TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

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SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF0675-4801280AM#0SP0-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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ISSUED DATE: 2024/03/05			

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	2023/11/23		First issue
A	2024/03/05		Modify General Specifications and Power on/off Sequence

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3.General Specifications

Item	Dimension	Unit
Size	6.75	inch
Dot Matrix	480 x 3(RGB) x 1280	dots
Module dimension	66.8 x 181.1 x 4.55	mm
Active area	60.19 x 160.512	mm
Pixel pitch	0.1254 x 0.1254	mm
LCD type	TFT, Normally Black ,Transmissive	
View Angle	85/85/85/85	
TFT Driver IC	NV3051F-L or Equivalent	
TFT Interface	LVDS	
Backlight Type	LED,Normally White	
With /Without TP	Without TP	
Surface	Glare	

*Color tone slight changed by temperature and driving voltage.

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4.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℃

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5.Electrical Characteristics

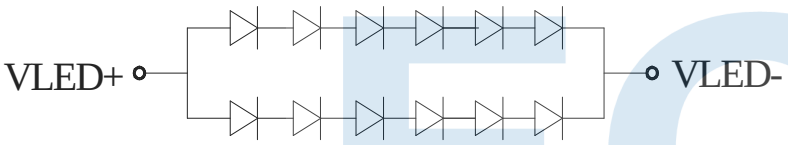
Operating conditions

Item	Symbol	Min	Typ	Max	Unit
Supply voltage for LCM	VCC	3.0	3.3	3.6	V
Supply LCM current	Icc	-	50	75	mA

LED driving conditions

Parameter	Symbol	Min	Typ	Max	Unit	Remark
LED current	—	—	120	—	mA	—
LED voltage	VLED+	15.6	18.0	20.4	V	Note 1
LED Life Time	—	—	50,000	—	Hr	Note 2,3

Note 1 : There are 1 Groups LED
Note 2 : Ta = 25°C



Backlight LED Circuit

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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8.Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr	θ=0°、Φ=0°	-	16	21	.ms	Note 3
		Tf		-	14	19	.ms	
Contrast ratio		CR	At optimized viewing angle	1000	1500	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.243	0.293	0.343	-	Note 2,6,7
		Wy		0.272	0.322	0.372	-	
Viewing angle	Hor.	ΘR	CR≧10	75	85	-	Deg.	Note 1
		ΘL		75	85	-		
	Ver.	ΦT		75	85	-		
		ΦB		75	85	-		
Brightness		-	-	400	500	-	cd/m2	Center of display
Uniformity		(U)	-	75	-	-	%	Note 5

Ta=25±2℃

Note 1: Definition of viewing angle range

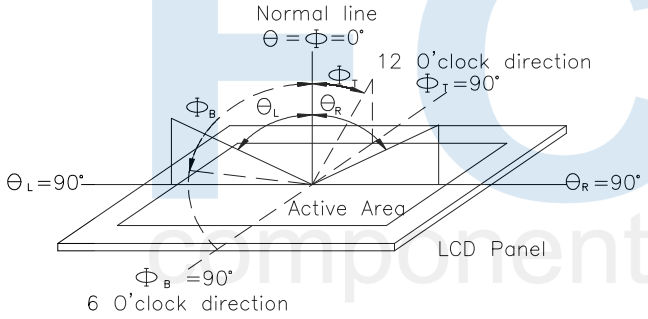


Fig 8.1. Definition of viewing angle

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-7orBM-5 luminance meter 1.0° field of view at a distance of 50cm and normal direction.

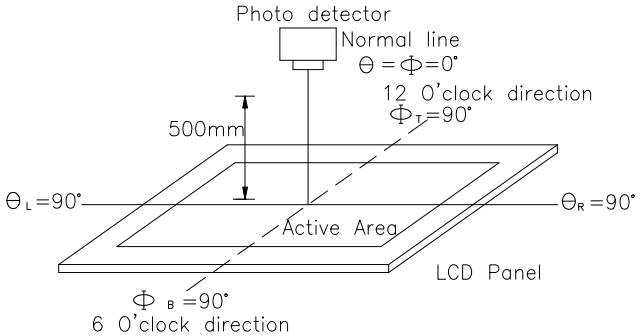


Fig8.2. Optical measurement system setup

Note 3: Definition of Response time:

9.Interface

9.1. LCM PIN Definition

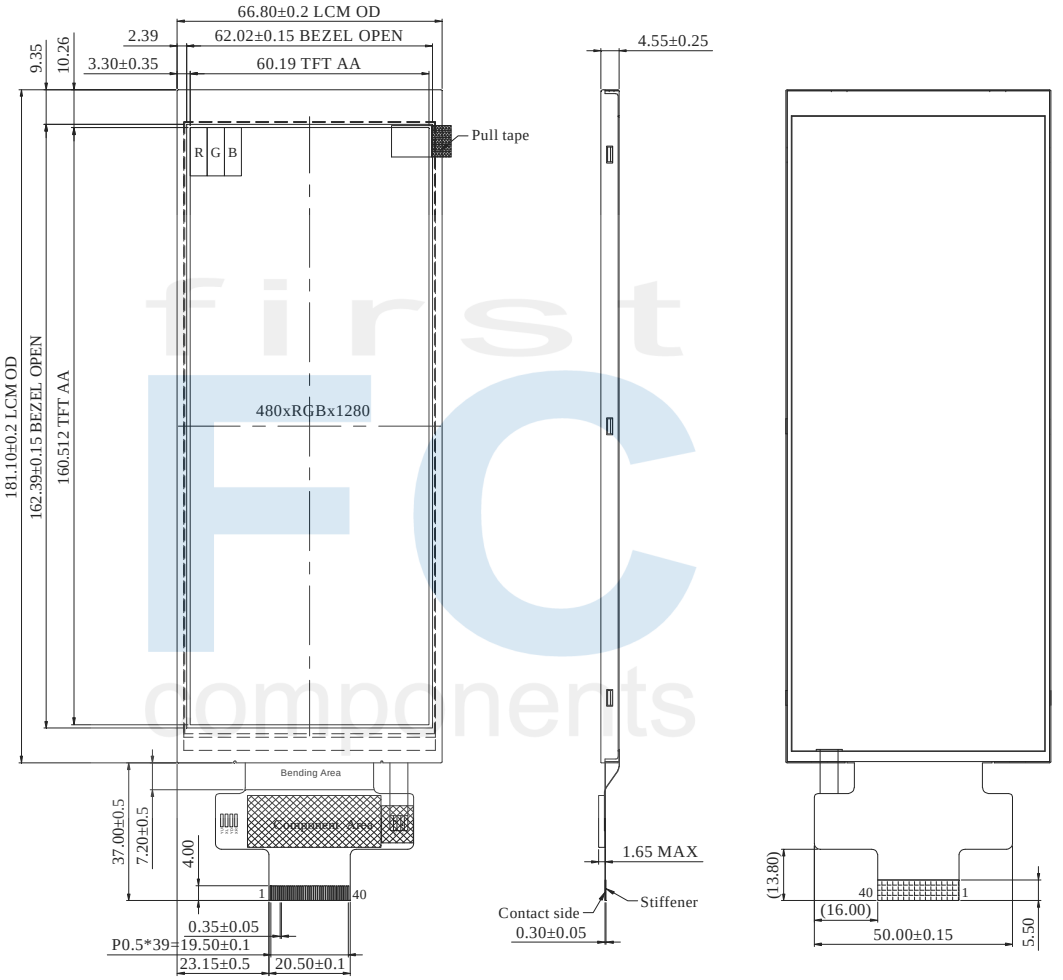
Pin No.	Symbol	Pin Description
1	NC	No connection
2 -3	VCC	Power supply
4	NC	No connection
5	RESET	Global Reset Signal. Active Low.
6	STBYB	Standby mode, normally pull high STBYB=”1”, normal operation STBYB=”0”,timming control, source driver will turn off, all output are high-Z
7	GND	Ground
8	RXIN0-	LVDS data Input
9	RXIN0+	LVDS data Input
10	GND	Ground
11	RXIN1-	LVDS data Input
12	RXIN1+	LVDS data Input
13	GND	Ground
14	RXIN2-	LVDS data Input
15	RXIN2+	LVDS data Input
16	GND	Ground
17	RXCLKIN-	LVDS clock Input.
18	RXCLKIN+	LVDS clock Input.
19	GND	Ground
20	RXIN3-	LVDS data Input
21	RXIN3+	LVDS data Input
22	GND	Ground
23	NC(YU)	No connection
24	NC(XL)	No connection
25	GND	Ground
26	NC(YD)	No connection
27	NC(XR)	No connection
28-29	NC	No connection
30	GND	Ground
31	VLED-	Power for LED backlight cathode

32	VLED-	Power for LED backlight cathode
33-38	NC	No connection
39	VLED+	Power for LED backlight anode
40	VLED+	Power for LED backlight anode

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11.Contour Drawing

PIN NO	SYMBOL	PIN NO	SYMBOL
1	NC	21	RXIN3+
2	VCC	22	GND
3	VCC	23	NC(YU)
4	NC	24	NC(XL)
5	RESET	25	GND
6	STBYB	26	NC(YD)
7	GND	27	NC(XR)
8	RXIN0-	28	NC
9	RXIN0+	29	NC
10	GND	30	GND
11	RXIN1-	31	VLED-
12	RXIN1+	32	VLED-
13	GND	33	NC
14	RXIN2-	34	NC
15	RXIN2+	35	NC
16	GND	36	NC
17	RXCLKIN-	37	NC
18	RXCLKIN+	38	NC
19	GND	39	VLED+
20	RXIN3-	40	VLED+



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

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