



# XINSUN DISPLAY INTEGRATION LTD.

## Product Specification For TFT Module

Model Name	XF320FHD01A-ILNL
Customer	
Note	

☒ Preliminary Specification

☐ Final Specification

☐ CUSTOMER'S APPROVAL

BY:

DATE:

Comment

PRESENTED BY

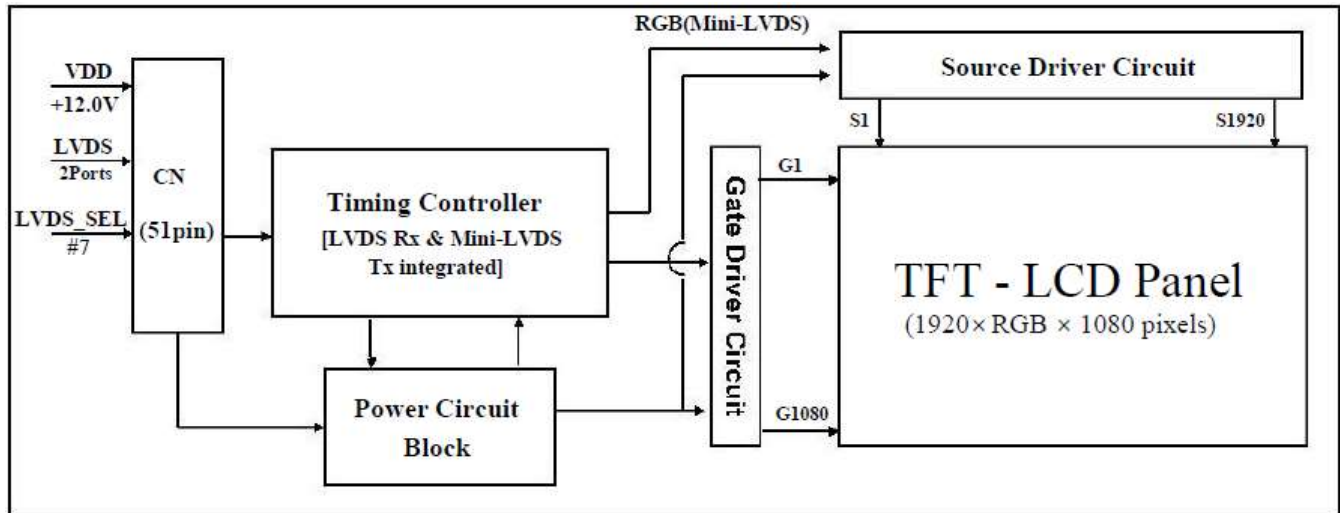
## 1.0 GENERAL DESCRIPTION

### 1.1 Introduction

XF320FHD01A-ILNL is a color active matrix TFT LCD MDL using amorphous silicon TFT's (Thin Film Transistors) as an active switching devices. This open cell has a 31.51 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 open cell can display 16.7M colors. The TFT-LCD panel used for this open cell is adapted for a low reflection and higher color type.

RGB(Mini-LVDS)

### 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
- High luminance and contrast ratio, low reflection and wide viewing angle
- DE (Data Enable) only mode
- ADSDS technology is applied for high display quality
- RoHS compliant

### 1.3 Application

- Home Alone Multimedia TFT-LCD TV
- Display Terminals for Control System
- High Definition TV(FHD TV)
- AV application Products

### 1.4 General Specification

< Table 1. General Specifications >

Parameter	Specification	Unit	Remark
Active area	698.4(H) × 392.85 (V)	mm	
Number of pixels	1920(H)×1080(V)	pixels	
Pixel pitch	121.25(H)×RGB×363.75(V)	μm	
Pixel arrangement	Pixels RGB Vertical stripe		
Display colors	16.7M(8bits-true)	colors	
Display mode	Transmission mode, Normally Black		
Open Cell Transmittance	5.0 (Typ.)	%	
Weight	4.2(Typ)	Kg	
Power Consumption	4.0	Watt	
Surface Treatment	Haze 1%		

## 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	VSS-0.3	13.2	V	Ta = 25°C
Operating Temperature	T <sub>OP</sub>	0	+50	°C	Note 1
	T <sub>SUR</sub>	0	+60	°C	
Storage Temperature	T <sub>ST</sub>	-20	+60	°C	
Operating Ambient Humidity	H <sub>OP</sub>	10	80	%RH	
Storage Humidity	H <sub>ST</sub>	10	80	%RH	

Note 1 : Temperature and relative humidity range are shown in the figure below.

Wet bulb temperature should be 39 °C max. and no condensation of water.

### 3.0 OPTICAL SPECIFICATIONS

The test of optical specifications shall be measured in a dark room (ambient luminance $\leq$ 1 lux and temperature $=25\pm 2^{\circ}\text{C}$ ) with the equipment of Luminance meter system (Goniometer system and PR730) and test unit shall be located at an approximate distance 50cm from the LCD surface at a viewing angle of  $\theta$  and  $\Phi$  equal to  $0^{\circ}$ . We refer to  $\theta_{\theta=0}(=\theta_3)$  as the 3 o'clock direction (the "right"),  $\theta_{\theta=90}(=\theta_{12})$  as the 12 o'clock direction ("upward"),  $\theta_{\theta=180}(=\theta_9)$  as the 9 o'clock direction ("left") and  $\theta_{\theta=270}(=\theta_6)$  as the 6 o'clock direction ("bottom"). While scanning  $\theta$  and/or  $\Phi$ , 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  $\pm$ 10% at  $25^{\circ}\text{C}$ . Optimum viewing angle direction is 6 o'clock.

< Table 8. Optical Table >

[VDD = 12.0V, Frame rate = 60Hz, Ta =  $25\pm 2^{\circ}\text{C}$ ]

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit	Remark
Luminance	Central Luminance	Lwc	Center	300	350		nit	
	Uniformity	△ Lw	Min/Max	75			%	
Viewing angle	Horizontal	Θ3	CR > 10		89		Deg.	Note 1
		Θ9			89	-	Deg.	
	Vertical	Θ12			89		Deg.	
		Θ6			89		Deg.	
Contrast ratio		CR	(Center ) Normal Viewing Angel	900:1	1200:1	-	-	Note 2
Response time	Gray to Gray	TGtG_AVE			8	10	ms	Note 4
Chromaticity of white		x		TYP.-0.03	0.269	TYP.+0.03	-	Note 3(with BOE BLU)
		y			0.271		-	
Chromaticity of red		x			0.620		-	
		y			0.346		-	
Chromaticity of green		x			0.318		-	
		y			0.634		-	
Chromaticity of blue		x			0.154		-	
		y			0.037		-	
Center Transmittance		T%			-	5.0	-	%

TFT-LCD Module Outline Dimensions(Front View)

