TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

Represented by:

first FC components

FIRST Components s.r.l.
www.first-components.com
sales@first-components.com
+39 0332 1888005

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SPECIFICATION

CUSTOMER : _____

MODULE NO.: **WF101-1024600JD#0SP0-FC**

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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ISSUED DATE: 2024/07/16			

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General Specifications

Item	Dimension	Unit
Size	10.1	inch
Dot Matrix	1024 RGB X 600	dots
Module dimension	235.0(W) x143.0(H) x 5.05(D)	mm
Active area	222.72 (H) x 125.28(V)	mm
Pixel pitch	0.2175(W) x 0.2088(H)	mm
LCD type	TFT, Normally Black, Transmissive	
TFT Interface	24 bit RGB	
TFT Driver IC	EK79001HN-S+EK73215BCGA or equivalent	
Viewing Angle	85/85/85/85	
Aspect Ratio	16:9	
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

Typical Operation Conditions (At Ta = 25 °C,)

ITEM	SYMBOL	MIN	TYP	MAX	UNIT	NOTE
Digital Power Supply Voltage For LCD	Vcc	3.0	3.3	3.6	V	Note1
Analog Power Supply Voltage	AVDD	9.89	10.2	10.5	V	-
Gate On Power Supply Voltage	VGH	19.4	20.0	20.6	V	-
Gate Off Power Supply Voltage	VGL	-10.3	-10.0	-9.7	V	-
Common Power Supply Voltage	VCOM	4.0	4.3	4.6	V	Note2
Input logic high voltage	VIH	0.7 Vcc	-	Vcc	V	Note3
Input logic low voltage	VIL	0	-	0.3 Vcc	V	

Note1:Vcc setting should match the signals output voltage (refer to Note 3) of customer's system board.
Note 2.Please adjust VCOM to make the flicker level be minimum.
Note 3:RESET,STBYB,U/D,L/R,SELB

Current Consumption

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Current for Driver	IGH	-	0.4	1.0	mA	VGH =20.0V
	IGL	-	1.4	2.5	mA	VGL = -10.0V
	IVcc	-	10	15	mA	Vcc =3.3V
	IAVDD	-	14.3	25	mA	AVDD =10.2V

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Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr	θ=0°、Φ=0°	-	10	20	.ms	Note 3
		Tf		-	20	25	.ms	
Contrast ratio		CR	At optimized viewing angle	600	800	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.252	0.302	0.352	-	Note 2,6,7
		Wy		0.274	0.324	0.374	-	
Viewing angle	Hor.	ΘR	CR≧10	80	85	-	Deg.	Note 1
		ΘL		80	85	-		
	Ver.	ΦT		80	85	-		
		ΦB		80	85	-		
Brightness		-	-	1000	1100	-	cd/m²	Center of display
Uniformity		(U)	-	70	-	-	%	Note 5

Ta=25±2℃

Note 1: Definition of viewing angle range

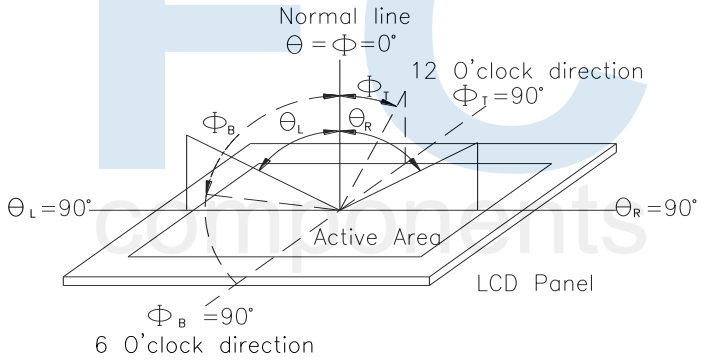
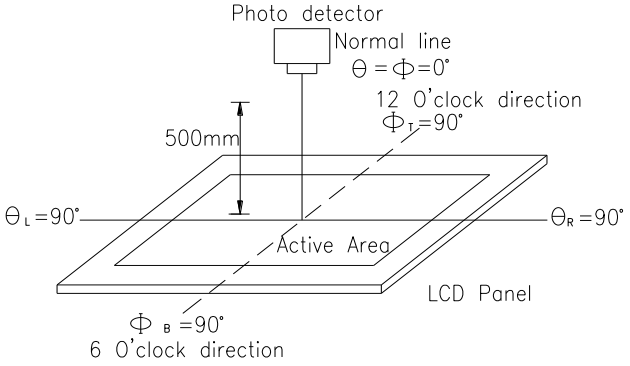


Fig. 8.1. Definition of viewing angle

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



Interface

TFT LCD MODULE

Pin No.	Symbol	Function	Remark
1	VLED+	LED Anode	
2	VLED+	LED Anode	
3	VLED-	LED Cathode	
4	VLED-	LED Cathode	
5	GND	Ground	
6	VCOM	Common voltage	
7	VCC	Power for Digital Circuit	
8	MODE	DE/SYNC mode select	Note 1
9	DE	Data Input Enable (DEN)	
10	VS	Vertical Sync Input (VSD)	
11	HS	Horizontal Sync Input (HSD)	
12	B7	Blue data(MSB)	
13	B6	Blue data	
14	B5	Blue data	
15	B4	Blue data	
16	B3	Blue data	
17	B2	Blue data	
18	B1	Blue data	
19	B0	Blue data(LSB)	
20	G7	Green data(MSB)	
21	G6	Green data	
22	G5	Green data	
23	G4	Green data	
24	G3	Green data	
25	G2	Green data	
26	G1	Green data	
27	G0	Green data(LSB)	
28	R7	Red data(MSB)	
29	R6	Red data	
30	R5	Red data	
31	R4	Red data	

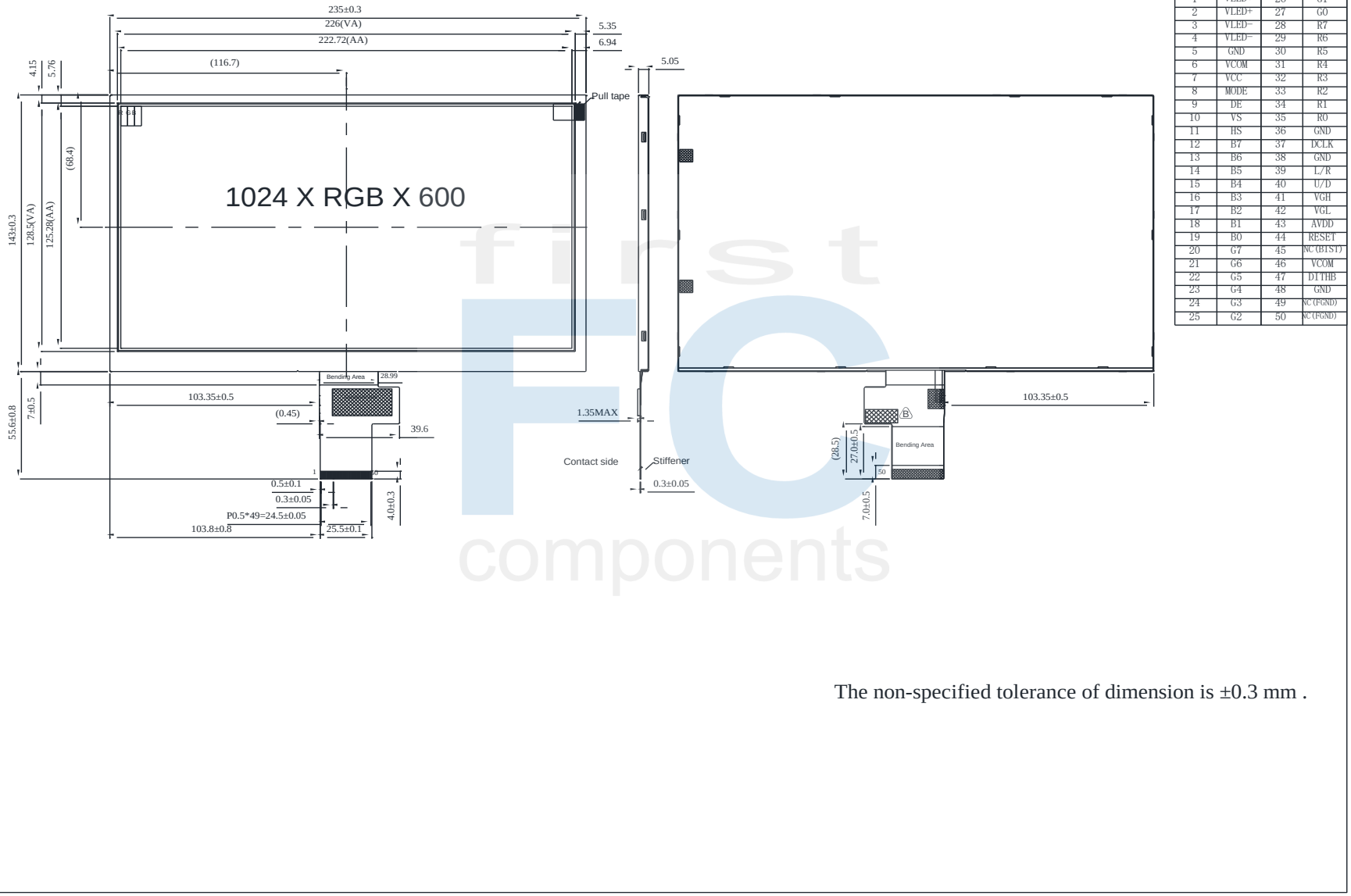
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32	R3	Red data	
33	R2	Red data	
34	R1	Red data	
35	R0	Red data(LSB)	
36	GND	Power Ground	
37	DCLK	Sample clock (CLK)	Note 2
38	GND	Power Ground	
39	L/R	Left / right selection	Note 3,4
40	U/D	Up/down selection	Note 3,4
41	VGH	Gate ON Voltage	
42	VGL	Gate OFF Voltage	
43	AVDD	Power for Analog Circuit	
44	RESET	Global reset pin.	Note 5
45	NC(BIST)	No connection	
46	VCOM	Common Voltage	
47	DITHB	Dithering function	Note 6
48	GND	Power Ground	
49	NC(FGND)	No connection	
50	NC(FGND)	No connection	

Note 1: When select DE mode, MODE="1", VS and HS must pull high.
When select SYNC mode, MODE= "0", DE must be grounded.
Note 2: Data shall be latched at the falling edge of DCLK.
Note 3: Selection of scanning mode

Setting of scan control input		**Scanning direction**
U/D	**L/R**	
Low	High	Up to down, left to right
High	Low	Down to up, right to left
Low	Low	Up to down, right to left
High	High	Down to up, left to right

Contour Drawing



PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	VLED+	26	G1
2	VLED+	27	G0
3	VLED−	28	R7
4	VLED−	29	R6
5	GND	30	R5
6	VCOM	31	R4
7	VCC	32	R3
8	MODE	33	R2
9	DE	34	R1
10	VS	35	R0
11	HS	36	GND
12	B7	37	DCLK
13	B6	38	GND
14	B5	39	L/R
15	B4	40	U/D
16	B3	41	VGH
17	B2	42	VGL
18	B1	43	AVDD
19	B0	44	RESET
20	G7	45	NC (BIST)
21	G6	46	VCOM
22	G5	47	DITHB
23	G4	48	GND
24	G3	49	NC (PGND)
25	G2	50	NC (PGND)

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

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