TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

Represented by:

FIRST Components s.r.l.
www.first-components.com
technical@first-components.com
+39 0332 1888005

SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF43-480272WP#BP3-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
ISSUED DATE: 2024/02/21			

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**
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2.Summary

TFT 4.3” is a IPS transmissive type color active matrix TFT liquid crystal display that use amorphous silicon TFT as switching devices. This module is a composed of a TFT_LCD module, It is usually designed for industrial application and this module follows RoHs,

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3.General Specifications

Item	Dimension	Unit
Size	4.3	inch
Dot Matrix	480 x RGBx272(TFT)	dots
Module dimension	105.5 x 67.2 x 8.15	mm
Active area	95.04 x 53.856	mm
Pixel pitch	0.198 x 0.198	mm
LCD type	TFT, Normally Black, Transmissive	
View Direction	80/80/80/80	
Aspect Ratio	16:9	
Backlight Type	LED, Normally White	
TFT Controller IC	SSD1963	
TFT Interface	Digital 8080 family MPU 8bit/16bit	
CTP Driver IC	ST1624 or equivalent	
CTP Interface	I2C	
CTP FW Version	0X01	
CTP Resolution	480 * 272	
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

5.1. Operating conditions: (CON3.Pin1=GND, Pin2=VDD)

Item	Symbol	Min	Typ	Max	Unit	Remark
Supply Voltage For LCM	VDD	3.0	3.1	3.3	V	-
Supply Current For LCM	IDD	—	84	150	mA	Note1

Note 1 : This value is test for VDD=3.3V , Ta=25℃ only

5.2. Backlight driving conditions (CON3.Pin33,34=VLED-, Pin35,36=VLED+)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Operation Current For LED Driver	VLED+=3.3V	200	-	350	mA	Note 1,2
Power Consumption	VLED+=3.3V	660	-	1155	mW	Note 1,2
Supply Voltage For LED Driver	VLED+	3.3	-	5	V	Note 1,2
LED Life Time		-	50,000	-	Hr	Note 2,3,4

Note 1 : Base on VLED= 3.3V for the back light driver IC specification
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: Make sure LED current less than Max. value

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8.Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr+ Tf	θ=0°、Φ=0°	-	30	40	ms	Note 3
Contrast ratio		CR	At optimized viewing angle	640	800	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.27	0.32	0.37	-	Note 2,6,7
		Wy		0.295	0.345	0.395	-	
Viewing angle	Hor.	ΘR	CR≧10	70	80	-	Deg.	Note 1
		ΘL		70	80	-		
	Ver.	ΦT		70	80	-		
		ΦB		70	80	-		
Brightness		-	-	300	400	-	cd/m2	Center of display
Uniformity		(U)	-	75	-	-	%	Note 5

Ta=25±2℃, IL=20mA

Note 1: Definition of viewing angle range

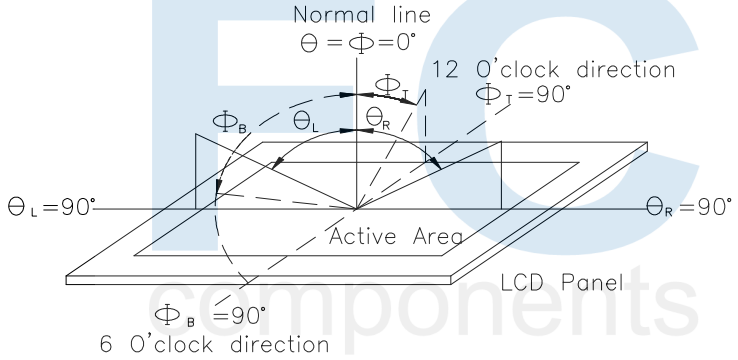


Fig. 8.1. Definition of viewing angle

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.

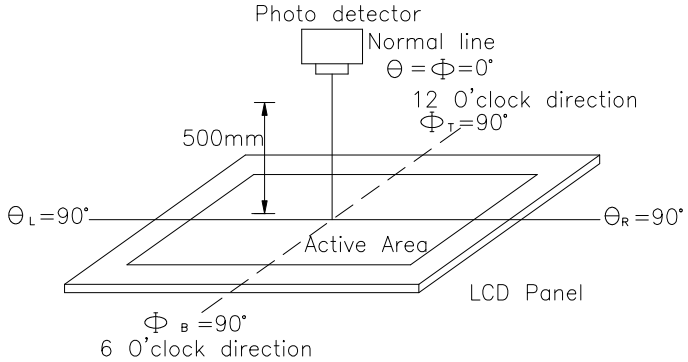


Fig. 8.2. Optical measurement system setup

Note 3: Definition of Response time:

9.Interface

9.1. LCM PIN Definition (CON3)

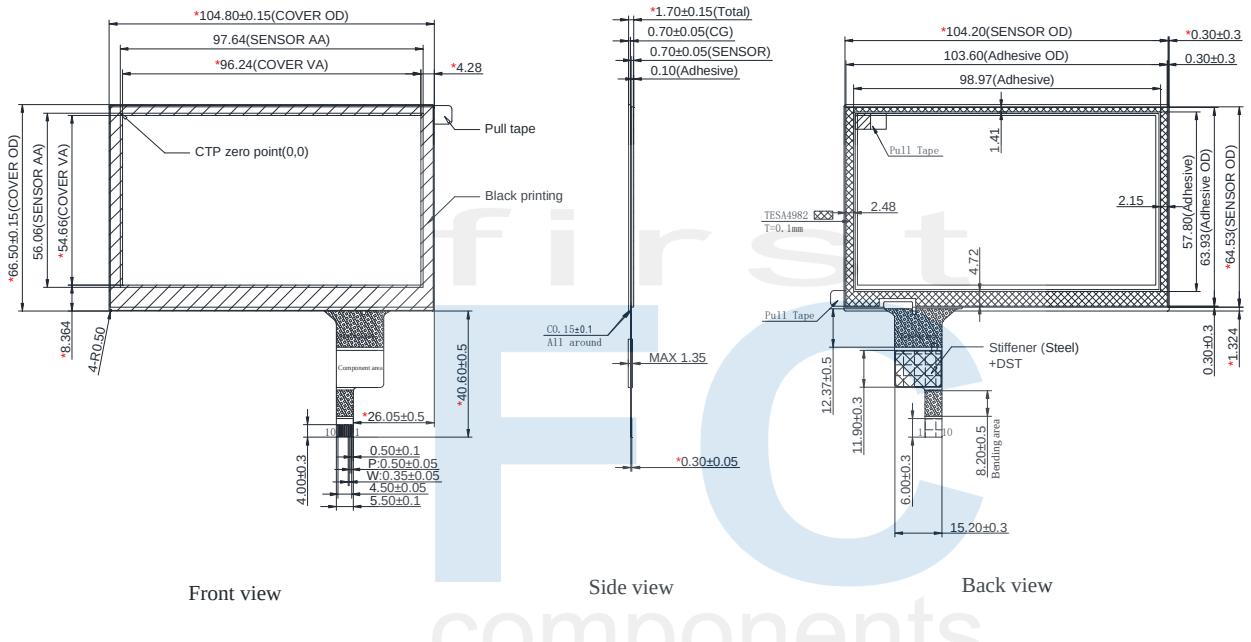
Pin	Symbol	Function	Remark
1	GND	System round pin of the IC. Connect to system ground.	
2	VDD	Power Supply : +3.3V	
3	BL_E	Backlight control signal , H: On \ L: Off	
4	D/C	Data/Command select	
5	WR	Write strobe signal	
6	RD	Read strobe signal	
7	DB0	Data bus	
8	DB1	Data bus	
9	DB2	Data bus	
10	DB3	Data bus	
11	DB4	Data bus	
12	DB5	Data bus	
13	DB6	Data bus	
14	DB7	Data bus	
15	DB8	Data bus (When select 8bits mode, this pin is NC)	Note1
16	DB9	Data bus (When select 8bits mode, this pin is NC)	Note1
17	DB10	Data bus (When select 8bits mode, this pin is NC)	Note1
18	DB11	Data bus (When select 8bits mode, this pin is NC)	Note1
19	DB12	Data bus (When select 8bits mode, this pin is NC)	Note1
20	DB13	Data bus (When select 8bits mode, this pin is NC)	Note1
21	DB14	Data bus (When select 8bits mode, this pin is NC)	Note1
22	DB15	Data bus (When select 8bits mode, this pin is NC)	Note1
23	NC	No connection	
24	CTP_INT	External interrupt to the host	
25	CS	Chip select	
26	RESET	Hardware reset	
27	DISP_ON	Display control H: On \ L:Off	
28	NC	No connection	
29	CTP_SCL	Active low I2C clock input	
30	CTP_SDA	Data input I2C data input and output	

31	CTP_RST	External Reset, Low is active	
32	NC	No connection	
33	VLED-	VLED- for B/L LED inverter (GND)	
34	VLED-	VLED- for B/L LED inverter (GND)	
35	VLED+	VLED+ for B/L LED inverter (+3.3V)	
36	VLED+	VLED+ for B/L LED inverter (+3.3V)	

Note1: When select 8bit mode, DB0~DB7 be used, DB8~DB15 no connect
When select 16bit mode, DB0~DB15 be used

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12.Touch Panel Information



Front view

Side view

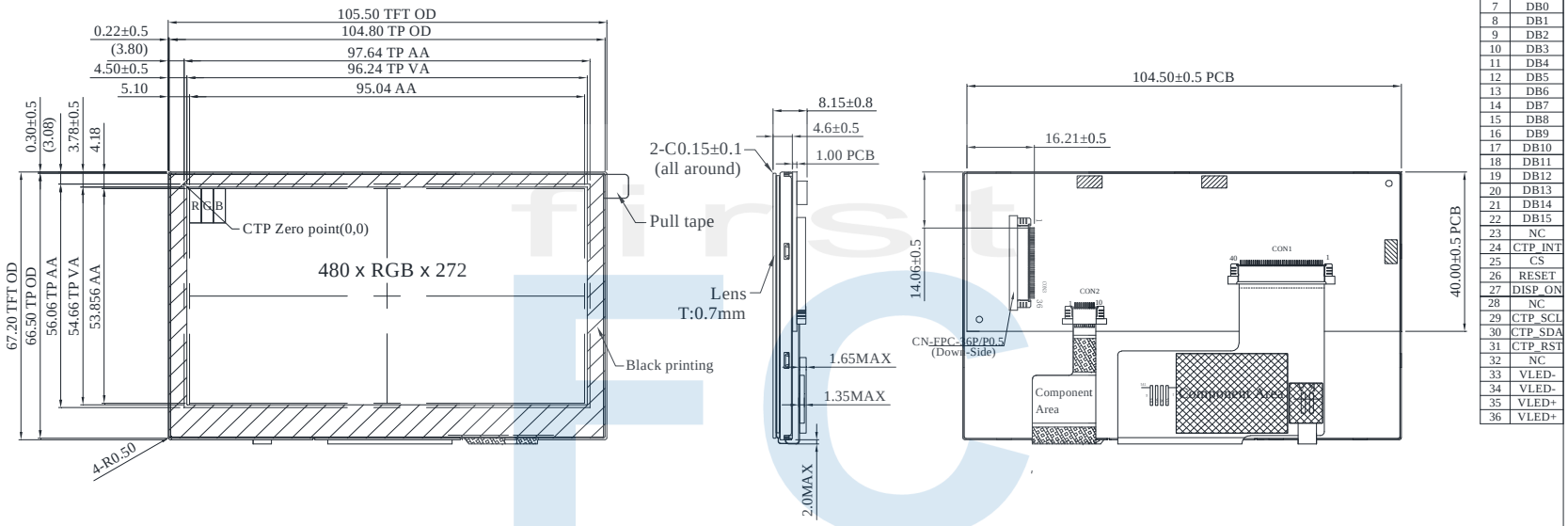
Back view

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 ±0.2 mm .

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13.Contour Drawing



PIN	SYMBOL
1	GND
2	VDD
3	BL_E
4	D/C
5	WR
6	RD
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	DB8
16	DB9
17	DB10
18	DB11
19	DB12
20	DB13
21	DB14
22	DB15
23	NC
24	CTP_INT
25	CS
26	RESET
27	DISP_ON
28	NC
29	CTP_SCL
30	CTP_SDA
31	CTP_RST
32	NC
33	VLED-
34	VLED-
35	VLED+
36	VLED+

Note.

380nm transmittance(UV Cut at 380nm)<1.0%

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

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