



XINSUN DISPLAY INTEGRATION LTD.

Ver.00

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Product Specification For TFT Module

| | |
|------------|-----------------|
| Model Name | XF215FHD03A-ILL |
| Customer | |
| Note | |

☒ Preliminary Specification

☐ Final Specification

☐ CUSTOMER'S APPROVAL

BY:

DATE:

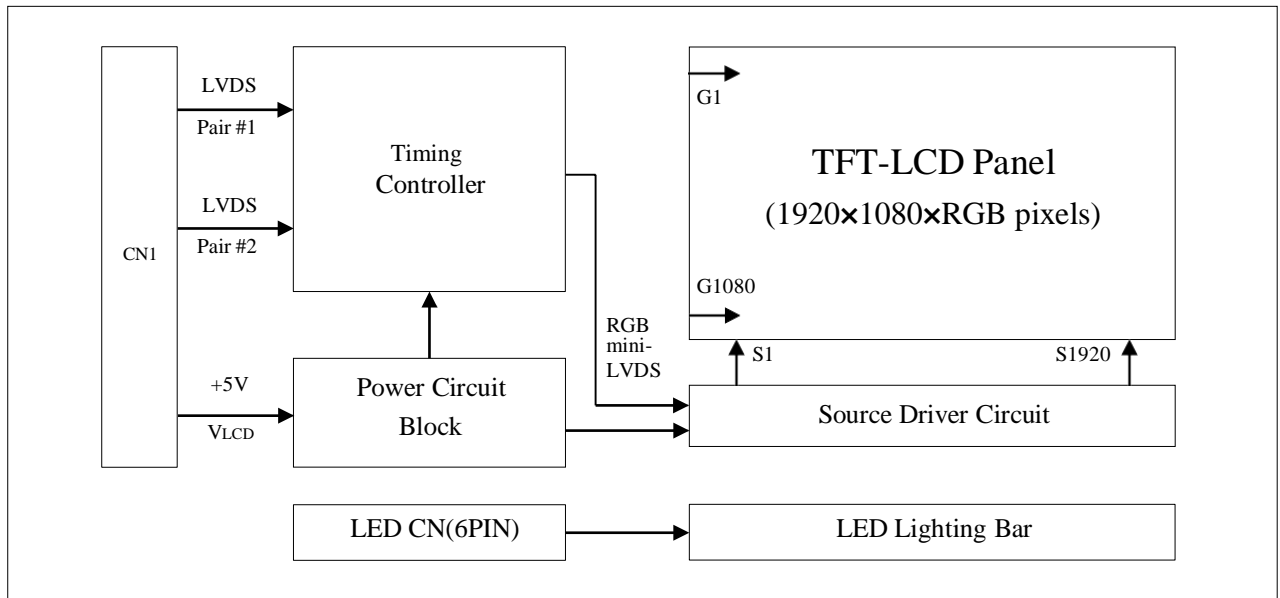
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PRESENTED BY

1.0 GENERAL DESCRIPTION

1.1 Introduction

XF215FHD03A-ILL 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 21.5 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 panel used for this module 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
- High luminance and contrast ratio, low reflection and wide viewing angle
- DE (Data Enable) only
- RoHS/Halogen Free
- TCO 8.0, ES 8.0 compliant,
- TUV low blue light panel
- Gamma Correction
- Reverse type
- Low blue light panel

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 Specifications

The followings are general specifications at the model XF215FHD03A-ILL.

< Table 1. General Specifications >

| Parameter | Specification | Unit | Remarks |
|----------------------|---|--------|-------------------------|
| Active area | 476.064(H) × 267.786(V) | mm | |
| Number of pixels | 1920(H) × 1080(V) | pixels | |
| Pixel pitch | 0.24795(H) × 0.24795(V) | mm | |
| Pixel arrangement | RGB Vertical stripe | | |
| Display colors | 16.7M | colors | |
| Display mode | Normally Black | | |
| Dimensional outline | 484.464(H) x 284.486(V) x 11(D) typ. | mm | Detail refer to drawing |
| Weight | 1800(Typ.) | g | |
| Surface Treatment | Haze 25%, 3H | | |
| Back-light | Down edge side 1-LED light bar type | | |
| Low Blue Light panel | The ratio of light in the range from 415nm~455nm compared to 400nm~500nm shall be less than 50% | | |

4.0 OPTICAL SPECIFICATION

4.1 Overview

The test of Optical specifications shall be measured in a dark room (ambient luminance ≤ 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 θ and Φ equal to 0° . We refer to $\theta_{\Phi=0} (= \theta_3)$ as the 3 o'clock direction (the "right"), $\theta_{\Phi=90} (= \theta_{12})$ as the 12 o'clock direction ("upward"), $\theta_{\Phi=180} (= \theta_9)$ as the 9 o'clock direction ("left") and $\theta_{\Phi=270} (= \theta_6)$ as the 6 o'clock direction ("bottom"). While scanning θ and/or Φ , 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 +/-10% at 25°C . Optimum viewing angle direction is 6 'clock.

4.2 Optical Specifications

< Table 5. Optical Specifications >

[VDD = 5.0V, Frame rate = 60Hz, Clock = 74MHz, $I_{BL} = 180\text{mA}$, $T_a = 25 \pm 2^\circ\text{C}$]

| Parameter | | | Symbol | Condition | Min. | Typ. | Max. | Unit | Remark |
|----------------------------|------------|---------------|------------|--|-------|-------|------|-------------------|--------|
| Viewing Angle range | Horizontal | Θ_3 | CR > 10 | 85 | 89 | - | Deg. | Note 1 | |
| | | Θ_9 | | 85 | 89 | - | Deg. | | |
| | Vertical | Θ_{12} | | 85 | 89 | - | Deg. | | |
| | | Θ_6 | | 85 | 89 | - | Deg. | | |
| Luminance Contrast ratio | | | CR | $\Theta = 0^\circ$ (Center) Normal Viewing Angle | 700 | 1000 | | | Note 2 |
| Luminance of White | | | Y_w | | 200 | 250 | | cd/m ² | Note 3 |
| White luminance uniformity | | | ΔY | | 75 | - | | % | Note 4 |
| Reproduction of color | White | W_x | 0.283 | | 0.313 | 0.343 | - | Note 5 | |
| | | W_y | 0.299 | | 0.329 | 0.359 | - | | |
| | Red | R_x | 0.632 | | 0.662 | 0.692 | - | | |
| | | R_y | 0.304 | | 0.334 | 0.364 | - | | |
| | Green | G_x | 0.277 | | 0.307 | 0.337 | - | | |
| | | G_y | 0.592 | | 0.622 | 0.652 | - | | |
| | Blue | B_x | 0.114 | | 0.144 | 0.174 | - | | |
| | | B_y | 0.017 | | 0.047 | 0.077 | - | | |
| Color Gamut | | | | | | 95 | 99 | - | % |
| Response Time | GTG | T_g | | | 14 | 25 | ms | Note 6 | |

Figure 5. TFT-LCD Module Outline Dimensions (Front view)

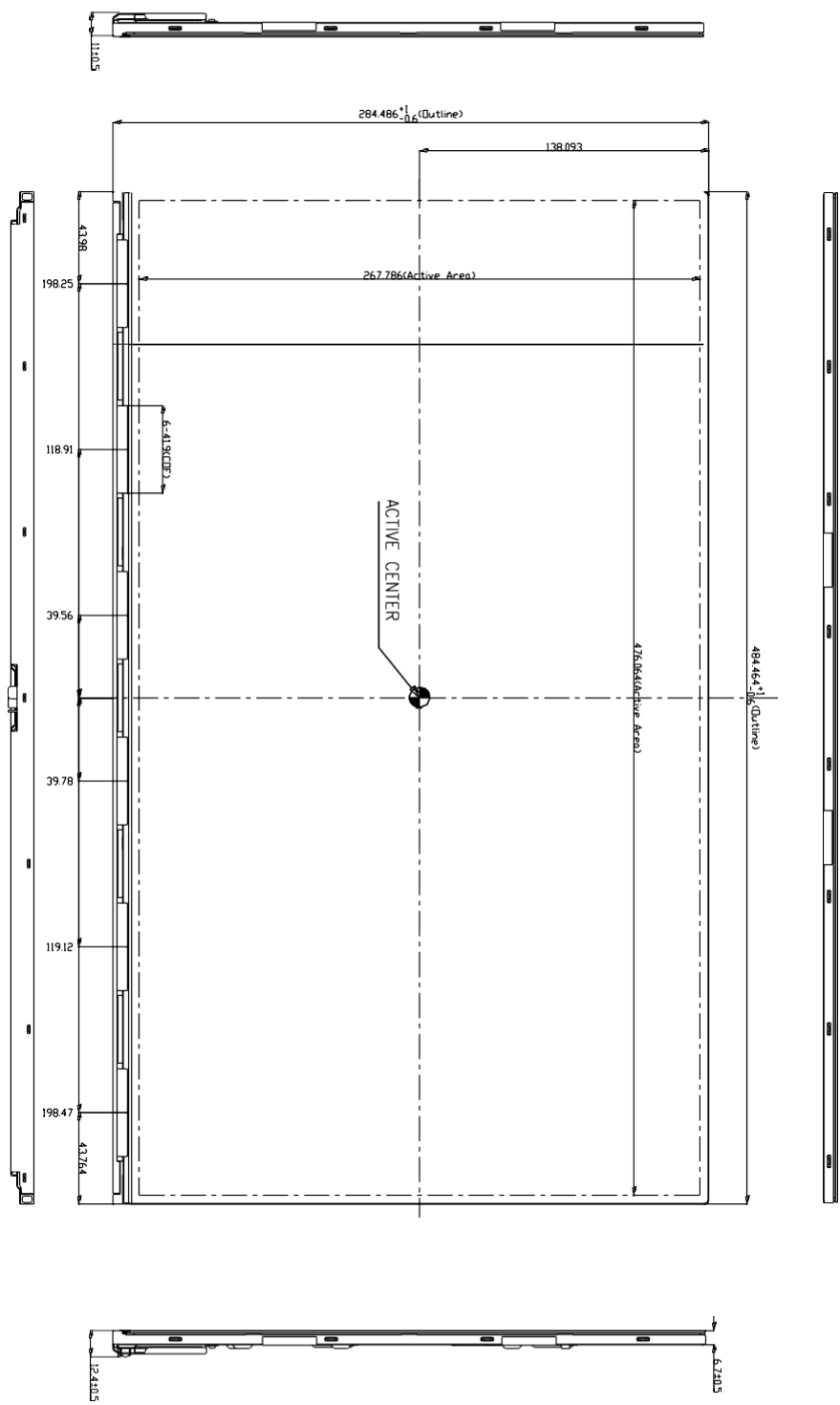


Figure 6. TFT-LCD Module Outline Dimensions (Rear view)

The drawing shows the rear view of a TFT-LCD module with various dimensions and components labeled. Key dimensions include overall width (220.95±0.3), overall height (142.243), and specific component heights (8.1, 7.8, 6.7, 8.5). A section A-A is indicated for a detail view of the bottom edge.

NOTE:

1. I/F CONNECTOR SPECIFICATION
IS100-L300-C23(UJU) or EQUIVALENT
CONNECTOR SPECIFICATION
2. LED BM06B-SHJS-TB(JST) or 10035WS-H06D(YEONHO)
or EQUIVALENT
3. USER MOUNTING TORQUE SPEC : 3 ~ 4 kgf-cm
Tilt and portial disposition tolerance of display area as following
Measuring Tool:Feeler Gauge or Vernier Caliper

4.The CDF area is weak &sensitive, so please don't press the CDF Area

1. I/F CONNECTOR SPECIFICATION
IS100-L300-C23(UJU) or EQUIVALENT
CONNECTOR SPECIFICATION

3. USER MOUNTING TORQUE SPEC : 3 ~ 4 kgf-cm

M3x0.5 INSERT
DEPTH=MAX 1.7

7
9.6
1.7
MAX 2.5

SECTION A-A (S2/I)
(15 PCS)

4.The COF area is weak &sensive, so please don't press the COF Area