TFT DISPLAY SPECIFICATION



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SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF39-480128BD#000-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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ISSUED DATE: 2025/04/14			

General Specifications

Item	Dimension	Unit
Size	3.9	inch
Dot Matrix	480x128 x RGB (TFT)	dots
Module dimension	105.5(W) x 37.0(H) x 3.05(D)	mm
Active area	95.04 x 25.34	mm
Dot pitch	0.066(W)x 0.198(H)	mm
LCD type	TFT, Normally White, Transmissive	
View Direction	6 o'clock	
Gray Scale Inversion Direction	12 o'clock	
Aspect Ratio	Bar Type	
TFT Driver IC	HX8278-A Or Equal	
TFT Interface	RGB-24BIT (SYNC mode)	
Backlight Type	LED,Normally White	
With /Without TP	Without TP	
Surface	Anti-Glare	

*Color tone slight changed by temperature and driving voltage.

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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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Electrical Characteristics

Operating conditions

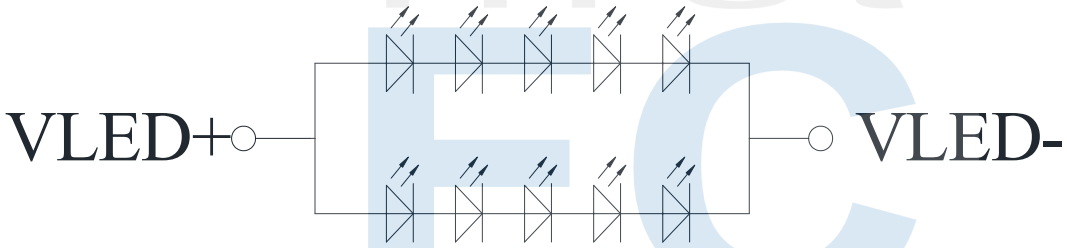
Item	Symbol	Condition	Min	Typ	Max	Unit	Remark
Supply Voltage For LCM	VCC	—	3.0	3.3	3.6	V	
Supply Current For LCM	ICC	—	—	15	25	mA	Note 1

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

LED driving conditions

Item	Symbol	MIN	TYP	MAX	Unit	Remark
Forward Current	ILED	—	40	—	mA	Note 1,2,3,4
Forward Voltage	VLED+	14	15	17	V	
Backlight life time	—	50000	—	—	hr	

Note 1 : There are 1 Groups LED



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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Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr+Tf	θ=0°、Φ=0°	-	25	40	ms	Note 3
Contrast ratio		CR	At optimized viewing angle	300	500	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.264	0.314	0.364	-	Note 2,6,7
		Wy		0.269	0.319	0.369	-	
Viewing angle (Gray Scale Inversion Direction)	Hor.	ΘR	CR≧10	-	65	-	Deg.	Note 1
		ΘL		-	65	-		
	Ver.	ΦT		-	65	-		
		ΦB		-	50	-		
Brightness		-	-	400	500	-	cd/m²	Center of display
Uniformity		(U)	-	75	-	-	%	Note 5

Ta=25±2℃, ILED=40mA

Note 1: Definition of viewing angle range

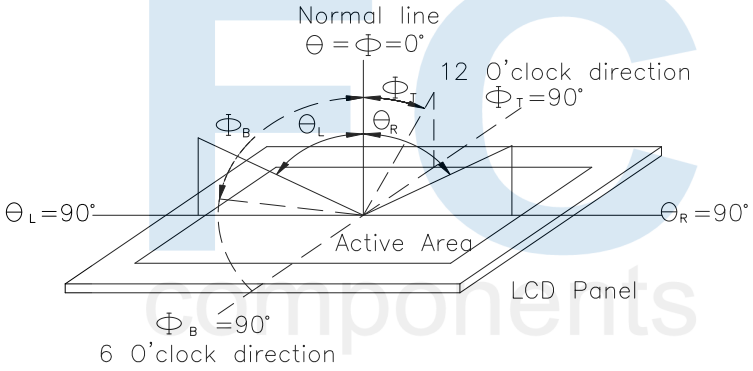


Fig. 8.1. Definition of viewing angle

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.

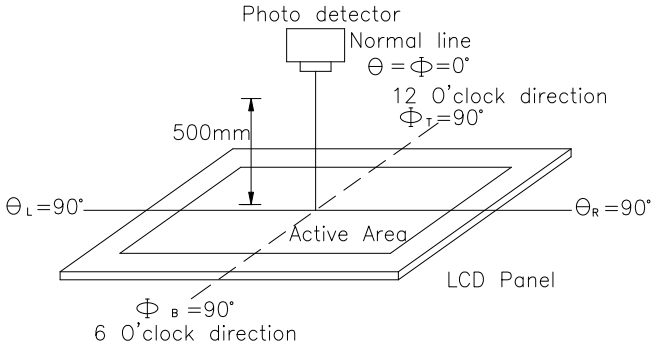


Fig. 8.2. Optical measurement system setup

Note 3: Definition of Response time:

Interface

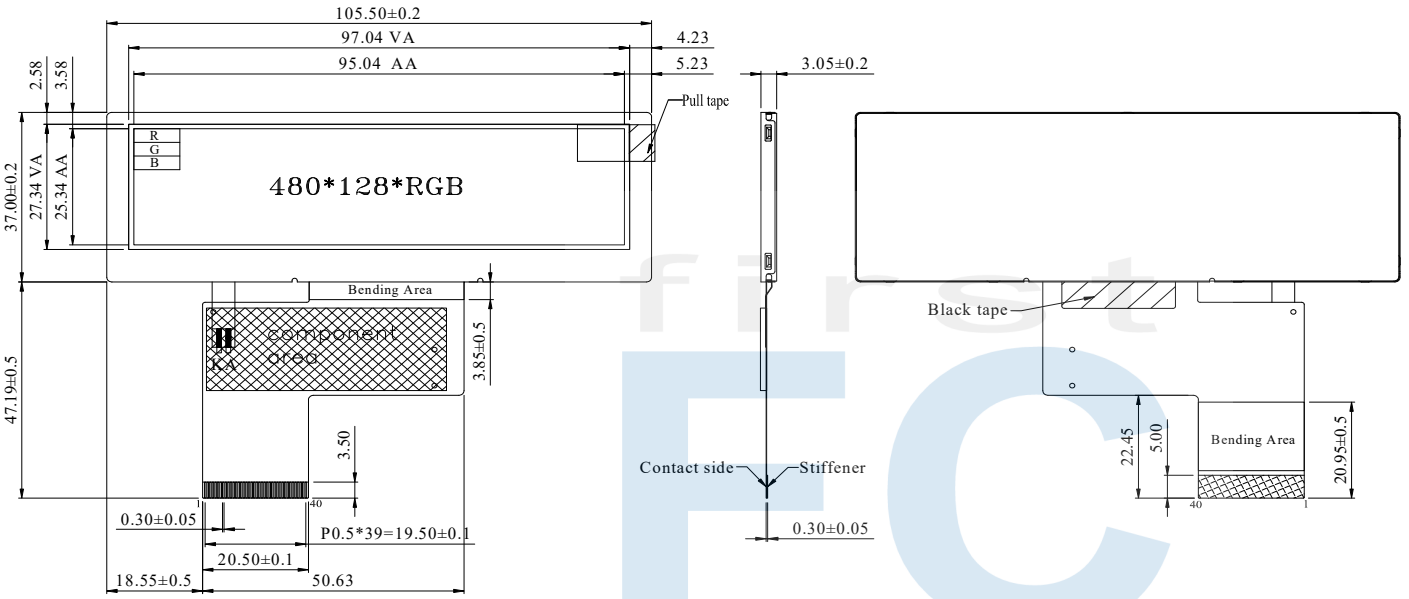
LCM PIN Definition

No.	Symbol	Description	Remark
1	VLED-	Backlight LED Cathode	
2	VLED+	Backlight LED Anode.	
3	GND	System Ground	
4	VCC	Power supply for logic operation	
5~12	R0~R7	Data bus	
13~20	G0~G7	Data bus	
21~28	B0~B7	Data bus	
29	GND	System Ground	
30	DCLK	Pixel clock signal	
31	DISP	Display on/off control	
32	HSYNC	Horizontal Sync signal	Note1
33	VSYNC	Vrtical Sync signal	Note1
34	NC	No connection (Option DE)	Note1
35	NC	No connection	
36	GND	System Ground	
37	NC	No connection (Option XR for RTP)	
38	NC	No connection (Option YD for RTP)	
39	NC	No connection (Option XL for RTP)	
40	NC	No connection (Option YU for RTP)	

Note1: This module default function is for SYNC mode, if this module want change to use DE mode , the FPC have to modify resistive jumper

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Contour Drawing



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

CIRCUIT DIAGRAM

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

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