TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.

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Represented by:

first FC components

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SPECIFICATION

CUSTOMER : _____

MODULE NO.: WFN1560EA5#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:	2026/09/17		

General Specifications

Item	Dimension	Unit
Size	15.6	inch
Dot Matrix	1920 x RGB x 1080	dots
Module dimension	360.0(W) x 212.35 (H) x 8.0 (D)	mm
Active area	344.16 x 193.59	mm
Pixel pitch	0.17925 (H) x 0.17925 (V)	mm
LCD type	TFT, Normally Black, Transmissive	
Viewing Angle	80/80/80/80	
Backlight Type	LED,Normally White	
TFT Driver IC	TC2065G3PUR09UT-A2-I or Equivalent	
TFT Interface	eDP 1.2	
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℃

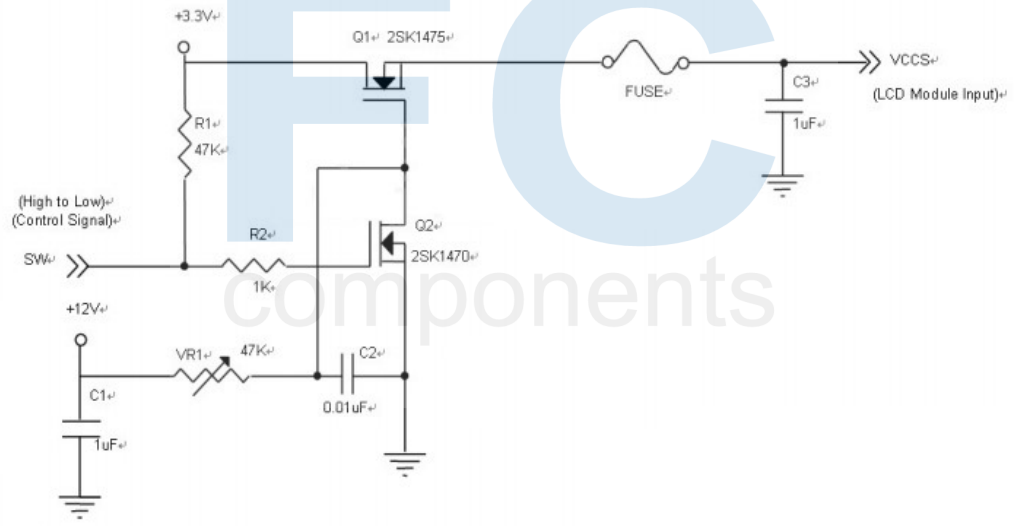
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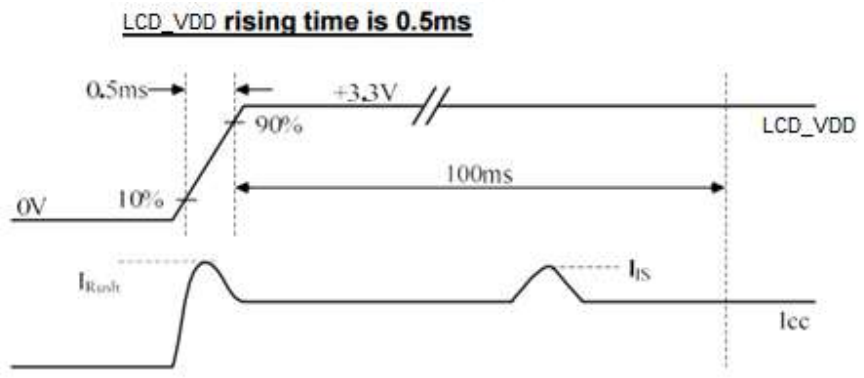
Electrical Characteristics

TFT LCD Module

Parameter		Symbol	Value			Unit	Note
			Min.	Typ.	Max.		
Supply Voltage For LCM		LCD_VDD	3.0	3.3	3.6	V	(1)
Ripple Voltage		V_{RP}	-	50	150	mV	(1)
Inrush Current		I_{RUSH}	0	-	1.5	A	(1),(2)
LCD_VDD Current		IDD	-	250	350	mA	(3)
LCD_VDD Current		IDDMAX	-	-	400	mA	(3)
HPD Pull-Low Resistance		R_{HPD}	30K	-	100K	ohm	(4)
HPD	High Level	VH_{HPD}	2.25	-	2.75	V	(5)
	Low Level	VL_{HPD}	0	-	0.4	V	(5)

Note (1) The ambient temperature is Ta = 25 ± 2 ºC.
Note (2) IRUSH: the maximum current when LCD_VDD is rising
IIS: the maximum current of the first 100ms after power-on
Measurement Conditions: Shown as the following figure. Test pattern: black.





Note (3) The specified power supply current is under the conditions at LCD_VDD = 3.3 V, Ta

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	700	1000	-	-	Note 4,
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.256	0.306	0.356		Note 2,6,7
		Wy		0.278	0.328	0.378		
Viewing angle	Hor.	ΘR	CR≧10	80	-	-	Deg.	Note 1
		ΘL		80	-	-		
	Ver.	ΦT		80	-	-		
		ΦB		80	-	-		
Brightness		-	-	500	600	-	cd/m^2	Center of display
Uniformity		(U)	-	75	-	-	%	Note 5

Ta=25±2℃

Note 1: Definition of viewing angle range

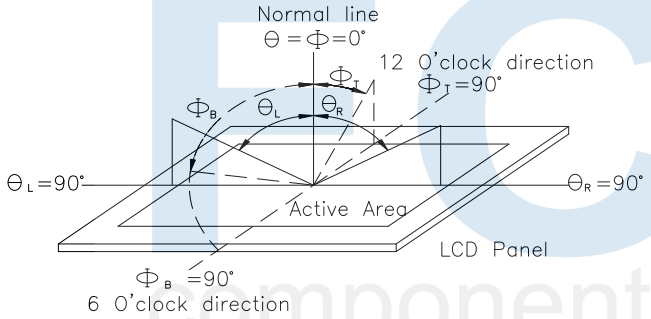


Fig 1. Definition of viewing angle

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.

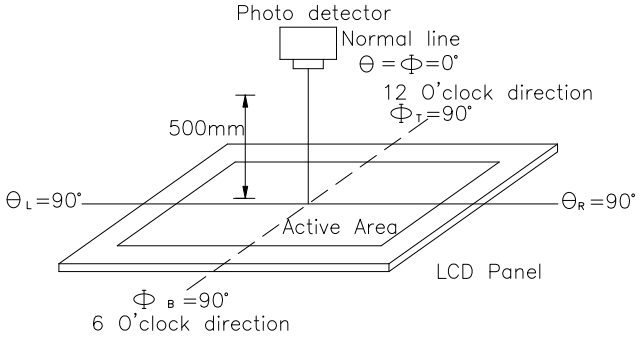


Fig 2. Optical measurement system setup

Note 3: Definition of Response time:

The response time is defined as the LCD optical switching time interval between “White” state and “Black” state. Rise time, Tr, is the time between photo detector output intensity changed

Interface

LCM PIN Definition (CN1)

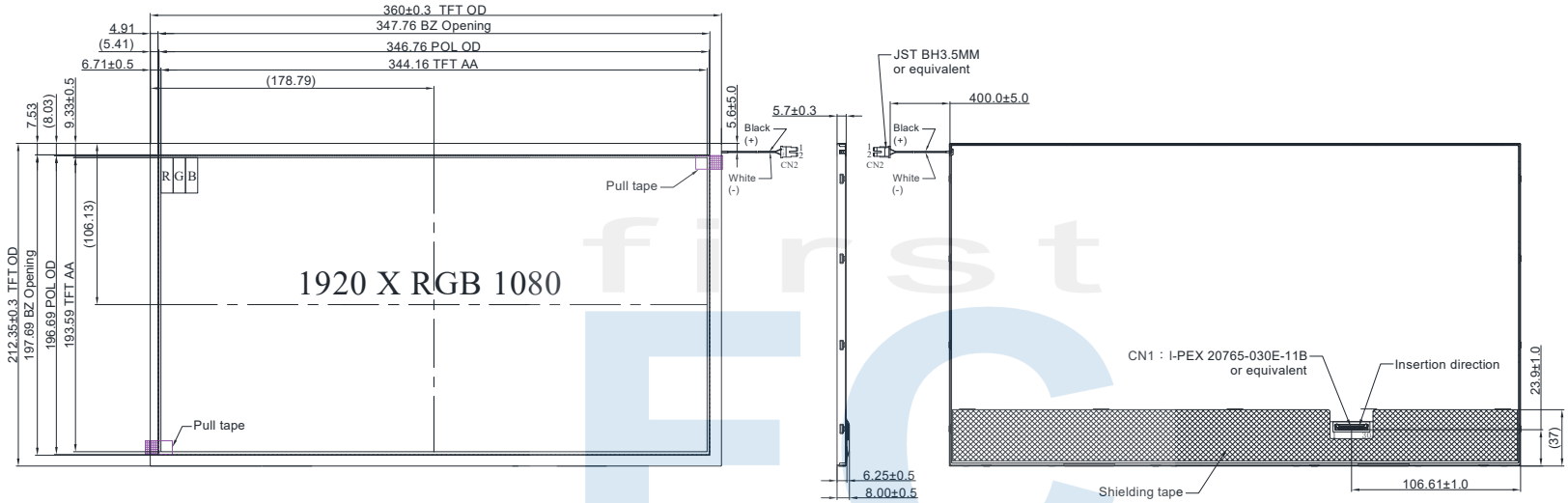
Pin No	Symbol	Description	Remark
1	NC	No Connection (Reserved for LCD test)	
2	H_GND	High Speed Ground	
3	Lane1_N	Complement Signal-Lane 1	
4	Lane1_P	True Signal-Main Lane 1	
5	H_GND	High Speed Ground	
6	Lane0_N	Complement Signal-Lane 0	
7	Lane0_P	True Signal-Main Lane 0	
8	H_GND	High Speed Ground	
9	AUX_CH_P	True Signal-Auxiliary Channel	
10	AUX_CH_N	Complement Signal-Auxiliary Channel	
11	H_GND	High Speed Ground	
12	LCD_VDD	Power Supply +3.3V(typical)	
13	LCD_VDD	Power Supply +3.3V(typical)	
14	NC	No Connection (Reserved for LCD test)	
15	LCD_GND	Ground	
16	LCD_GND	Ground	
17	HPD	Hot Plug Detect	
18-30	NC	No Connection	

Backlight PIN Definition (CN2)

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

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Contour Drawing



CN2

PIN NO.	SYMBOL
1	VLED+
2	VLED-

CN1

PIN NO.	SYMBOL	PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	NC	11	H_GND	21	NC
2	H_GND	12	LCD_VDD	22	NC
3	Lane1_N	13	LCD_VDD	23	NC
4	Lane1_P	14	NC	24	NC
5	H_GND	15	LCD_GND	25	NC
6	Lane0_N	16	LCD_GND	26	NC
7	Lane0_P	17	HPD	27	NC
8	H_GND	18	NC	28	NC
9	AUX_CH_P	19	NC	29	NC
10	AUX_CH_N	20	NC	30	NC

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

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