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.: WF101-1280800KM#0P8-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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ISSUED DATE: 2023/12/01			

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General Specifications

Item	Dimension	Unit
Screen Diagonal	10.1	inch
Number of Pixels	1280 x 3(R GB) x 800	dots
Module dimension	274.5 x 198.0 x 5.90	mm
Active area	216.96 (H) x 135.6(V)	mm
Pixel pitch	0.1695 × 0.1695	mm
Display Mode	Normally Black , Transmissive	
Viewing Angle	80/80/80/80	
Pixel Arrangement	R.G.B. Vertical Stripe	
TFT Drive IC	EK79202D or Equivalent	
Backlight Type	LED,Normally White	
Aspect Ratio	16:10	
TFT Interface	4-Lanes MIPI	
CTP FW Version	V 6. 0. 0. 0.10. 1.60. 1	
CTP IC	ILI2511or equivalent	
CTP Interface	USB (I2C available)	
CTP Resolution	16384*9600	
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	-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

Typical Operation Conditions (Note 1)

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	MAX.		
Power voltage	VCC	3.0	3.3	3.5	V	
	VGH	17.5	18.0	18.5	V	Note 1
	VGL	-11.5	-10.5	-10.0	V	Note 2
	VSP	—	5.5	—	V	Note 3
	VSN	—	-5.5	—	V	Note 3
Supply Voltage For Touch Logic	USB_VDD 5V	4.4	5.0	5.5	V	USB type

Note:
1. VGH is TFT Gate operating Voltage.
2. VGL is TFT Gate operating Voltage.
3. VSP / VSN does not require an external power supply voltage, it is provided by IC on the PCB

Current Consumption

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	MAX.		
Current for Driver	IGH	—	7.7	—	mA	VGH =18V
	IGL	—	7.7	—	mA	VGL = -10.5V
	IVCC	—	79	120	mA	-

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Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr+ Tf	θ=0°、Φ=0°	-	25	35	.ms	Note 3
Contrast ratio		CR	At optimized viewing angle	800	1000	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.272	0.322	0.372	-	Note 2,6,7
		Wy		0.294	0.344	0.394	-	
Viewing angle	Hor.	ΘR	CR≧10	70	80	-	Deg.	Note 1
		ΘL		70	80	-		
	Ver.	ΦT		70	80	-		
		ΦB		70	80	-		
Brightness		-	-	300	-	-	cd/m^2	Center of display
Uniformity		(U)	-	70	-	-	%	Note 5

Ta=25±2℃

Note 1: Definition of viewing angle range

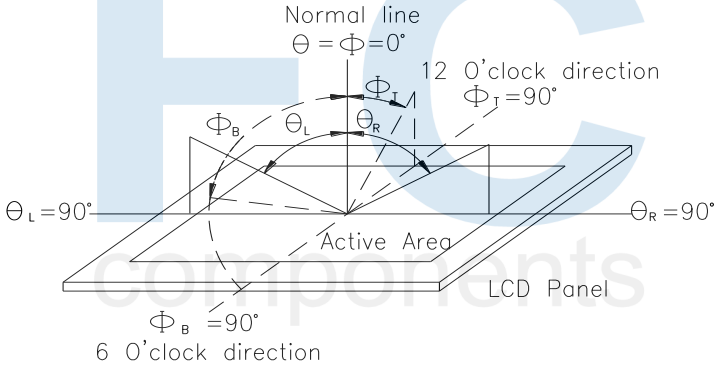


Fig. 9.1. Definition of viewing angle

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

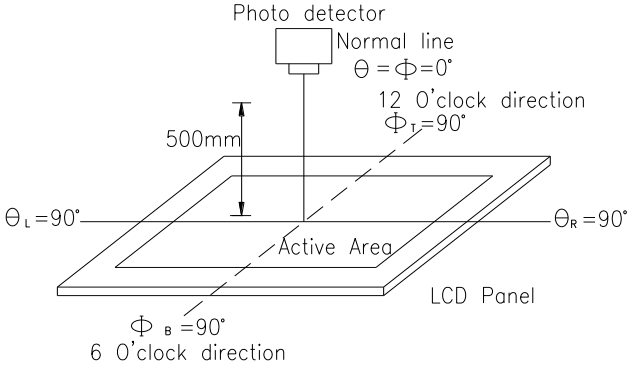


Fig. 9.2. Optical measurement system setup

Interface

Interface Connector

Pin No.	Symbol	I/O	Function	Remark
1	NC	-	No connection	
2	VCC	P	Power Supply	
3	VCC	P	Power Supply	
4	NC	-	No connection	
5	NC	-	No connection	
6	NC	-	No connection	
7	GND	P	Ground	
8	D0N	I	MIPI data Input.	
9	D0P	I		
10	GND	P	Ground	
11	D1N	I	MIPI data Input.	
12	D1P	I		
13	GND	P	Ground	
14	D2N	I	MIPI data Input.	
15	D2P	I		
16	GND	P	Ground	
17	CLKN	I	MIPI clock Input.	
18	CLKP	I		
19	GND	P	Ground	
20	D3N	I	MIPI data Input.	
21	D3P	I		
22	GND	P	Ground	
23	NC	-	No connection	
24	NC	-	No connection	
25	GND	P	Ground	
26	NC	-	No connection	
27	NC	-	No connection	
28	NC	-	No connection	
29	NC	-	No connection	
30	GND	P	Ground	
31	VLED-	P	LED Cathode	

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32	VLED-	P	LED Cathode	
33	NC	-	No connection	
34	NC	-	No connection	
35	VGL	P	Connect to stabilizing capacitor between VSSA and VGL.	
36	NC	-	No connection	
37	NC	-	No connection	
38	VGH	P	Connect to stabilizing capacitor between VSSA and VGH.	
39	VLED+	P	LED Anode	
40	VLED+	P	LED Anode	

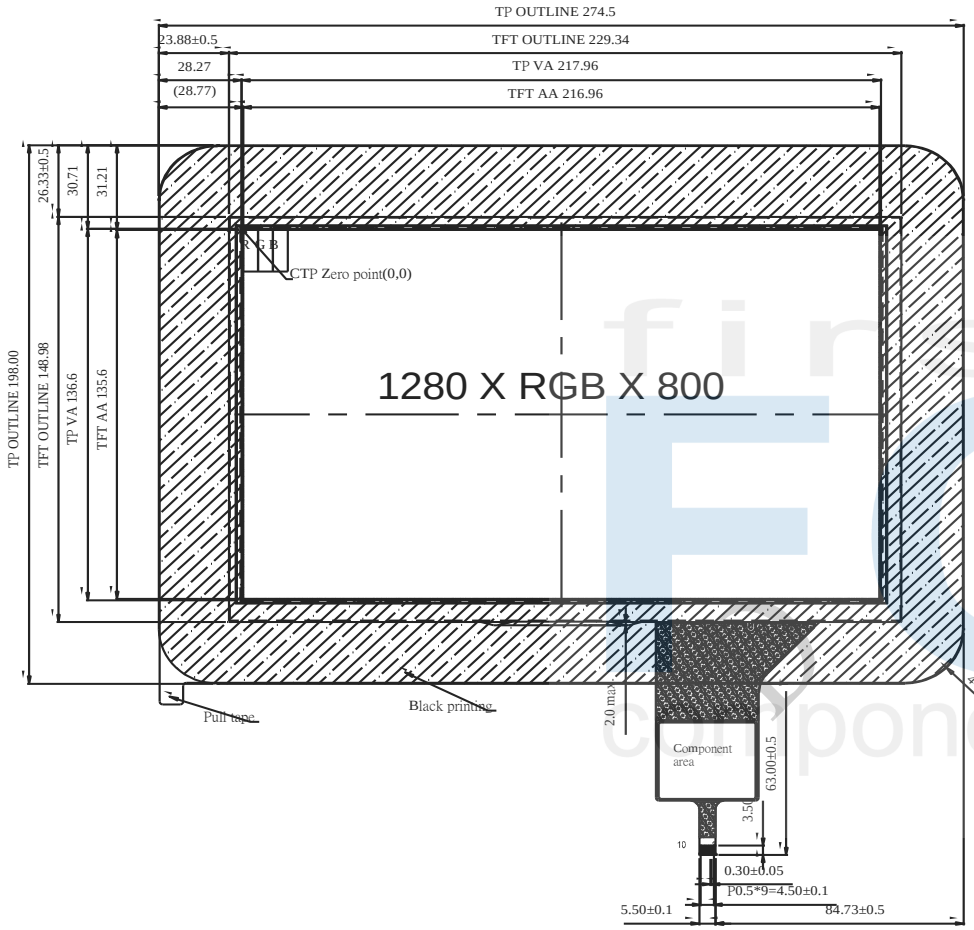
I: input, O: output, P: Power

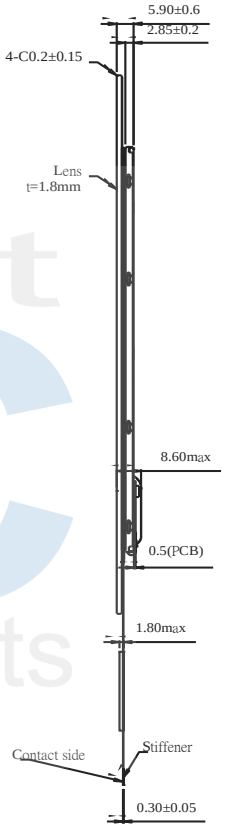
CTP PIN Definition

Pin	Symbol	Function	Remark
1	USB_VSS	System ground	
2	USB_VDD 5V	Power supply	
3	USB_D+	Data +	
4	USB_D-	Data -	
5	VSS	System ground	
6	SDA	I2C data input and output	
7	SCL	I2C clock input	
8	RST	External Reset, Low is active	
9	INT	External interrupt to the host	
10	VDDT 3.3	Power supply	

Note: Interface can support both USB and I2C,USB is main function

Contour Drawing





CTP

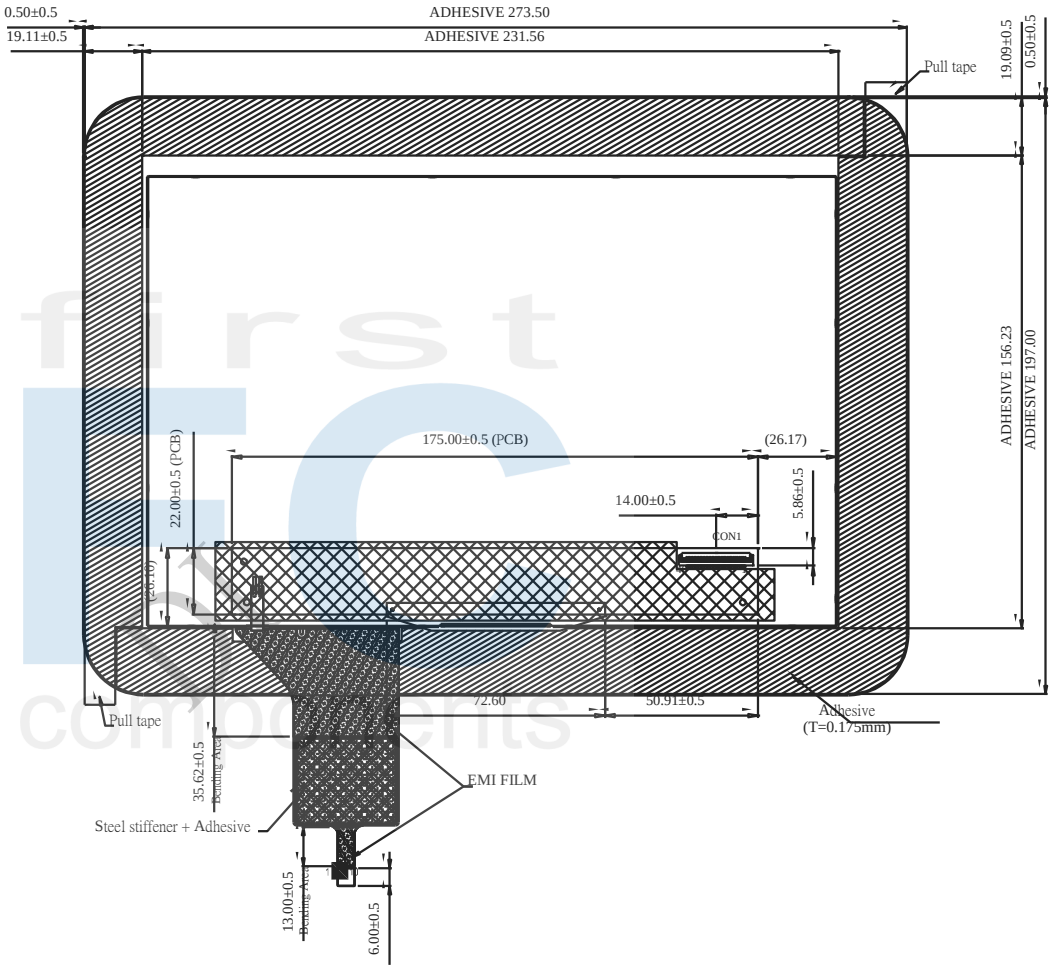
PIN No.	SYMBOL
1	USB_VSS
2	USB_VDD 5V
3	USB_D+
4	USB_D-
5	VSS
6	SDA
7	SCL
8	RST
9	INT
10	VDDT 3.3

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

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CON1

PIN NO	SYMBOL	PIN NO	SYMBOL
1	NC	21	D3P
2	VCC	22	GND
3	VCC	23	NC
4	NC	24	NC
5	NC	25	GND
6	NC	26	NC
7	GND	27	NC
8	D0N	28	NC
9	D0P	29	NC
10	GND	30	GND
11	D1N	31	VLED-
12	D1P	32	VLED-
13	GND	33	NC
14	D2N	34	NC
15	D2P	35	VGL
16	GND	36	NC
17	CLKN	37	NC
18	CLKP	38	VGH
19	GND	39	VLED+
20	D3N	40	VLED+



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