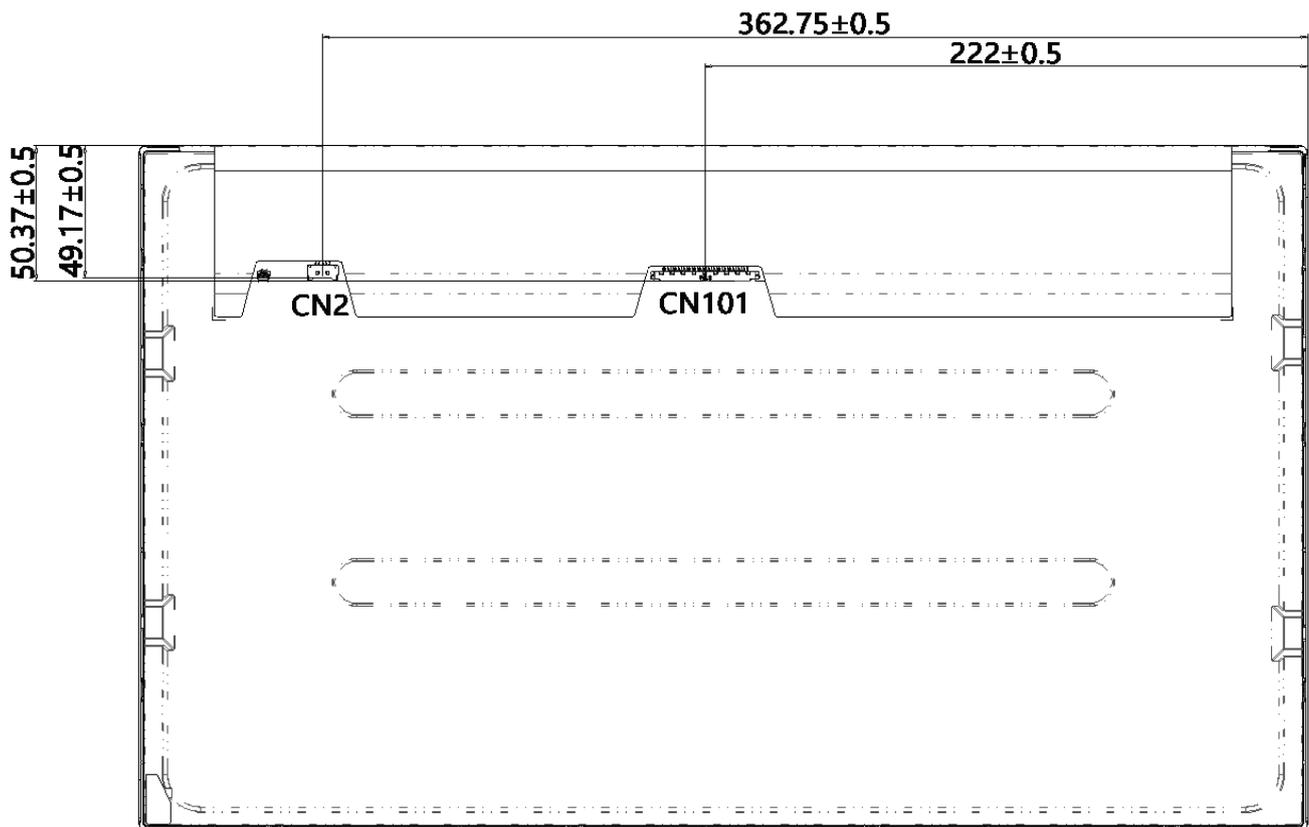< Figure 3.TFT-LCD Module Outline Dimensions (Front View) >

NOTE:
1. Torque of userhole: 3.0~4.0kgf-cm.
2. Unspecified tolerances to be ±0.5mm.
3. PCBA CNT:
   CN101 : IS100-L30R-C23
   CN2 : CI4205M2HR0-NH

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< Figure 4.TFT-LCD Module Outline Dimensions (Back View) >

362.75±0.5

222±0.5

50.37±0.5

49.17±0.5

CN2

CN101

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< Figure 5. White Luminance and Uniformity Measurement Locations >