TFT DISPLAY SPECIFICATION



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SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF50-800480FL#BPW3-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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ISSUED DATE: 2024/05/14			

General Specifications

Item	Dimension	Unit
Size	5.0	inch
Dot Matrix	800× 3(RGB) × 480	dots
Module dimension	147.0(W) ×104.0(H) ×4.88	mm
Active area	108(W) ×64.8 (H)	mm
Pixel pitch	0.135(W) ×0.135(H)	mm
LCD type	TFT, Normally Black, Transmissive	
View Direction	80/80/80/80	
Aspect Ratio	5:3	
TFT Driver IC	ST7262 or equivalent	
TFT Interface	LVDS	
Backlight Type	LED ,Normally White	
CTP IC	GT911 or equivalent	
CTP Interface	I2C	
CTP FW Version	65	
CTP Resolution	800*480	
With /Without TP	With CTP	
Surface	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

Typical Operation Conditions

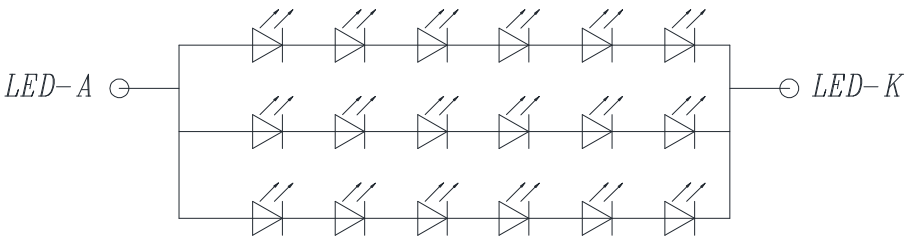
Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Power voltage	VCC	3.1	3.3	3.6	V	
Power voltage	VCCI	3.1	3.3	3.6	V	
Current for Driver(Black)	ICC	-	67.6	102	mA	Vcc=3.3V
Supply CTP	VDDT	2.8	-	3.3	V	
	I_{CTP}	-	15	22.5	mA	

Backlight Driving Conditions

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Voltage for LED backlight	VL	16.8	19.2	20.4	V	Note 1
Current for LED backlight	IL	--	60	--	mA	
LED life time	-	--	50,000	-	Hr	Note 2

Note 1: The LED Supply Voltage is defined by the number of LED at Ta=25℃ and IL =20ma/pcs.

Note 2: The “LED life time” is defined as the module brightness decrease to 50% Original brightness at Ta=25℃ and IL =20mA/pcs. The LED lifetime could be decreased if operating IL is lager than 25mA/pcs.



CIRCUIT DIAGRAM(LED 3*6=18 DIES)

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	800	1000	-	-	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/m^2	Center of display
Uniformity		(U)	-	75	-	-	%	Note5

Ta=25±2℃

Note 1: Definition of viewing angle range

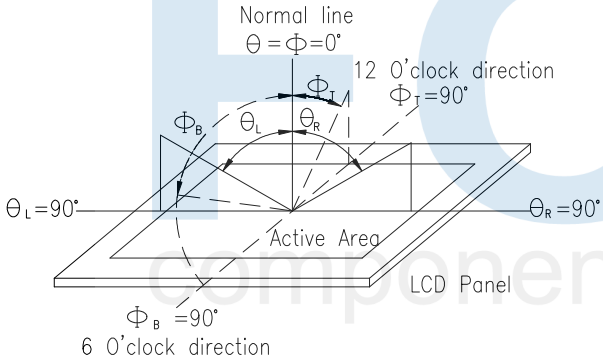


Fig. 8.1. Definition of viewing angle

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-7or BM-5 luminance meter 1.0° field of view at a distance of 50cm and normal direction.

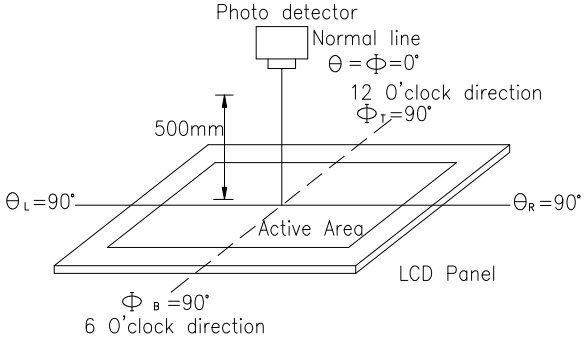


Fig. 8.2. Optical measurement system setup

Note 3: Definition of Response time:

Interface

LCM PIN Definition

FPC Connector is used for the module electronics interface.

Pin	Symbol	Function	Remark
1	NC	No connection	
2	VCC	Power voltage	
3	VCCI	Power supply for digital I/O pins.	
4	NC	No connection	
5	GRB	Global reset pin. When GRB is “L”, internal initialization procedure is executed	
6	DISP	Display on/off	
7	GND	Power Ground	
8	RXIN0-	LVDS input lane: RX0-/ RX0+ (RX0N/RX0P)	
9	RXIN0+		
10	GND	Power Ground	
11	RXIN1-	LVDS input lane: RX1-/ RX1+(RX1N/RX1P)	
12	RXIN1+		
13	GND	Power Ground	
14	RXIN2-	LVDS input lane: RX2-/ RX2+(RX2N/RX2P)	
15	RXIN2+		
16	GND	Power Ground	
17	RXCLKIN-	LVDS input lane, detail pin define please refer to LVDS Input Pin Mapping Table. (DCLKN/ DCLKP)	
18	RXCLKIN+		
19	GND	Power Ground	
20	RXIN3-	LVDS input lane: RX3-/ RX3+(RX3N/RX3P)	
21	RXIN3+		
22	GND	Power Ground	
23-24	NC	No connection	
25	FMT	FMT sets LVDS data format. L : VESA Mode (Default) H : JEIDA Mode	
26-27	NC	No connection	
28	SELB	SELB LVDS 3- / 4- lane. L : 3-lane H : 4-lane(Default)	
29	NC	No connection	

30	GND	Power Ground	
31-32	VLED-	Power for LED backlight (Cathode)	
33	L/R	Horizontal scan direction control pin. L : From right to left. H : From left to right.(Default)	
34	U/D	Vertical scan direction control pin. L : From down to up. H : From up to down. (Default)	
35	NC	No connection	
36-37	GND	Power Ground	
38	NC	No connection	
39-40	VLED+	Power for LED backlight (Anode)	

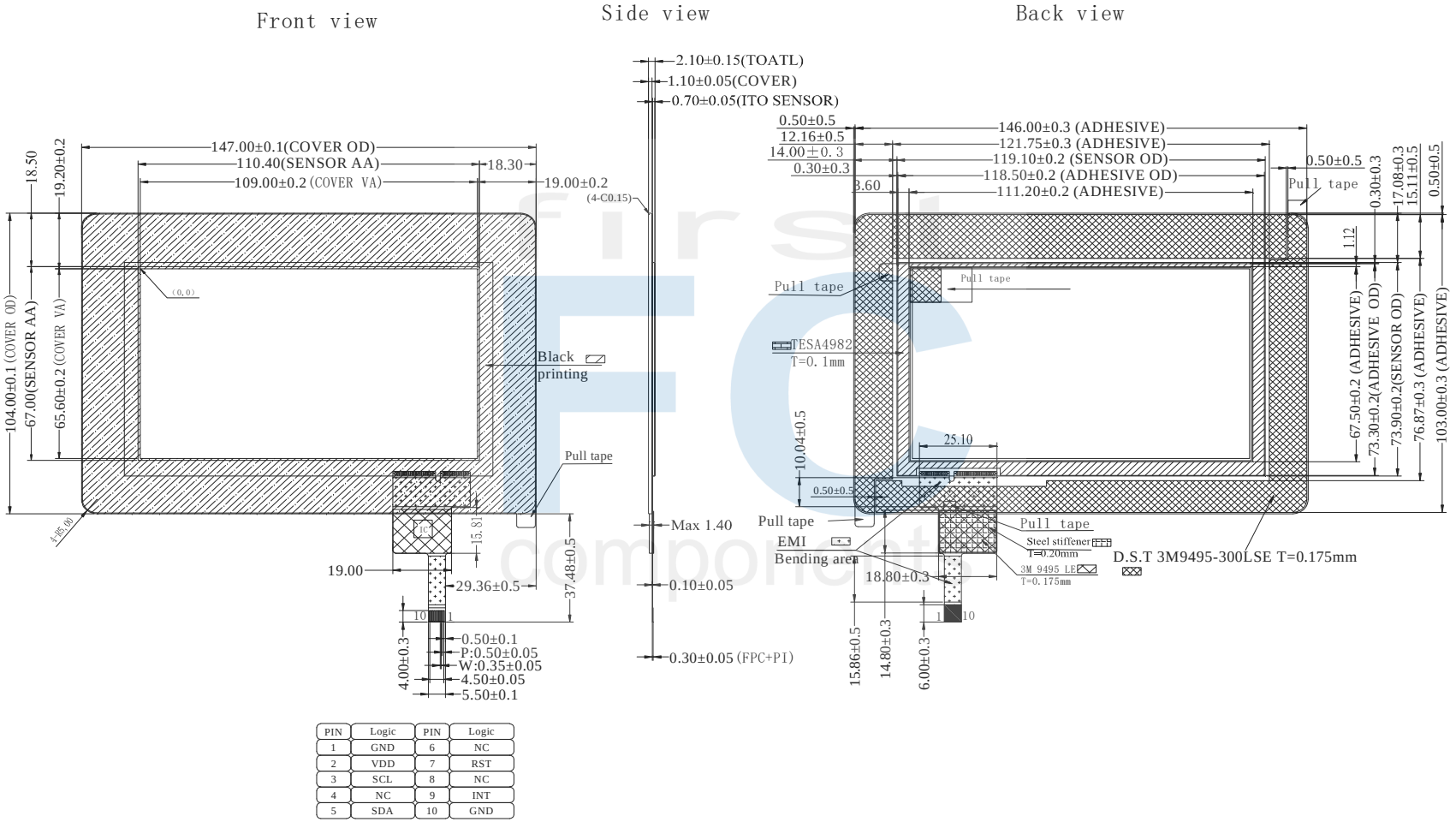
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CTP PIN Definition

Pin	Symbol	Function	Remark
1	VSS	Ground for analog circuit	
2	VDDT	Power Supply : +3.0V	
3	SCL	I2C clock input I2C clock input	
4	NC	No connect	
5	SDA	I2C data input and output	
6	NC	No connect	
7	/RST	External Reset, Low is active	
8	NC	No connect	
9	/INT	External interrupt to the host	
10	VSS	Ground for analog circuit	

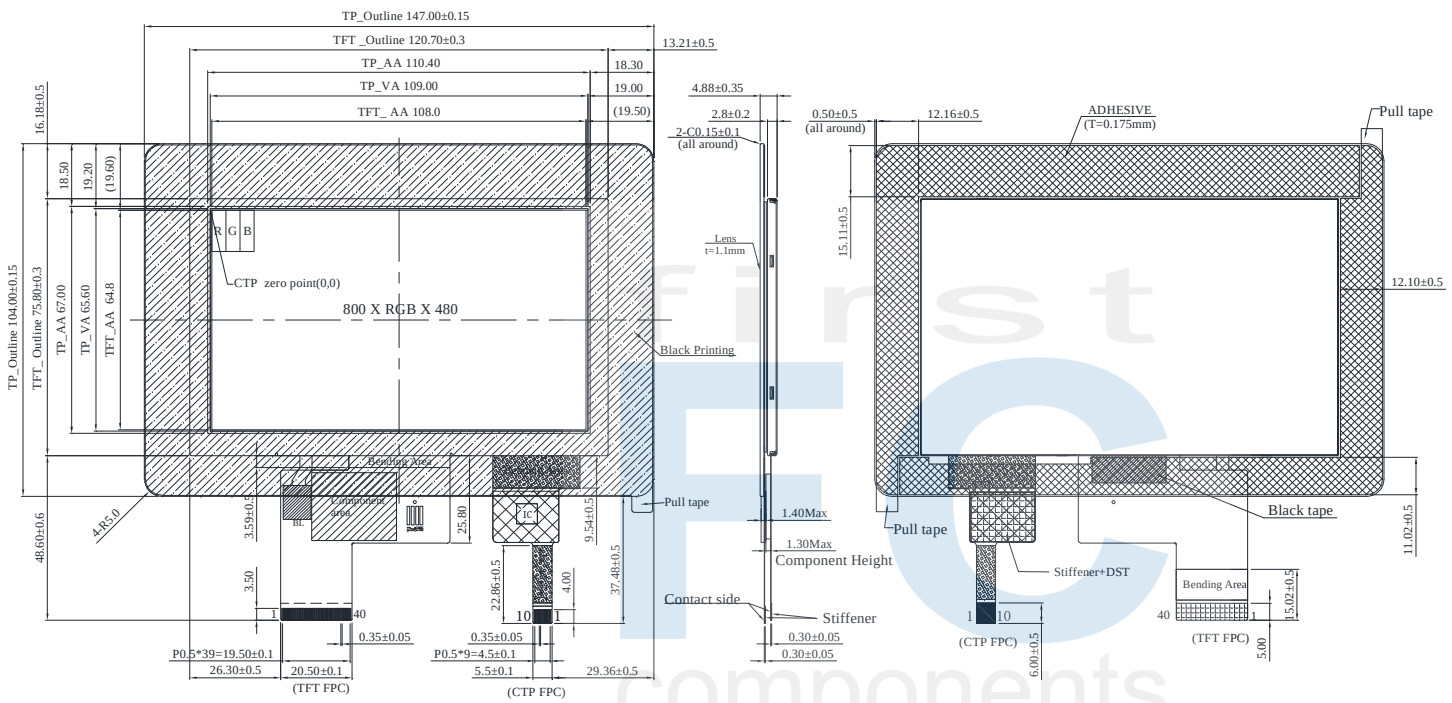
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Touch Panel Information



PIN	Logic	PIN	Logic
1	GND	6	NC
2	VDD	7	RST
3	SCL	8	NC
4	NC	9	INT
5	SDA	10	GND

Contour Drawing



TFT FPC

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

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

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

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