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#0P3-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	2023/12/04		First issue
A	2024/03/05		Modify General Specifications ,Table 1 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	74.4 x 188.1 x 6.6	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	FL7703NI-G5-DP or Equivalent	
TFT Interface	4-Lanes MIPI	
CTP IC	GT911 or Equivalent	
CTP Interface	I2C	
CTP FW Version	0x70	
CTP Resolution	480*1280	
Backlight Type	LED,Normally White	
With /Without TP	With CTP	
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

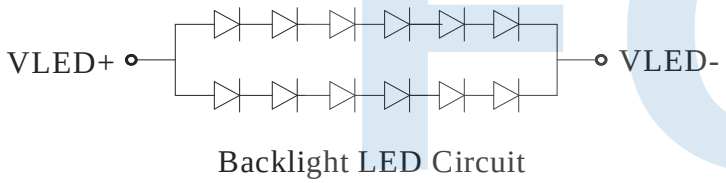
Operating conditions

Item	Symbol	Min	Typ	Max	Unit
Supply voltage for LCM	VCC	3.0	3.3	3.6	V
Supply LCM current	Icc	-	80	120	mA
Supply CTP	V_{CTP}	2.8	3.3	3.6	V
	I_{CTP}	-	13.0	20.0	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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9.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		-	-	300	400	-	cd/m2	Center of display
Uniformity		(U)	-	75	-	-	%	Note 5

Ta=25±2℃

Note 1: Definition of viewing angle range

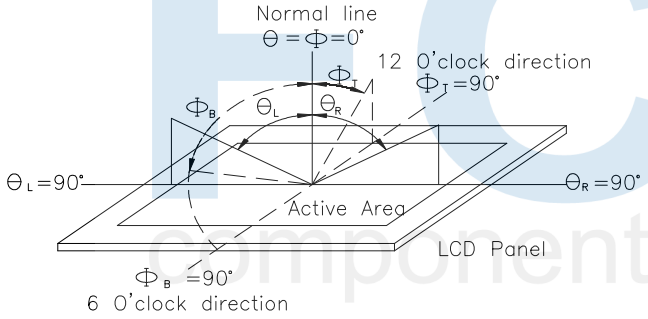


Fig 9.1. Definition of viewing angle

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

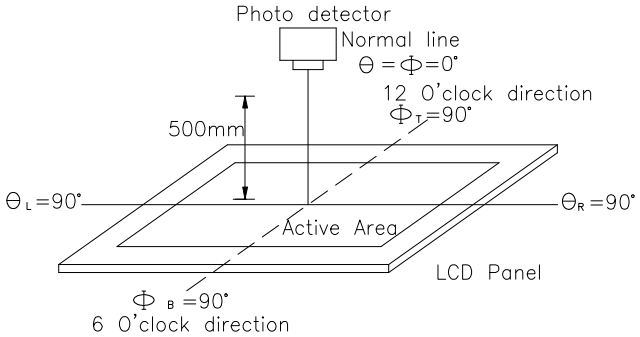


Fig9.2. Optical measurement system setup

Note 3: Definition of Response time:

Interface

10.1. LCM PIN Definition

Pin No.	Symbol	Pin Description
1	GND	Ground
2	D3N	High speed interface data differential signal input pins.
3	D3P	
4	GND	Ground
5	D2N	High speed interface data differential signal input pins.
6	D2P	
7	GND	Ground
8	CLKN	High speed interface clock differential signal input pins. OPEN
9	CLKP	
10	GND	Ground
11	D1N	High speed interface data differential signal input pins.
12	D1P	
13	GND	Ground
14	D0N	High speed interface data differential signal input/output pins.
15	D0P	
16	GND	Ground
17	GND	Ground
18	TE	Serve as a TE (Tearing Effect) output signal Leave the pin open when not in use.
19	RESET	Reset pin. This signal will reset the device and must be applied to properly initialize the chip.
20	GND	Ground
21-23	VCC	Power supply
24	GND	Ground
25-28	NC	No connection
29	VLED-	Power for LED backlight cathode
30	VLED+	Power for LED backlight anode

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10.2. 10.CTP PIN Definition

Pin	Symbol	Function	Remark
1	VSS	Ground for analog circuit	
2	VDDT	Power Supply : +3.3V	
3	SCL	I2C clock input	
4	NC	No connection	
5	SDA	I2C data input and output	
6	NC	No connection	
7	/RST	External Reset, Low is active	
8	NC	No connection	
9	/INT	External interrupt to the host	
10	VSS	Ground for analog circuit	

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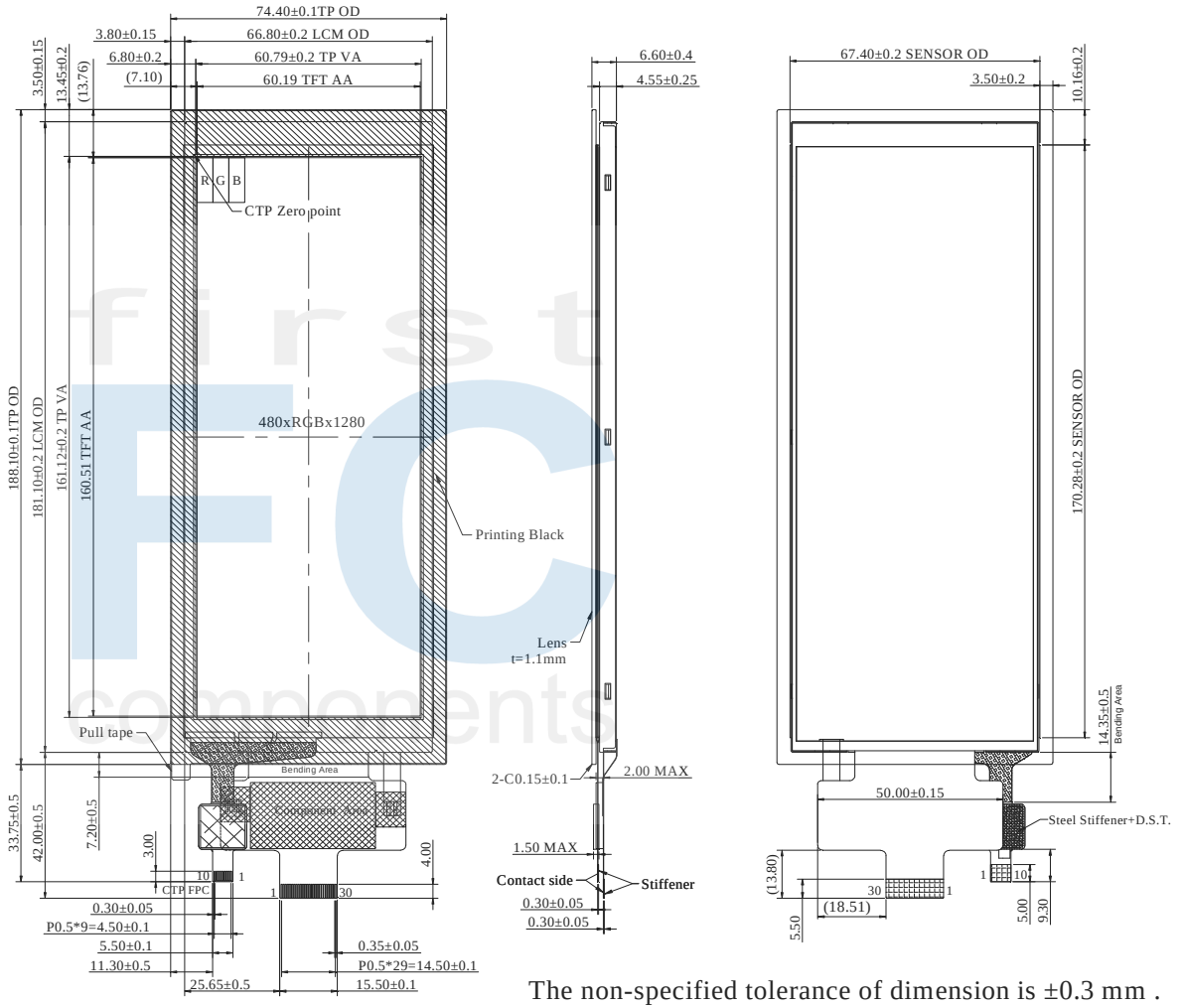
14.Contour Drawing

TFT FPC

PIN No.	SYMBOL	PIN No.	SYMBOL
1	GND	16	GND
2	D3N	17	GND
3	D3P	18	TE
4	GND	19	RESET
5	D2N	20	GND
6	D2P	21	VCC
7	GND	22	VCC
8	CLKN	23	VCC
9	CLKP	24	GND
10	GND	25	NC
11	D1N	26	NC
12	D1P	27	NC
13	GND	28	NC
14	D0N	29	VLED-
15	D0P	30	VLED+

CTP FPC

PIN No.	SYMBOL
1	VSS
2	VDDT
3	SCL
4	NC
5	SDA
6	NC
7	/RST
8	NC
9	/INT
10	VSS



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

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