TFT DISPLAY SPECIFICATION



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SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF70-800480D2L#0SPW0-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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ISSUED DATE: 2025/05/13			

General Specifications

Item	Dimension	Unit
Size	7.0	inch
Dot Matrix	800 x RGBx480(TFT)	dots
Module dimension	165.0(W) x 104.6(H) x 5.3 (D)	mm
Active area	152.4 x 91.44	mm
Pixel pitch	0.1905x 0.1905	mm
LCD type	TFT, Normally Black, Transmissive	
View Angle	85/85/85/85	
TFT IC	RM53052+RM57452 or Equivalent	
Aspect Ratio	16:9	
Backlight Type	LED,Normally White	
TFT Interface	LVDS	
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	-30	—	+80	℃
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:
Typical Operation Conditions

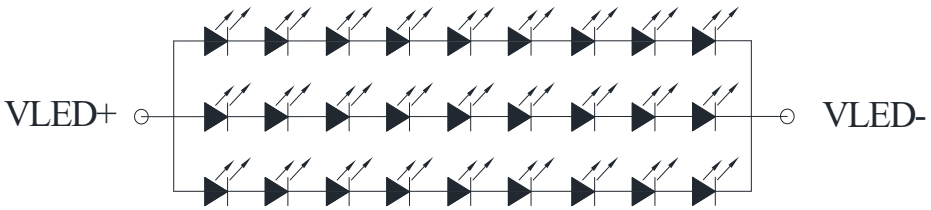
Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Power voltage	VDD	2.9	3.3	3.6	V	
Analog Power	AVDD	-	13.0	-	V	
TFT Gate ON Voltage	VGH	-	25.0	-	V	Note1
TFT Gate OFF Voltage	VGL	-	-5.9	-	V	Note2
TFT Common Voltage	Vcom	-	6.2	-	V	Note3
Power Current	IDD	-	19.3	29	mA	VDD=3.3V
Analog Power Current	IAVDD	-	11.5	18	mA	AVDD=13V
TFT Gate ON Current	IVGH	-	0.27	1.0	mA	VGH=25V
TFT Gate OFF Current	IVGL	-	0.27	1.0	mA	VGL=-5.9V
TFT Common Current	IVCOM	-	1.3	2	uA	VCOM=6.2V

Note 1. VGH is TFT Gate operating Voltage.
Note 2. VGL is TFT Gate operating Voltage.
The storage structure of this model is CST (Storage on Common)
Note 3. Vcom must be adjusted to optimize display quality Crosstalk, Contrast Ratio and etc.

LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
LED current	—	—	110	—	mA	-
LED voltage	VLED+	22.4	24.0	25.6	V	Note 1
LED Life Time	—	50,000	—	—	Hr	Note 2,3,4

Note 1 : There are 1 Groups LED



9x3=27LED

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

Optical Characteristics

TFT LCD characteristic

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr+ Tf	θ=0°、Φ=0°	-	20	30	.ms	Note 3
Contrast ratio		CR	At optimized viewing angle	1000	1500	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.276	0.326	0.376	-	Note 2,6,7
		Wy		0.326	0.376	0.426	-	
Viewing angle	Hor.	ΘR	CR≧10	80	85	-	Deg.	Note 1
		ΘL		80	85	-		
	Ver.	ΦT		80	85	-		
		ΦB		80	85	-		
Brightness		-	-	1100	1250	-	cd/m2	Center of display
Uniformity		(U)	-	75	-	-	%	Note 5

Ta=25±2℃,

Note 1: Definition of viewing angle range

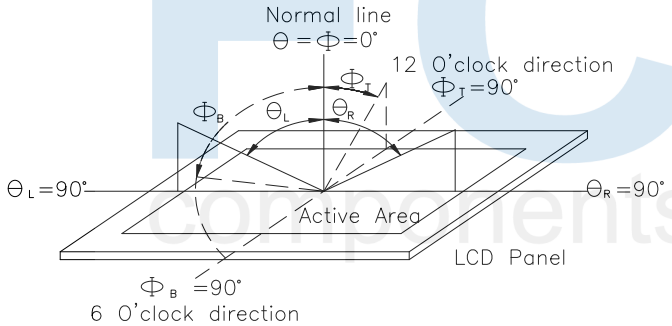


Fig.1. Definition of viewing angle

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.

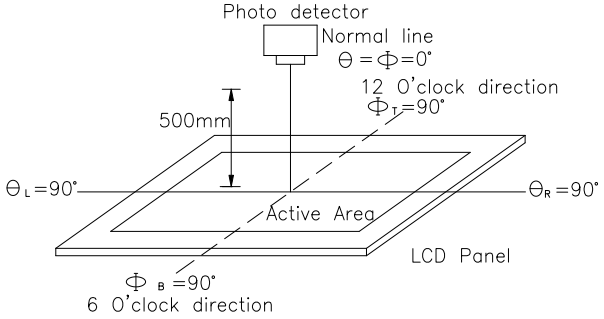


Fig. 2. Optical measurement system setup

Interface

LCM PIN Definition

Pin No.	Symbol	Function	Remark
1	VCOM	Common Voltage	
2	VDD	Digital circuit	
3	VDD	Digital circuit	
4	NC	No connection	
5	RESET	Global reset pin	
6	STBYB	Standby mode, Normally pulled high STBYB = “1”, normal operation STBYB = “0”, timing controller, source driver will turn off, all output are High-Z	
7	GND	Ground	
8	RXIN0-	Negative LVDS differential data input	
9	RXIN0+	Positive LVDS differential data input	
10	GND	Ground	
11	RXIN1-	Negative LVDS differential data input	
12	RXIN1+	Positive LVDS differential data input	
13	GND	Ground	
14	RXIN2-	Negative LVDS differential data input	
15	RXIN2+	Positive LVDS differential data input	
16	GND	Ground	
17	RXCLKIN-	Negative LVDS differential clock input	
18	RXCLKIN+	Positive LVDS differential clock input	
19	GND	Ground	
20	RXIN3-	Negative LVDS differential data input	
21	RXIN3+	Positive LVDS differential data input	
22	GND	Ground	
23	NC	No connection	
24	NC	No connection	
25	GND	Ground	
26	NC	No connection	
27	NC	No connection	
28	SELB	6bit/8bit mode select H:8bit / L:6bit	

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29	AVDD	Power for Analog Circuit	
30	GND	Ground	
31	NC	No connection	
32	NC	No connection	
33	L/R	Horizontal inversion	Note
34	U/D	Vertical inversion	Note
35	VGL	Negative power for TFT	
36	NC	No connection	
37	NC	No connection	
38	VGH	Positive power for TFT	
39	NC	No connection	
40	NC	No connection	

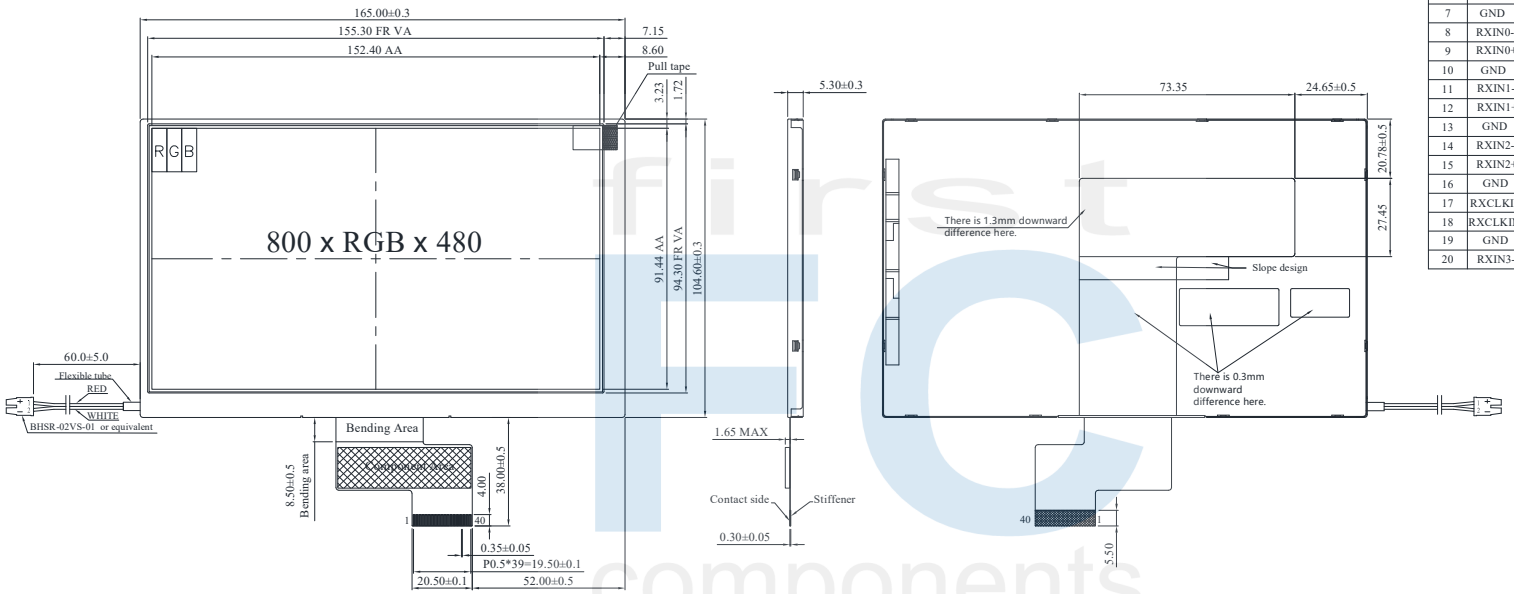
Note
When L/R="0",set right to left scan direction.
When L/R="1",set left to right scan direction.
When U/D="0",set top to bottom scan direction.
When U/D="1",set bottom to top scan direction.

Backlight Driving Part

Pin No.	Symbol	Description
1	VLED+	Red, LED_ Anode
2	VLED-	White, LED_ Cathode

Note: The backlight interface connector is a model SM02B-BHSS-1-TB manufactured by JST or equivalent. The matching connector part number is BHSR-20VS-1 manufactured by JST or equivalent.

Contour Drawing



TFT FPC

PIN NO	SYMBOL	PIN NO	SYMBOL
1	VCOM	21	RXIN3+
2	VDD	22	GND
3	VDD	23	NC
4	NC	24	NC
5	RESET	25	GND
6	STBYB	26	NC
7	GND	27	NC
8	RXIN0-	28	SELB
9	RXIN0+	29	AVDD
10	GND	30	GND
11	RXIN1-	31	NC
12	RXIN1+	32	NC
13	GND	33	L/R
14	RXIN2-	34	U/D
15	RXIN2+	35	VGL
16	GND	36	NC
17	RXCLKIN-	37	NC
18	RXCLKIN+	38	VGH
19	GND	39	NC
20	RXIN3-	40	NC

B/L

PIN NO.	SYMBOL
1	VLED+
2	VLED-

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

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