



Product Specification For TFT Module

Model Name	XF238FHD02A-ILHL
Customer	
Note	

- ☒Preliminary Specification
- ☐Final Specification

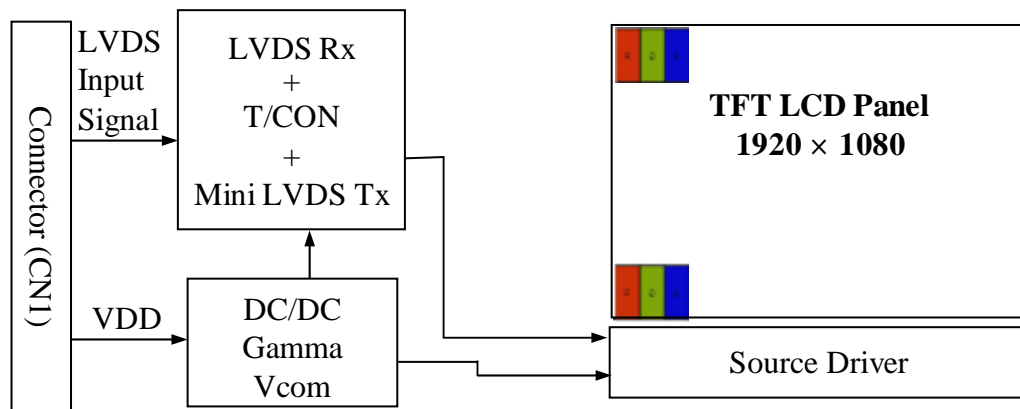
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## 1.0 GENERAL DESCRIPTION

### 1.1 Introduction

This module is a color active matrix TFT LCD open cell using amorphous silicon TFT's (Thin Film Transistors) as an active switching devices. This open cell has a 23.6 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.



### 1.2 Features

- LVDS Interface with 2 pixel / clock
- High-speed response
- 6-bit (Hi-FRC) color depth, display 16. 7M colors
- Incorporated edge type back-light (LED)
- High luminance and contrast ratio, low reflection and wide viewing angle
- DE (Data Enable) only
- RoHS/Halogen Free
- TCO 6.0 , ES 6.0 compliant
- Gamma Correction
- Reverse type



## 1.3 Application

- Desktop Type of PC & Workstation Use
- Slim-Size Display for Stand-alone Monitor
- Display Terminals for Control System
- Monitors for Process Controller

## 1.4 General Specification

The followings are general specifications at the model XF238FHD02A-ILHL.

<Table 1. General Specifications>

Parameter	Specification	Unit	Remarks
Active area	521.28(H) x293.22(V)	mm	
Number of pixels	1920(H) × 1080(V)	pixels	
Pixel pitch	0.2715(H) x 0.2715(V)	mm	
Pixel arrangement	RGB Vertical stripe		
Display colors	16.7M	colors	
Display mode	Normally Black		
Open Cell Transmittance	5.3	%	
Weight (typ)	TBD	gram	
Power Consumption	(@ Mosaic Pattern)	Watt	
Surface Treatment	Haze 25%, 3H		

## 2.0 OPTICAL SPECIFICATION

### 2.1 Overview

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 TOPCON BM-7) 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 5.0V  $\pm 10\%$  at  $25^\circ\text{C}$ . Optimum viewing angle direction is 6 o'clock.

### 2.2 Optical Specifications

[VDD = 5.0V, Frame rate = 60Hz, Clock = 74.25MHz,  $T_a = 25 \pm 2^\circ\text{C}$ ]

< Table 4. Module Optical >

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit	Remark
Viewing Angle range	Horizontal	$\Theta_3$	CR > 10	80	89	-	Deg.	Note 1
		$\Theta_9$		80	89	-	Deg.	
	Vertical	$\Theta_{12}$		80	89	-	Deg.	
		$\Theta_6$		80	89	-	Deg.	
Luminance Contrast ratio		CR		700	1000			Note 2
Transmittance		Tr		5.0	5.3	-		
Luminance of White		$Y_w$	$\Theta = 0^\circ$ (Center) Normal Viewing Angle		700		cd/m <sup>2</sup>	Note 3
White luminance uniformity		$\Delta Y$		70-		%		Note 4
Reproduction of color	White	$W_x$		-0.03	0.313 0.329 0.641 0.334 0.318 0.639 0.154 0.066	+0.03	-	Note 5
		$W_y$					-	
	Red	$R_x$					-	
		$R_y$					-	
	Green	$G_x$					-	
		$G_y$					-	
	Blue	$B_x$					-	
		$B_y$					-	
Response Time	GTG	$T_g$			14	20	ms	Note 6
Cross Talk		CT		-	-	2.0	%	Note 8

## 3.0 Mechanical Drawing

