Winstar Display Co., LTD
華凌光電股份有限公司
WEB: https://www.winstar.com.tw E-mail: sales@winstar.com.tw

SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF101-1024600JPL#0SP0-FC

APPROVED BY: **(FOR CUSTOMER USE ONLY)**	**PCB VERSION:** **DATA:**

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
first FC components			周园园
ISSUED DATE: 2022/04/13			

General Specifications

Item	Dimension	Unit
Size	10.1	inch
Dot Matrix	1024 RGB X 600	dots
Module dimension	235(W) x143(H) x 18.2(max)	mm
Active area	222.72 (H) x 125.28(V)	mm
Pixel pitch	0.2175(W) x 0.2088(H)	mm
LCD type	TFT, Normally Black, Transmissive	
Interface	LVDS	
Driver IC	EK79001HN + EK73215BCGA or equivalent	
Viewing Angle	85/85/85/85	
Aspect Ratio	16:9	
Backlight Type	LED,Normally White	
With /Without TP	Without TP	
Surface	Anti-Glare	

*Color tone slight changed by temperature and driving voltage.

first FC components

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-20	—	+70	℃
Storage Temperature	TST	-30	—	+80	℃

Note: Device is subject to be damaged permanently if stresses beyond those absolute maximum ratings listed above

1. Temp. ≦60℃, 90% RH MAX. Temp.＞60℃, Absolute humidity shall be less than 90% RH at 60℃

Electrical Characteristics

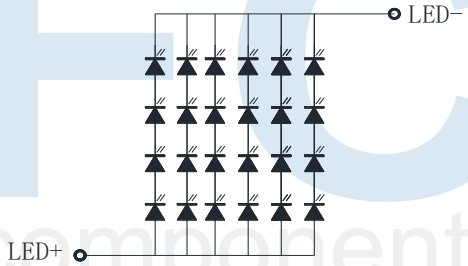
Typical Operation Conditions (At Ta = 25 °C)

Item	Symbol	Min	Typ	Max	Unit	Note
Supply Voltage For LCM +12V	DC12V	—	12.0	—	V	-
Supply Current For LCM +12V	I_{DC12V}	—	635	950	mA	-

Backlight Driving Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Backlight Enable(VLED_EN)	High Level	1.4	3.3	—	V	Note 5
	Low Level	—	—	0.8	V	Note 6
PWM Control Level (LED_PWM)	High Level	—	3.3	—	V	
	Low Level	—	0	—	V	
PWM Control Duty Ratio	-	1	—	100	%	
PWM Control Frequency	-	—	10K	—	Hz	
LED Life Time	-	50,000	—	—	Hr	Note 2,3,4

Note 1 : There are 1 Groups LED



CIRCUIT DIAGRAM

Note 2 : Ta = 25 ℃

Note 3 : Brightness to be decreased to 50% of the initial value

Note 4 : The single LED lamp case

Note 5 : Turn ON the backlight when BL_ON=High, Turn OFF when BL_ON=Low

Note 6 : PWM_BL Control from low active.

Note 7 : Due to exactly current only 168ma, need to decrease the current to avoid the IC hot issue.

Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr	θ=0°、Φ=0°	-	10	20	.ms	Note 3
		Tf		-	20	25	.ms	
Contrast ratio		CR	At optimized viewing angle	600	800	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.252	0.302	0.352	-	Note 2,6,7
		Wy		0.274	0.324	0.374	-	
Viewing angle	Hor.	ΘR	CR≧10	80	85	-	Deg.	Note 1
		ΘL		80	85	-		
	Ver.	ΦT		80	85	-		
		ΦB		80	85	-		
Brightness		-	-	1000	1100	-	cd/m²	Center of display
Uniformity		(U)	-	70	-	-	%	Note 5

Ta=25±2℃

Note 1: Definition of viewing angle range

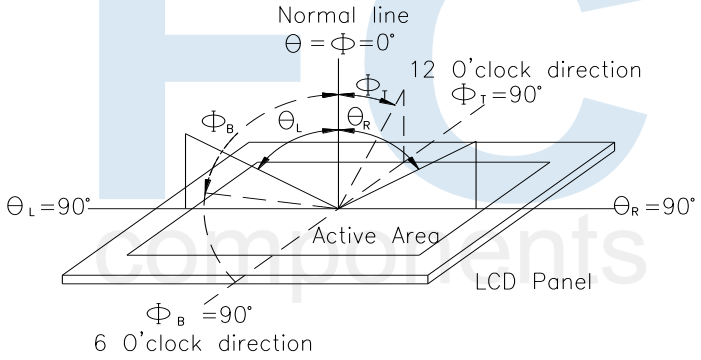


Fig. 7.1. Definition of viewing angle

Note 2: Test equipment setup:

After stabilizing and leaving the panel alone at a driven temperature for 10 minutes, the measurement should be executed. Measurement should be executed in a stable, windless, and dark room. Optical specifications are measured by Topcon BM-7 or BM-5 luminance meter 1.0° field of view at a distance of 50cm and normal direction.

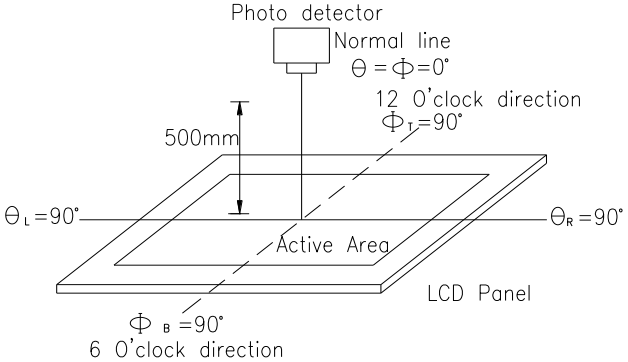


Fig. 7.2. Optical measurement system setup

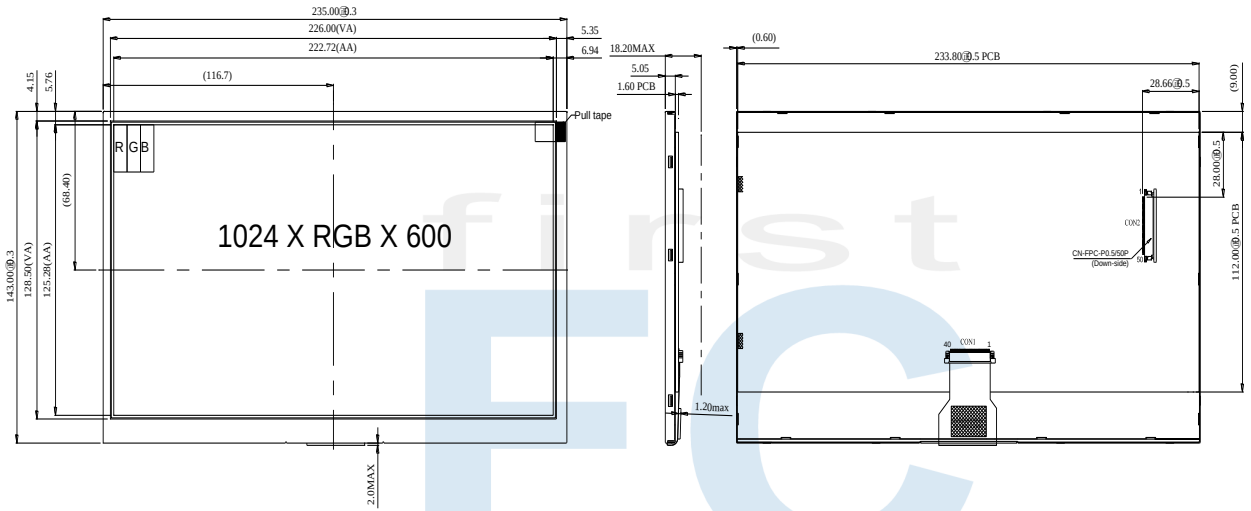
Interface

TFT LCD MODULE

Pin No.	Symbol	Description
1-3	DC12V	Digital power
4	NC	No connection
5-7	GND	Digital ground
8	Rxin0-	Negative LVDS differential data inputs
9	Rxin0+	Positive LVDS differential data inputs
10	GND	Digital ground
11	Rxin1-	Negative LVDS differential data inputs
12	Rxin1+	Positive LVDS differential data inputs
13	GND	Digital ground
14	Rxin2-	Negative LVDS differential data inputs
15	Rxin2+	Positive LVDS differential data inputs
16	GND	Digital ground
17	RxCLK-	Negative LVDS differential clock inputs
18	RxCLK+	Positive LVDS differential clock inputs
19	GND	Digital ground
20	Rxin3-	Negative LVDS differential data inputs
21	Rxin3+	Positive LVDS differential data inputs
22	GND	Digital ground
23	LED_PWM	Backlight control signal
24 -26	NC	No connection
27	GND	Digital ground
28-31	NC	No connection
32	GND	Digital ground
33-43	NC	No connection
44-46	GND	Digital ground
47	NC	No connection
48-50	DC12V	Digital power

FIRST components

Contour Drawing



CON2

PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	DC12V	26	NC
2	DC12V	27	GND
3	DC12V	28	NC
4	NC	29	NC
5	GND	30	NC
6	GND	31	NC
7	GND	32	GND
8	Rxin0-	33	NC
9	Rxin0+	34	NC
10	GND	35	NC
11	Rxin1-	36	NC
12	Rxin1+	37	NC
13	GND	38	NC
14	Rxin2-	39	NC
15	Rxin2+	40	NC
16	GND	41	NC
17	RxCLK-	42	NC
18	RxCLK+	43	NC
19	GND	44	GND
20	Rxin3-	45	GND
21	Rxin3+	46	GND
22	GND	47	NC
23	LED_PWM	48	DC12V
24	NC	49	DC12V
25	NC	50	DC12V

The non-specified tolerance of dimension is ±0.3 mm .

first components