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
technical@first-components.com
+39 0332 1888005

SPECIFICATION

CUSTOMER : _____

MODULE NO.: WFN0570PA2#0SP0-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
ISSUED DATE:	2026/08/19		

General Specifications

Item	Dimension	Unit
Size	5.7	inch
Dot Matrix	640 x RGBx480(TFT)	dots
Module dimension	124.7 x 100.0 x 11.72	mm
Active area	115.2 x 86.4	mm
Pixel pitch	0.18 x 0.18	mm
LCD type	TFT, Normally black, Transmissive	
View Angle	89/89/89/89	
Controller IC	SSD1963	
Interface	Digital 8080 family MPU 8bit/16bit	
Backlight Type	LED ,Normally White	
With /Without TP	Without TP	
Surface	Anti-Glare	

*Color tone slight changed by temperature and driving voltage.

first components

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℃

first FC components

Electrical Characteristics

Operating conditions:

Item	Symbol	Min	Typ	Max	Unit	Remark
Supply Voltage For LCM	VDD	3.1	3.2	3.3	V	—
Supply Current For LCM	IDD	—	60	90	mA	Note1

Backlight driving conditions.

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Supply Voltage For LED Driver	LVED	4.5	5.0	5.5	V	
Supply Current for LED For LED Driver	ILED	-	630	945	mA	
PWM Control Level (PWM)	High Level	-	3.3	-	V	Note 2
	Low Level	-	0	-	V	
PWM Control Duty Ratio	-	0	-	100	%	
PWM Control Frequency	-	12K （Note5）	15K	30K （Note6）	Hz	Note 3
LED Life Time	-	50,000	-	-	Hr	Note 1

Note 1 : Ta = 25 ℃

Note 2 : PWM High Active Control from lowest brightness to highest brightness

Note 3 : Lower frequency causes the flicker or the image breaking of motion picture. Depending on the PWM signal integrity (jitter etc.), the flicker may be visible. Please evaluate in advance

Note 4：Below 12KHz there will be abnormal noise

Note 5：Above 30KHz will cause the backlight to flicker

Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr+ Tf	θ=0° 、Φ=0°	-	30	35	ms	Note 3
Contrast ratio		CR	At optimized viewing angle	1000	1500	-	-	Note 4
Color Chromaticity	White	Wx	θ=0° 、Φ=0	0.25	0.30	0.35	-	Note 2,6,7
		Wy		0.286	0.336	0.386	-	
Viewing angle	Hor.	ΘR	CR≧10	85	89	-	Deg.	Note 1
		ΘL		85	89	-		
	Ver.	ΦT		85	89	-		
		ΦB		85	89	-		
Brightness		-	-	1150	1250	-	cd/m^2	Center of display
Uniformity		(U)	-	80	-	-	%	Note5

Ta=25±2℃

Note 1: Definition of viewing angle range

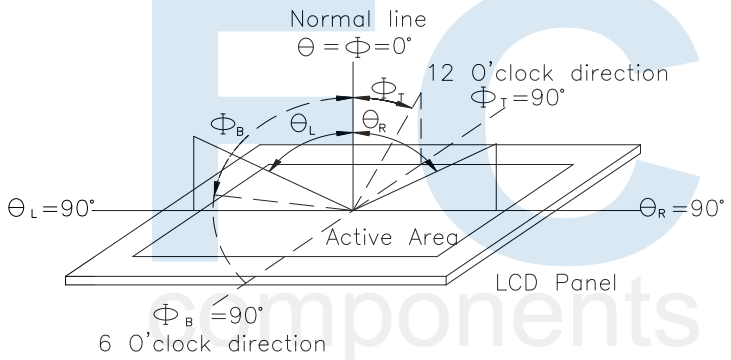


Fig.1. Definition of viewing angle

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.

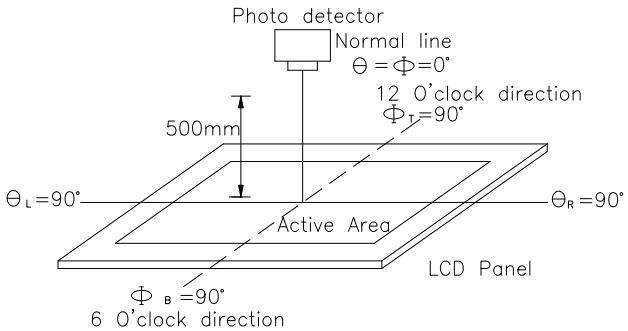


Fig. 2. Optical measurement system setup

Note 3: Definition of Response time:

The response time is defined as the LCD optical switching time interval between “White” state

Interface

LCM PIN Definition

Pin No	Symbol	Function	Remark
1	GND	System ground pin of the IC .Connect to system ground.	
2	VDD	Power Supply : +3.3V	
3	BL_PWM	Light Dimming Control (PWM) Input Voltage (High active)	
4	D/C	Data/Command select	
5	WR	Write strobe signal	
6	RD	Read strobe signal	
7	DB0	Data bus	
8	DB1	Data bus	
9	DB2	Data bus	
10	DB3	Data bus	
11	DB4	Data bus	
12	DB5	Data bus	
13	DB6	Data bus	
14	DB7	Data bus	
15	DB8	Data bus (When select 8bits Mode, this pin is NC)	Note1
16	DB9	Data bus (When select 8bits Mode, this pin is NC)	Note1
17	DB10	Data bus (When select 8bits Mode, this pin is NC)	Note1
18	DB11	Data bus (When select 8bits Mode, this pin is NC)	Note1
19	DB12	Data bus (When select 8bits Mode, this pin is NC)	Note1
20	DB13	Data bus (When select 8bits Mode, this pin is NC)	Note1
21	DB14	Data bus (When select 8bits Mode, this pin is NC)	Note1
22	DB15	Data bus (When select 8bits Mode, this pin is NC)	Note1
23	NC	No connect	
24	NC	No connect	
25	CS	Chip select	
26	RST	Hardware reset	
27	L/R	Left / right selection; Default L/R=H	Note 2,3
28	U/D	Up/down selection; ; Default U/D=L	Note 2,3
29	NC	No connect	
30	NC	No connect	
31	NC	No connect	

32	NC	No connect	
33	VLED-	Power for LED Driver IC(GND)	
34	VLED-	Power for LED Driver IC(GND)	
35	VLED+	Power for LED Driver IC(+5V)	
36	VLED+	Power for LED Driver IC(+5V)	

Note1: When select 8bit mode, DB0~DB7 be used, DB8~DB15 no connect
When select 16bit mode, DB0~DB15 be used
Note 2: Selection of scanning mode

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

Note 3: Definition of scanning direction.Refer to the figure as below:



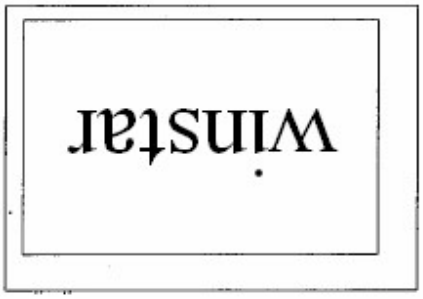
U/D=L, L/R=H



U/D=L, L/R=L

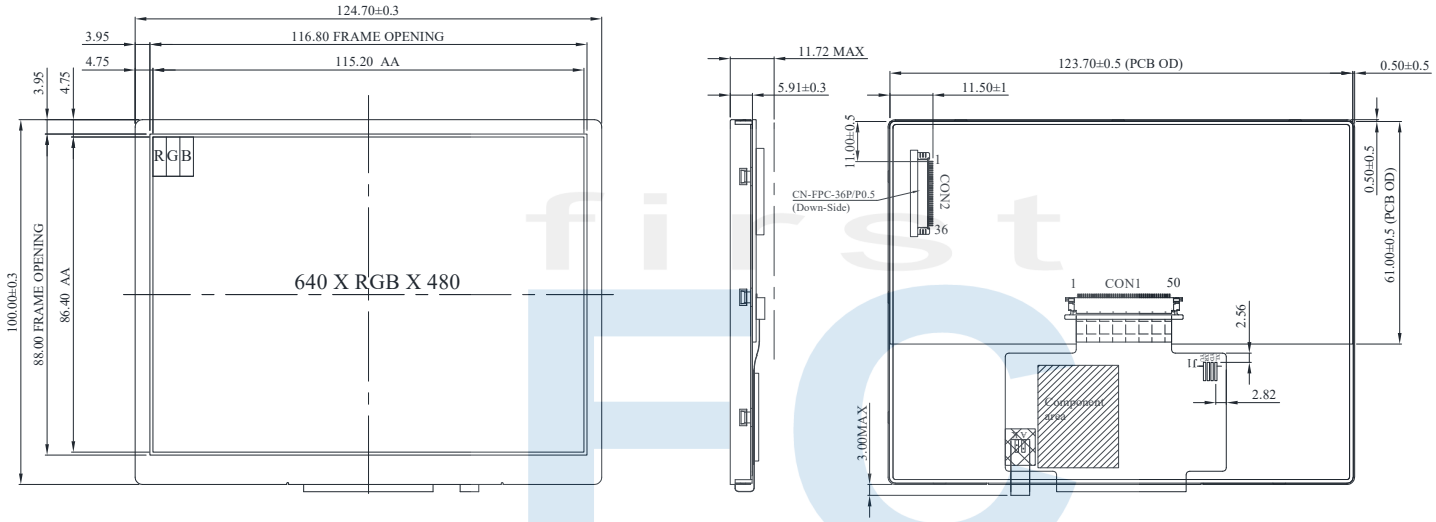


U/D=H, L/R=H



U/D=H, L/R=L

Contour Drawing



CON2

Pin no.	Symbol
1	GND
2	VDD
3	BL_PWM
4	D/C
5	WR
6	RD
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	DB8
16	DB9
17	DB10
18	DB11
19	DB12
20	DB13
21	DB14
22	DB15
23	NC
24	NC
25	CS
26	RST
27	L/R
28	U/D
29	NC
30	NC
31	NC
32	NC
33	VLED-
34	VLED-
35	VLED+
36	VLED+

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

first components