TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

Represented by:

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

SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF70-12001920C6M#0P0-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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ISSUED DATE: 2023/12/20			

Winstar Display Co., LTD 華凌光電股份有限公司	MODLE NO：
RECORDS OF REVISION	**DOC. FIRST ISSUE**

VERSION	DATE	REVISED PAGE NO.	**SUMMARY**
0	2023/12/20		First issue

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3.General Specifications

Item	Dimension	Unit
Size	7.0	inch
Dot Matrix	1200 x RGB x 1920 (TFT)	dots
Module dimension	112.1 x 163.75 x 2.4	mm
Active area	94.5 x 151.2	mm
Pixel Pitch	0.07875 X 0.07875	mm
LCD type	TFT, Normally Black, Transmissive	
Viewing Angle	80/80/80/80	
Aspect Ratio	10:16	
Color arrangement	RGB-STRIPE	
TFT Driver IC	HX8279-D01*2 Cascade or equivalent	
TFT Interface	4-Lanes MIPI	
Backlight Type	LED ,Normally White	
With /Without TP	Without TP	
Surface	Glare	

*Color tone slight changed by temperature and driving voltage.

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4.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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5.Electrical Characteristics

5.1. Operating conditions:

Item		Symbol	Min	Typ	Max	Unit	Notes
Power Supply Input Voltage		IOVCC	1.7	1.8	2.0	V	Ta=25º Note 1
		VSP	4.5	-	6.0	V	
		VSN	-6	-	-4.5	V	
Current Consumption	Operating	IOVCC	39.4	40.3	41.3	mA	
		VSP	16.8	17.2	17.7	mA	
		VSN	12.9	13.3	13.7	mA	
	Sleep in	IOVCC	1.58	1.59	1.61	mA	
		VSP	2.04	2.05	2.06	mA	
		VSN	0.045	0.05	0.052	mA	

Note 1:

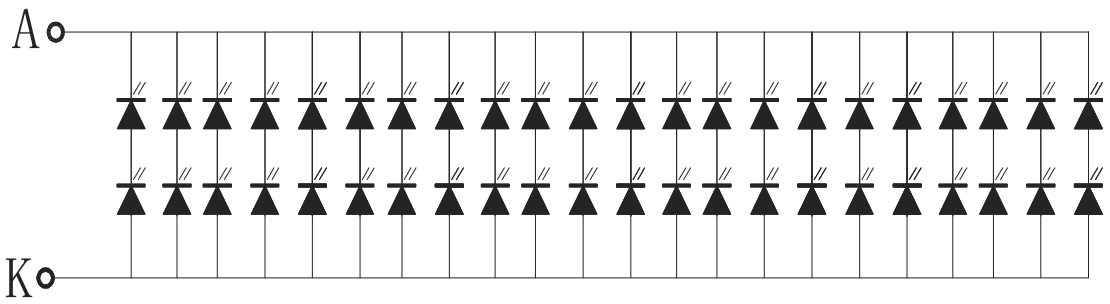
1.This is the voltage range of the IC. In this range, when the voltage is too low, the brightness of LCD may decrease

2.If the product needs to use the H1line screen, the power needs to be greater than or equal to 1w

5.2. LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
LED current	-	-	440	-	mA	-
LED voltage	A	5.2	6.0	6.8	V	Note 1
LED Life Time	-	-	50K	-	Hr	Note 2,3,4

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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10.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	1000	1200	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.235	0.285	0.335	-	Note 2,5,6
		Wy		0.269	0.319	0.369	-	
Viewing angle	Hor.	ΘR	CR≧10	75	80	-	Deg.	Note 1
		ΘL		75	80	-		
	Ver.	ΦT		75	80	-		
		ΦB		75	80	-		
Brightness		-	-	400	500	-	cd/m2	Center of display
Uniformity		(U)	-	70	-	-	%	Note 5

Ta=25±2℃, IL=440mA

Note 1: Definition of viewing angle range

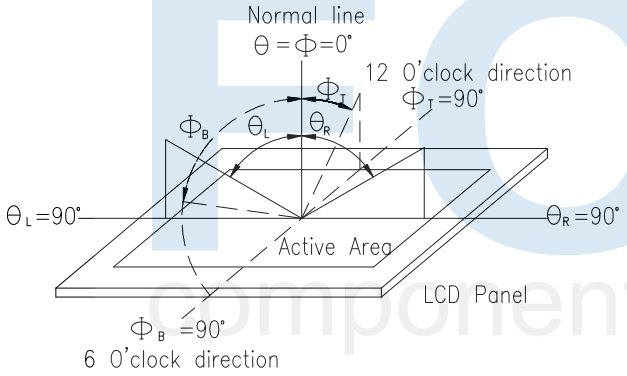
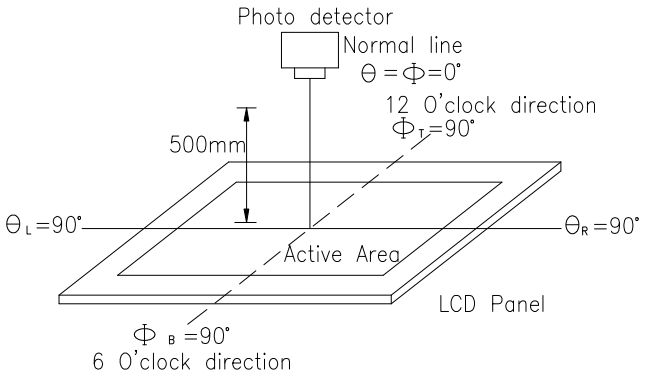


Fig. 10.1. Definition of viewing angle

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.



11.Interface

11.1. LCM PIN Definition

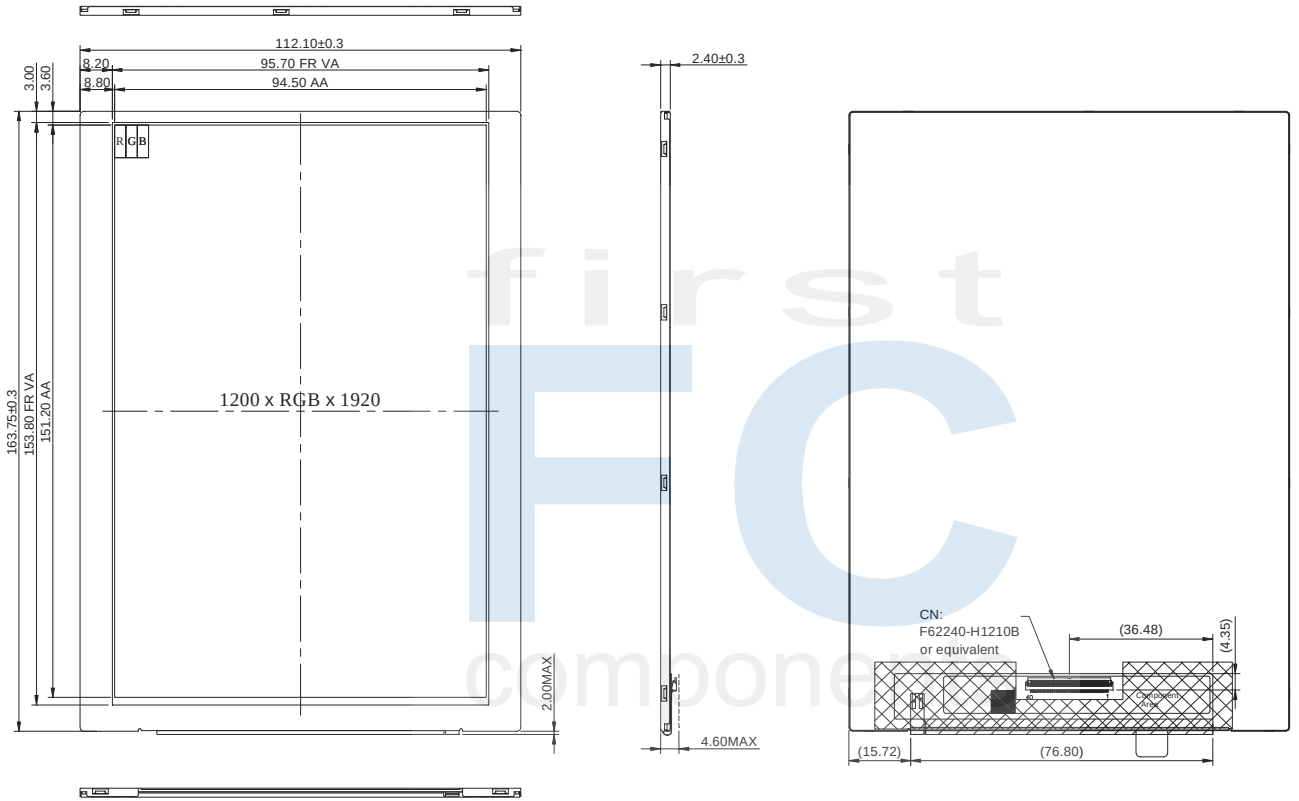
Pin	Symbol	Function	Remark
1	NC	No connection	
2	IOVCC	Power supply for system ,IOVCC=1.8V	
3	IOVCC		
4	GND	Ground	
5	RESET	Device reset signal	
6	NC	No connection	
7	GND	Ground	
8	D0N	MIPI Negative data signal (-)	
9	D0P	MIPI Positive data signal (+)	
10	GND	Ground	
11	D1N	MIPI Negative data signal (-)	
12	D1P	MIPI Positive data signal (+)	
13	GND	Ground	
14	CLKN	MIPI Negative clock signal (-)	
15	CLKP	MIPI Positive clock signal (+)	
16	GND	Ground	
17	D2N	MIPI Negative data signal (-)	
18	D2P	MIPI Positive data signal (+)	
19	GND	Ground	
20	D3N	MIPI Negative data signal (-)	
21	D3P	MIPI Positive data signal (+)	
22	GND	Ground	
23	NC	No connection	
24	NC	No connection	
25	GND	Ground	
26	NC/TE	Sync signal for touch panel. Float it if not used.	
27	PWMO	PWM control signal for LED driver	
28	NC/BIST	Enable the Test Image Generation function, if connect to ground. Float it if not used.	
29	NC	No connection	
30	GND	Ground	

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31	VLED-	LED cathode	
32	VLED-		
33	NC	No connection	
34	VSN	Analog supply negative voltage	
35	VSN		
36	NC	No connection	
37	VSP	Analog supply positive voltage	
38	VSP		
39	VLED+	LED anode	
40	VLED+		

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13.Contour Drawing



CN

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

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

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