TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.

華凌光電股份有限公司

Represented by:

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

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華凌光電股份有限公司

SPECIFICATION

CUSTOMER : _____

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

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
ISSUED DATE: 2023/06/07			

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 (W) x 67.2(H) x 4.65(D)	mm
Active area	95.04 x 53.856	mm
Pixel pitch	0.198 x 0.198	mm
LCD type	TFT, Normally Black, Transmissive	
Viewing Angle	80/80/80/80	
Aspect Ratio	16:9	
TFT Driver IC	SC7283 or equivalent	
TFT Interface	24-bit RGB	
CTP Driver IC	ST1624 or equivalent	
CTP Resolution	480*272	
CTP Interface	I2C	
CTP FW Version	0X01	
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

5.1. Operating conditions:

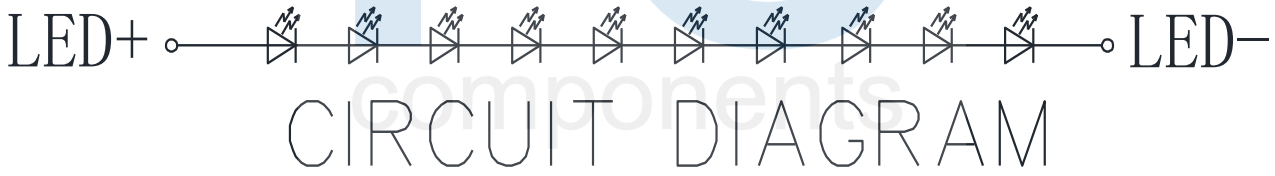
Item	Symbol	Min	Typ	Max	Unit	Remark
Supply Voltage For LCM	VCC	3.0	-	3.6	V	
Supply Current For LCM	ICC	-	25	37.5	mA	Note1
Supply Voltage For Touch Logic	VDDT	-	3.3	-	V	-
	ICTP	-	15	-	mA	-

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

5.2. LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
LED current	-	-	20	-	mA	-
Power Consumption	-	540	640	680	mW	-
LED voltage	VLED+	27	32	34	V	Note 1
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

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℃,

Note 1: Definition of viewing angle range

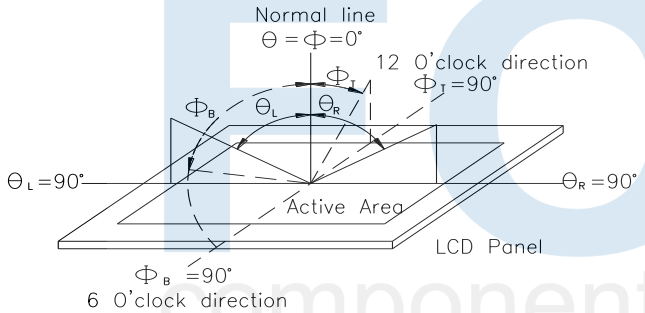


Fig. 8.1. Definition of viewing angle

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.

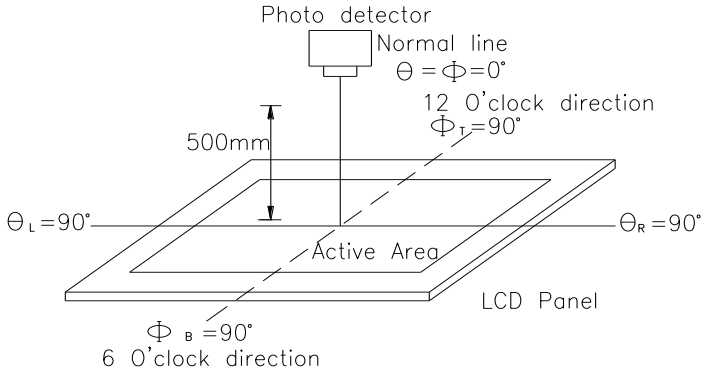


Fig. 8.2. Optical measurement system setup

9.Interface

9.1. LCM PIN Definition

Pin	Symbol	Function	Remark
1	LED-	Power for LED backlight cathode	
2	LED+	Power for LED backlight anode	
3	GND	Power ground	
4	VCC	Power voltage	
5	R0	Red data	
6	R1	Red data	
7	R2	Red data	
8	R3	Red data	
9	R4	Red data	
10	R5	Red data	
11	R6	Red data	
12	R7	Red data	
13	G0	Green data	
14	G1	Green data	
15	G2	Green data	
16	G3	Green data	
17	G4	Green data	
18	G5	Green data	
19	G6	Green data	
20	G7	Green data	
21	B0	Blue data	
22	B1	Blue data	
23	B2	Blue data	
24	B3	Blue data	
25	B4	Blue data	
26	B5	Blue data	
27	B6	Blue data	
28	B7	Blue data	
29	GND	Power ground	
30	CLK	Pixel clock input pin (DCLK)	

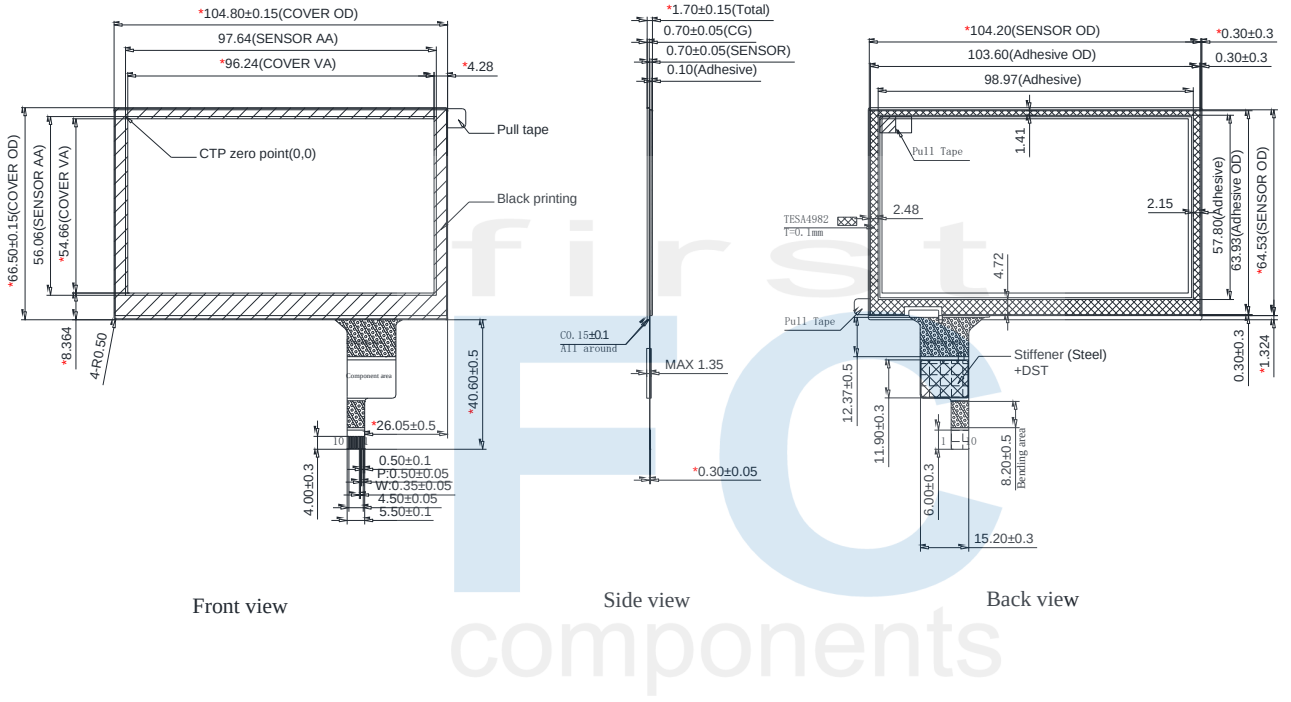
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31	DISP	DISP sets the display mode. DISP: L = Standby mode; H = Normal display mode	
32	HSYNC	Horizontal sync signal, default is negative polarity.	
33	VSYNC	Vertical sync signal, default is negative polarity.	
34	DE	Data input enable.	
35	NC	No connection	
36	GND	Power ground	
37	NC	No connection	
38	NC	No connection	
39	NC	No connection	
40	NC	No connection	

9.2. 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	

12.Touch Panel Information



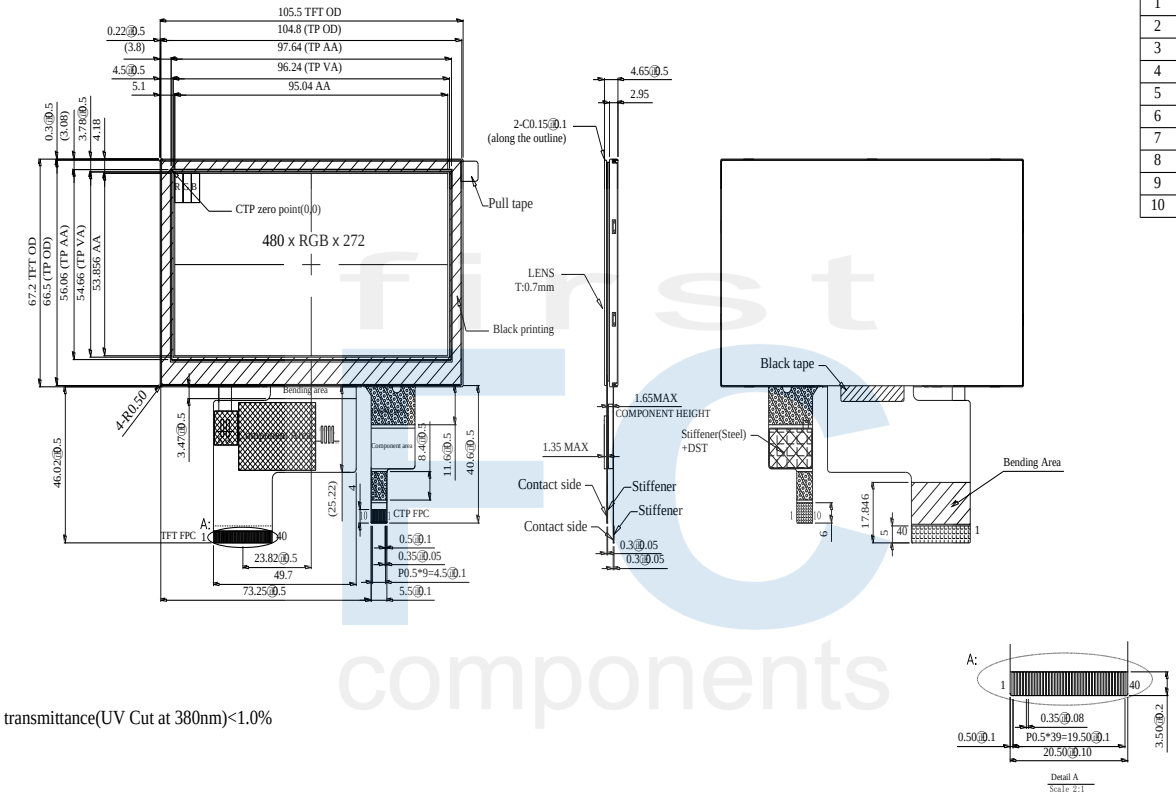
Front view　　Side view　　Back view

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



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

TFT FPC

PIN NO.	SYMBOL
1	LED-
2	LED+
3	GND
4	VCC
5	R0
6	R1
7	R2
8	R3
9	R4
10	R5
11	R6
12	R7
13	G0
14	G1
15	G2
16	G3
17	G4
18	G5
19	G6
20	G7
21	B0
22	B1
23	B2
24	B3
25	B4
26	B5
27	B6
28	B7
29	GND
30	CLK
31	DISP
32	HSYNC
33	VSYNC
34	DE
35	NC
36	GND
37	NC
38	NC
39	NC
40	NC

Note.

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

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

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