TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

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華凌光電股份有限公司

SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF101-1280800LL#0SPW0-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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ISSUED DATE: 2024/08/06			

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Winstar Display Co., LTD 華凌光電股份有限公司	MODLE NO：
RECORDS OF REVISION	**DOC. FIRST ISSUE**

VERSION	DATE	REVISED PAGE NO.	**SUMMARY**
0	2024/08/06		First issue

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General Specifications

Item	Dimension	Unit
Screen Diagonal	10.1	inch
Number of Pixels	1280 x 3(R GB) x 800	dots
Module dimension	230.56 x 155.01 x 6.4	mm
Active area	216.96 (H) x 135.6(V)	mm
Pixel pitch	0.1695 × 0.1695	mm
Display Mode	Normally Black , Transmissive	
Viewing Angle	80/80/80/80	
Pixel Arrangement	R.G.B. Vertical Stripe	
TFT Drive IC	EK79202B1 or Equivalent	
Backlight Type	LED,Normally White	
Aspect Ratio	16:10	
TFT Interface	LVDS	
With /Without TP	Without TP	
Surface	Anti-Glare	

*Color tone slight changed by temperature and driving voltage.

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Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-30	—	+85	℃
Storage Temperature	TST	-30	—	+85	℃

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℃

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Electrical Characteristics

5.1. Typical Operation Conditions (Note 1)

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	MAX.		
Power voltage	VCC	3.0	3.3	3.5	V	
	VGH	17.5	18.0	18.5	V	Note 1
	VGL	-11.5	-10.5	-10.0	V	Note 2
	VSP	—	5.5	—	V	Note 3
	VSN	—	-5.5	—	V	Note 3

Note:
1. VGH is TFT Gate operating Voltage.
2. VGL is TFT Gate operating Voltage.
3. VSP / VSN does not require an external power supply voltage, it is provided by IC on the PCB

5.2. Current Consumption

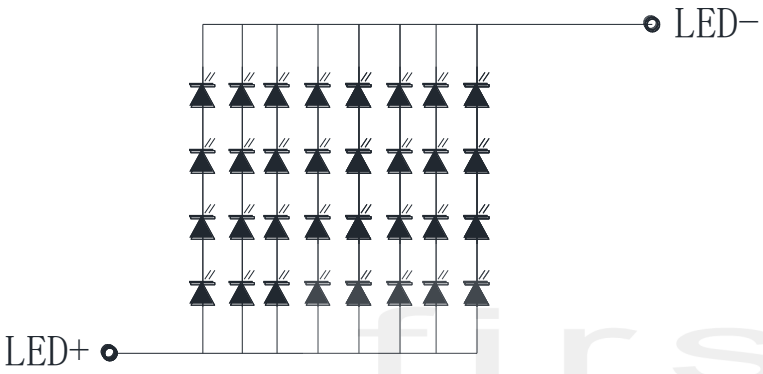
Item	Symbol	Values			Unit	Remark
		Min.	Typ.	MAX.		
Current for Driver	IGH	—	7.7	—	mA	VGH =18V
	IGL	—	7.7	—	mA	VGL = -10.5V
	IVCC	—	85	130	mA	-

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5.3. Backlight Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Supply voltage of white LED backlight	VL	10.8	12.8	13.6	V	Note 1
Current for LED backlight	IL	—	480	—	mA	
LED life time	-	50000	-	-	Hr	Note 1

Note 1 : There are 1 Groups LED



Note 2 : Ta = 25 ℃
Note 3 : Brightness to be decreased to 50% of the initial value
Note 4 : The single LED lamp case

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Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr+ Tf	θ=0°、Φ=0°	-	25	35	.ms	Note 3
Contrast ratio		CR	At optimized viewing angle	800	1000	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.272	0.322	0.372	-	Note 2,6,7
		Wy		0.294	0.344	0.394	-	
Viewing angle	Hor.	ΘR	CR≧10	70	80	-	Deg.	Note 1
		ΘL		70	80	-		
	Ver.	ΦT		70	80	-		
		ΦB		70	80	-		
Brightness		-	-	1000	1100	-	cd/m^2	Center of display
Uniformity		(U)	-	70	-	-	%	Note 5

Ta=25±2℃

Note 1: Definition of viewing angle range

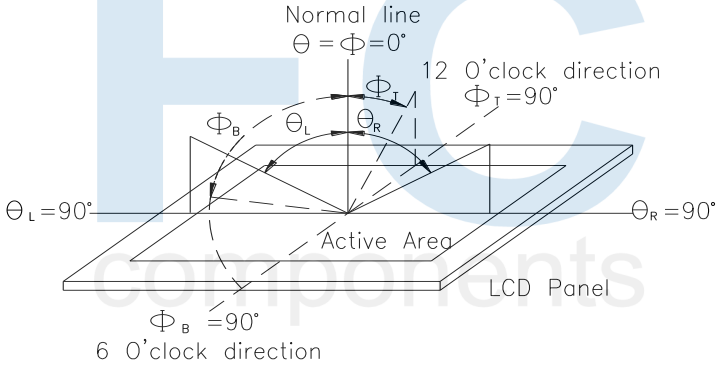


Fig. 9.1. Definition of viewing angle

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.

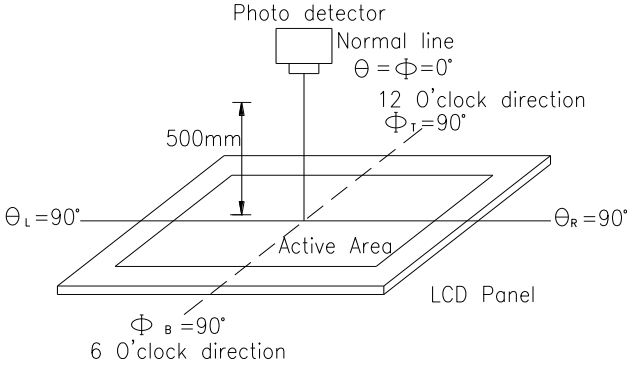


Fig. 9.2. Optical measurement system setup

Interface

10.1. Interface Connector

A 40pin connector is used for the module electronics interface. The recommended model is F62240-H1210B manufactured by Vigorconn.

Pin No.	Symbol	I/O	Function	Remark
1	NC	-	No connection	
2	VCC	P	Power Supply	
3	VCC	P	Power Supply	
4	NC	-	No connection	
5	NC	-	No connection	
6	NC	-	No connection	
7	GND	P	Ground	
8	Rxin0-	I	-LVDS Differential Data Input	R0-R5,G0
9	Rxin0+	I	+LVDS Differential Data Input	
10	GND	P	Ground	
11	Rxin1-	I	-LVDS Differential Data Input	G1G5,B0,B1
12	Rxin1+	I	+LVDS Differential Data Input	
13	GND	P	Ground	
14	Rxin2-	I	-LVDS Differential Data Input	B2-B5,HS,VS, DE
15	Rxin2+	I	+LVDS Differential Data Input	
16	GND	P	Ground	
17	RxCLK-	I	-LVDS Differential Clock Input	LVDS CLK
18	RxCLK+	I	+LVDS Differential Clock Input	
19	GND	P	Ground	
20	Rxin3-	I	-LVDS Differential Data Input	R6,R7,G6,G7, B6,B7
21	Rxin3+	I	+LVDS Differential Data Input	
22	GND	P	Ground	
23	NC	-	No connection	
24	NC	-	No connection	
25	GND	P	Ground	
26	NC	-	No connection	
27	NC	-	No connection	
28	NC	-	No connection	
29	NC	-	No connection	

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30	GND	P	Ground	
31	NC	-	No connection	
32	NC	-	No connection	
33	NC	-	No connection	
34	NC	-	No connection	
35	VGL	P	Gate OFF Voltage	
36	NC	-	No connection	
37	NC	-	No connection	
38	VGH	P	Gate ON Voltage	
39	NC	-	No connection	
40	NC	-	No connection	

I: input, O: output, P: Power

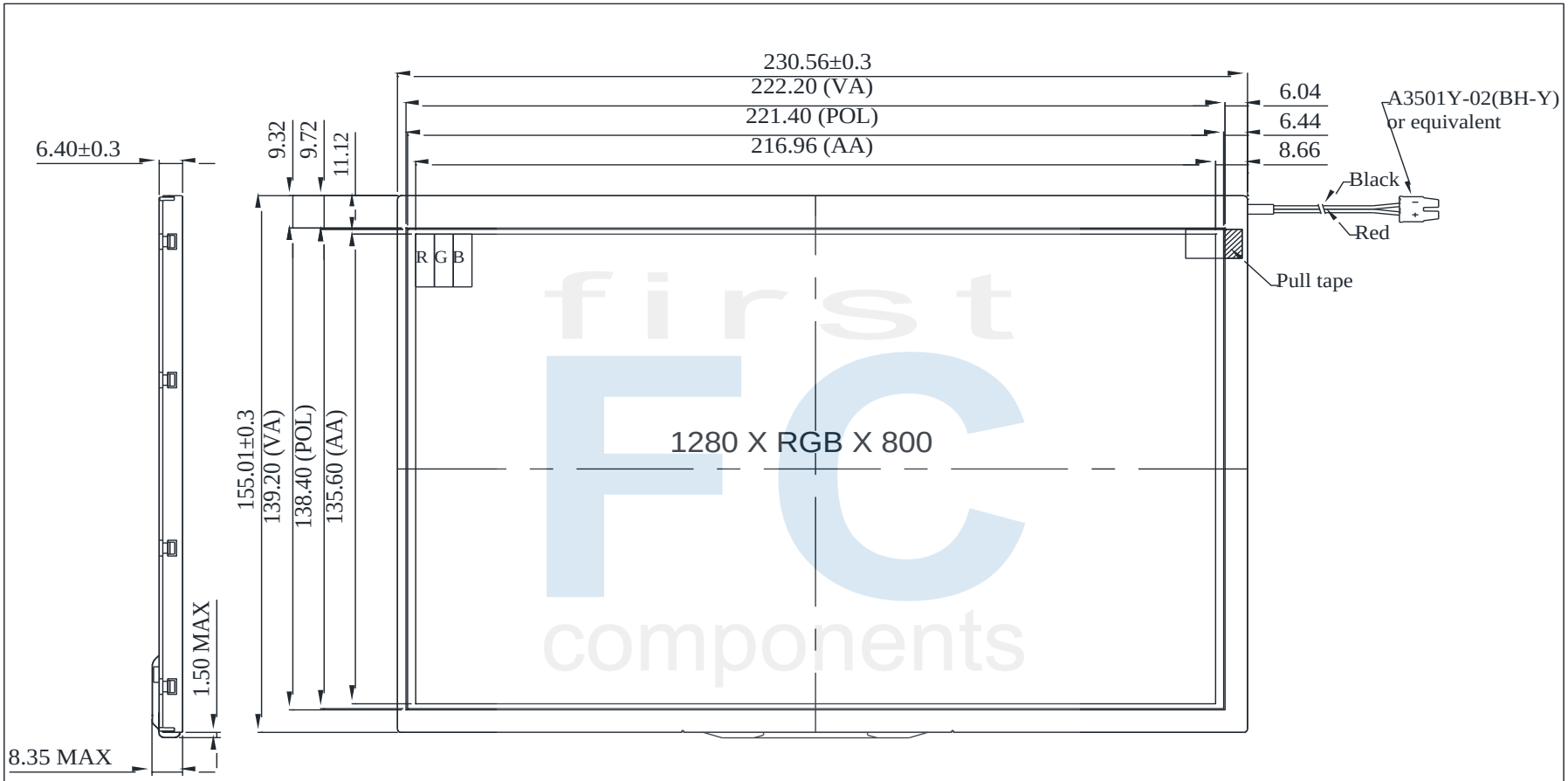
10.2. Backlight Driving Part

Pin No.	Symbol	Function
1	LED+	Red, LED_ Anode
2	LED-	Black, LED_ Cathode

Note: The backlight interface connector is a model A3501Y-02(BH-Y) or equivalent

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Contour Drawing



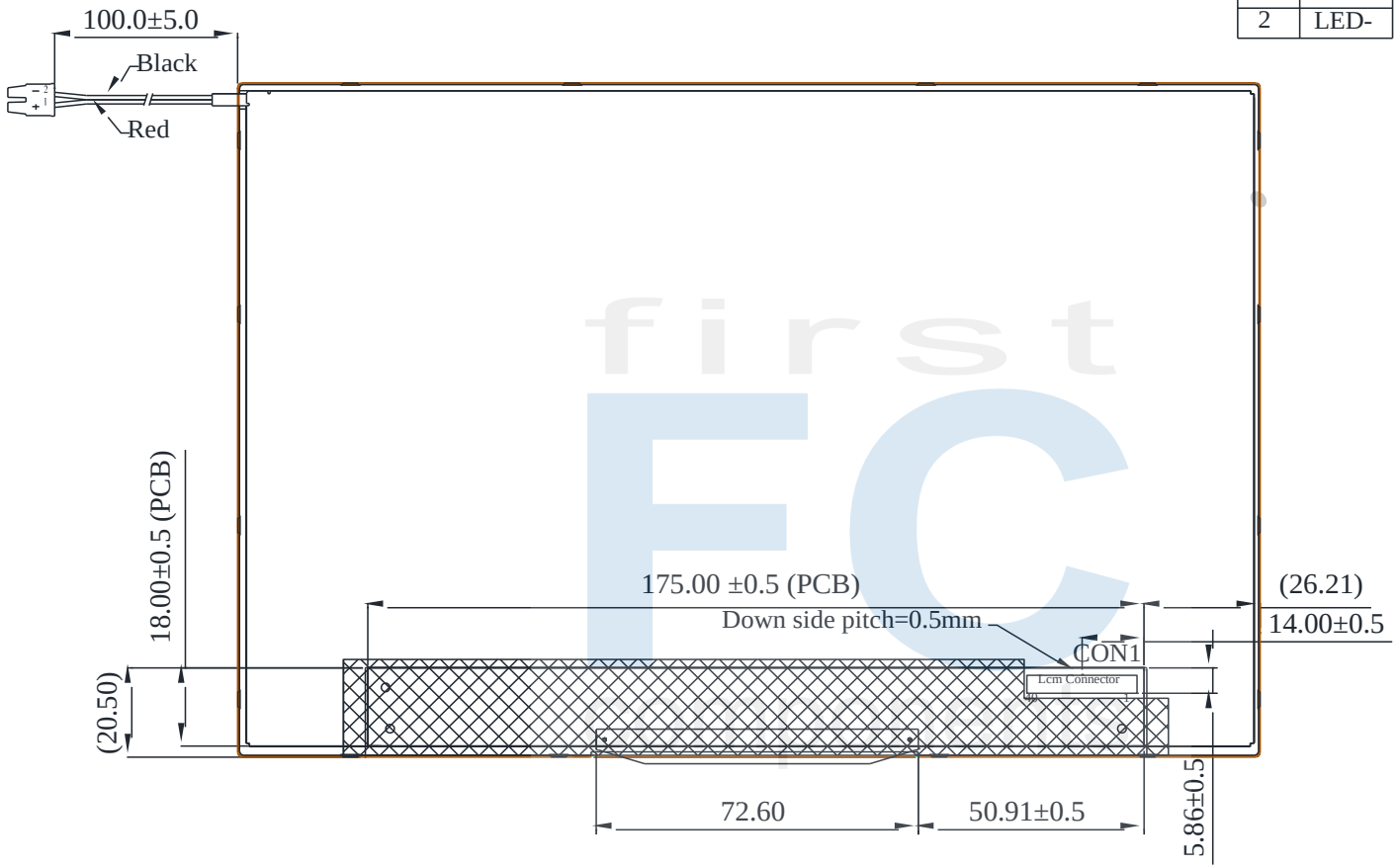
The non-specified tolerance of dimension is ±0.3 mm .

B/L

PIN NO	SYMBOL
1	LED+
2	LED-

CON1

PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	NC	21	Rxin3+
2	VCC	22	GND
3	VCC	23	NC
4	NC	24	NC
5	NC	25	GND
6	NC	26	NC
7	GND	27	NC
8	Rxin0-	28	NC
9	Rxin0+	29	NC
10	GND	30	GND
11	Rxin1-	31	NC
12	Rxin1+	32	NC
13	GND	33	NC
14	Rxin2-	34	NC
15	Rxin2+	35	VGL
16	GND	36	NC
17	RxCLK-	37	NC
18	RxCLK+	38	VGH
19	GND	39	NC
20	Rxin3-	40	NC



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