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.: WF57-320240WPD#0F5B-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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ISSUED DATE: 2024/01/26			

2.Summary

TFT 5.7” is a TN 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	5.7	inch
Dot Matrix	320 x RGBx240(TFT)	dots
Module dimension	143.5 x 104.1 x 13.85	mm
Active area	115.2 x 86.4	mm
Dot pitch	0.12 x 0.36	mm
LCD type	TFT, Normally White, Transmissive	
Drive IC	HX8218+HX8615 or equivalent	
Interface	18-bit RGB	
View Direction	6 o'clock	
Gray Scale Inversion Direction	12 o'clock	
Aspect Ratio	4:3	
Backlight Type	LED,Normally White	
With /Without TP	With RTP	
Surface	Anti-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:

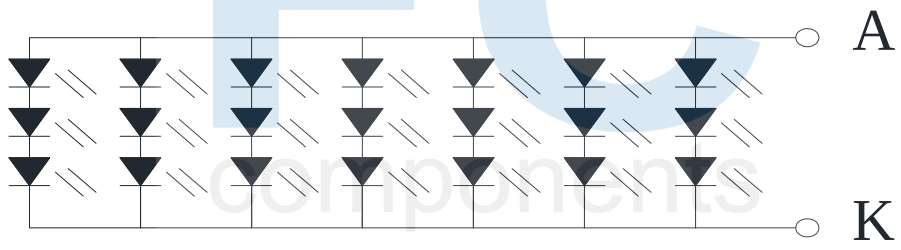
Item	Symbol	Condition	Min	Typ	Max	Unit	Remark
Supply Voltage For LCM	VCC	—	3.0	3.3	3.6	V	
Supply Current For LCM	ICC	—	—	110	170	mA	Note1
Power Consumption	—	—	—	363	612	mW	VCC=3.3V

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		-	190	-	mA	
Power Consumption		1710	-	1955	mW	
LED voltage	VBL+	9.0	9.7	10.5	V	Note 1
LED Life Time		-	50,000	-	Hr	Note 2,3,4

Note 1 : There are 1 Groups LED



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

7.Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr+Tf	θ=0°、Φ=0°		25	-	.ms	Note 3
Contrast ratio		CR	At optimized viewing angle	-	300	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.267	0.317	0.367		Note 2,6,7
		Wy		0.303	0.353	0.403		
Viewing angle	Hor.	ΘR	CR≧10	-	75	-	Deg.	Note Note 1
		ΘL		-	75	-		
	Ver.	ΦT		-	75	-		
		ΦB		-	75	-		
Brightness		-	-	300	400	-	cd/m²	Center of display
Uniformity		(U)	-	75	-	-	%	Note 5

Ta=25±2℃, IL=140mA

Note: After adding a polarized O-film, its viewing angle is enlarged, but its still have gray scale appearance.

Note 1: Definition of viewing angle range

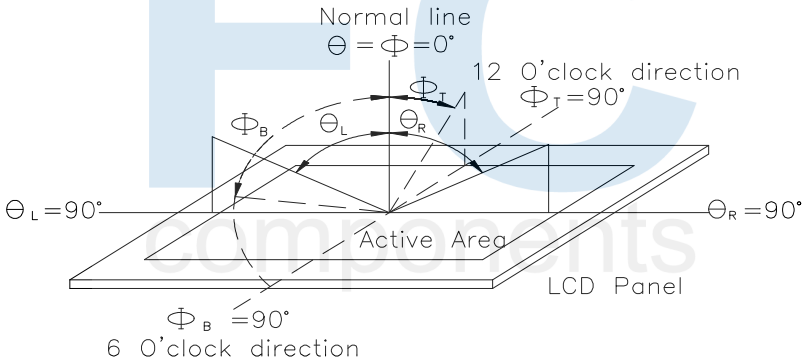
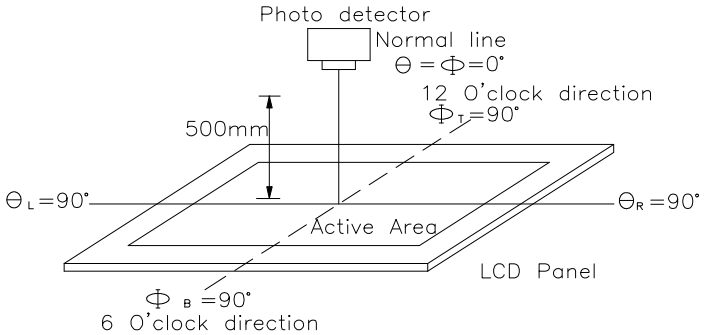


Fig.7.1. Definition of viewing angle

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.



8.Interface

8.1. LCM PIN Definition

Pin	Symbol	Function	Remark
1	GND	Ground	
2	CK	Clock signal for sampling each data signal(DCLK)	
3	Hsync	Horizontal synchronous signal	
4	Vsync	Vertical synchronous signal	
5	GND	Ground	
6	R0	Red Data bit(LSB)	
7	R1	Red Data bit	
8	R2	Red Data bit	
9	R3	Red Data bit	
10	R4	Red Data bit	
11	R5	Red Data bit(MSB)	
12	GND	Ground	
13	G0	Green Data bit(LSB)	
14	G1	Green Data bit	
15	G2	Green Data bit	
16	G3	Green Data bit	
17	G4	Green Data bit	
18	G5	Green Data bit(MSB)	
19	GND	Ground	
20	B0	Blue Data bit(LSB)	
21	B1	Blue Data bit	
22	B2	Blue Data bit	
23	B3	Blue Data bit	
24	B4	Blue Data bit	
25	B5	Blue Data bit(MSB)	
26	GND	Ground	
27	NC	No connect	
28	VCC	+3.3V power supply	
29	VCC	+3.3V power supply	
30	R/L	Selection signal for horizontal scanning direction (L: Normally H: Right-and-left reversal)	Note 1
31	U/D	Selection signal for vertical scanning direction	Note 1

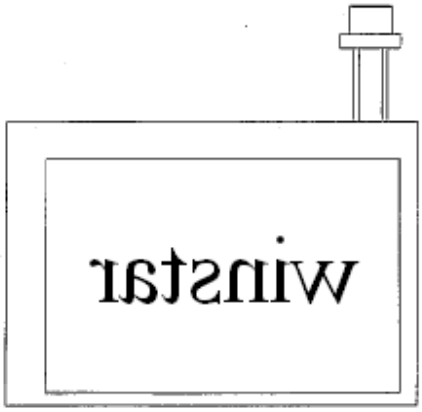
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		(H: Normally L: Up-and-Down reversal	
32	NC	No connect	
33	GND	Ground	

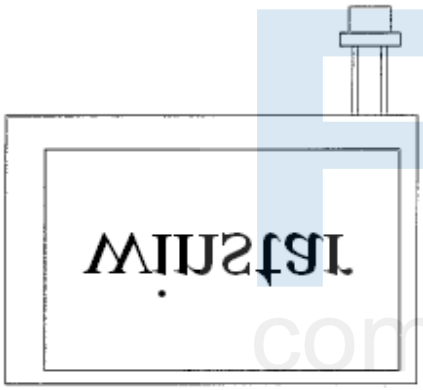
Note1:



R/L =L ,UD=H



R/L=H,UD=H



R/L =L ,UD=L

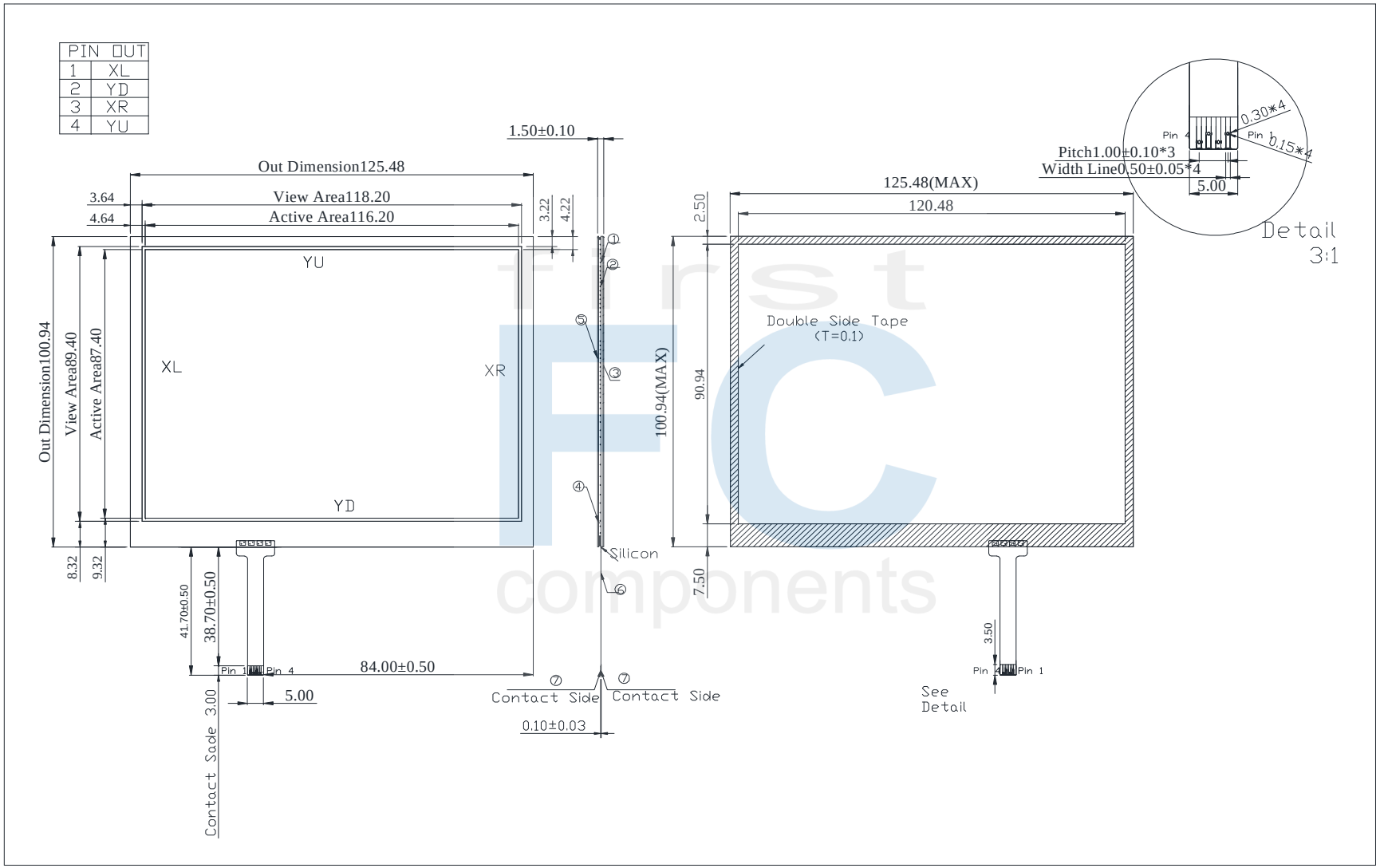


R/L=H,UD=L

8.2. Backlight PIN Definition

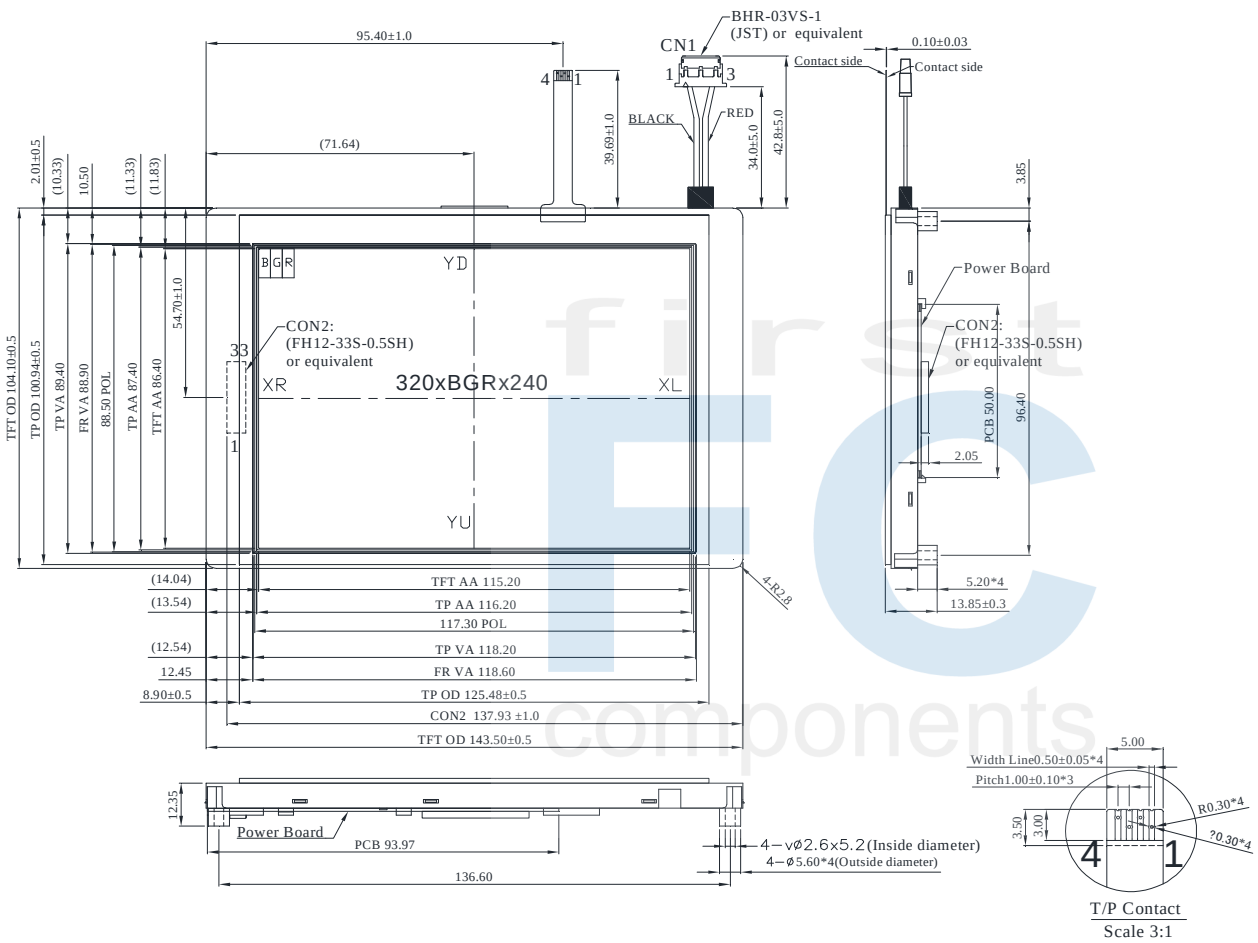
Pin No.	Symbol	Description
1	K	Black, LED_ Cathode
2	NC	No connection
3	A	Red, LED_ Anode

11.Touch Panel Information



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12.Contour Drawing



C0N2

PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	GND	18	G5
2	CK	19	GND
3	Hsync	20	B0
4	Vsync	21	B1
5	GND	22	B2
6	R0	23	B3
7	R1	24	B4
8	R2	25	B5
9	R3	26	GND
10	R4	27	NC
11	R5	28	VCC
12	GND	29	VCC
13	G0	30	R/L
14	G1	31	U/D
15	G2	32	NC
16	G3	33	GND
17	G4		

RTP

PIN NO.	SYMBOL
1	XL
2	YD
3	XR
4	YU

CN1

PIN NO.	SYMBOL
1	K
2	NC
3	A

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

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