TFT DISPLAY SPECIFICATION



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SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF57-320240XD#000-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
			周园园
ISSUED DATE: 2022/12/08			

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RECORDS OF REVISION

DOC. FIRST ISSUE

VERSION	DATE	REVISED PAGE NO.	**SUMMARY**
0	2022/12/08		First issue

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Summary

TFT 5.7” is a TN transmissive type color active matrix TFT liquid crystal display that use amorphous silicon TFT as switching devices. This module is a composed of a TFT_LCD module, It is usually designed for industrial application and this module follows RoHs.

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General Specifications

Item	Dimension	Unit
Size	5.7	inch
Dot Matrix	320 x RGBx240(TFT)	dots
Module dimension	126.00(W) x 101.55(H) x 6.05(D)(MAX)	mm
Active area	115.2 x 86.40	mm
Dot pitch	0.12 x 0.36	mm
LCD type	TFT, Normally White, Transmissive	
View Direction	12 o'clock	
Gray Scale Inversion Direction	6 o'clock	
Aspect Ratio	4:3	
TFT Drive IC	HX8218+HX8615 or Equivalent	
Interface	24-bit RGB	
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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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

Operating conditions:

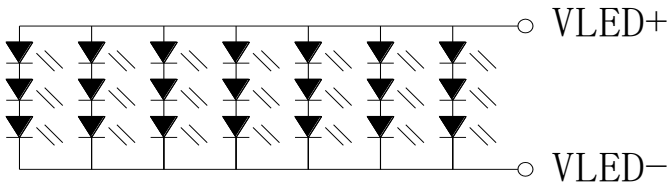
Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For LCM	VCC	—	3.2	3.3	3.4	V
	AVDD		4.5	5.0	5.5	
Input High Volt.	VIH	—	0.7 VCC	—	VCC	V
Input Low Volt.	VIL	—	0	—	0.3 VCC	V
LCD Driving Supply Voltage	VGH	Ta=25℃	15	16	17	V
	VGL		-6	-5	-4	
	VcomH		—	4.5	—	
	VcomL		—	-0.5	—	
Supply Current For LCM	IVCC	VCC=3.3V	—	30	45	mA

Notes:
*1) VGH is TFT Gate on operating voltage.
*2) VGL is TFT Gate off operating voltage, VGL signal must be fluctuates with same phase as Vcom when Storage on Gate structure.
*3) Vcom must be adjusted to optimize display quality_Crosstalk Contrast Ratio and etc.

5.2. LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
LED current		-	140	-	mA	
Power Consumption			1365	1470	mW	
LED voltage	VBL+	9.0	-	10.5	V	Note 1
LED Life Time		-	50,000	-	Hr	Note 2,3,4

Note 1 : There are 1 Groups LED



Backlight 21Dice LED Circuit

Note 2 : Ta = 25 ℃
Note 3 : Brightness to be decreased to 50% of the initial value
Note 4 : The single LED lamp case

DC CHARATERISTICS

Parameter	Symbol	Rating			Unit	Condition
		Min	Typ	Max		
Low level input voltage	V_{IL}	0	-	0.3VCC	V	
High level input voltage	V_{IH}	0.7VCC	-	VCC	V	

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AC CHARATERISTICS

CCIR601/656 Interface

Input signal characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
CLK period	Tosc	-	37	-	ns
Data setup time	Tsu	12	-	-	ns
Data hold time	THo	12	-	-	ns

Hardware reset timing

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reset low pulse width	TRSB	10	-	-	μ s

Output signal characteristics

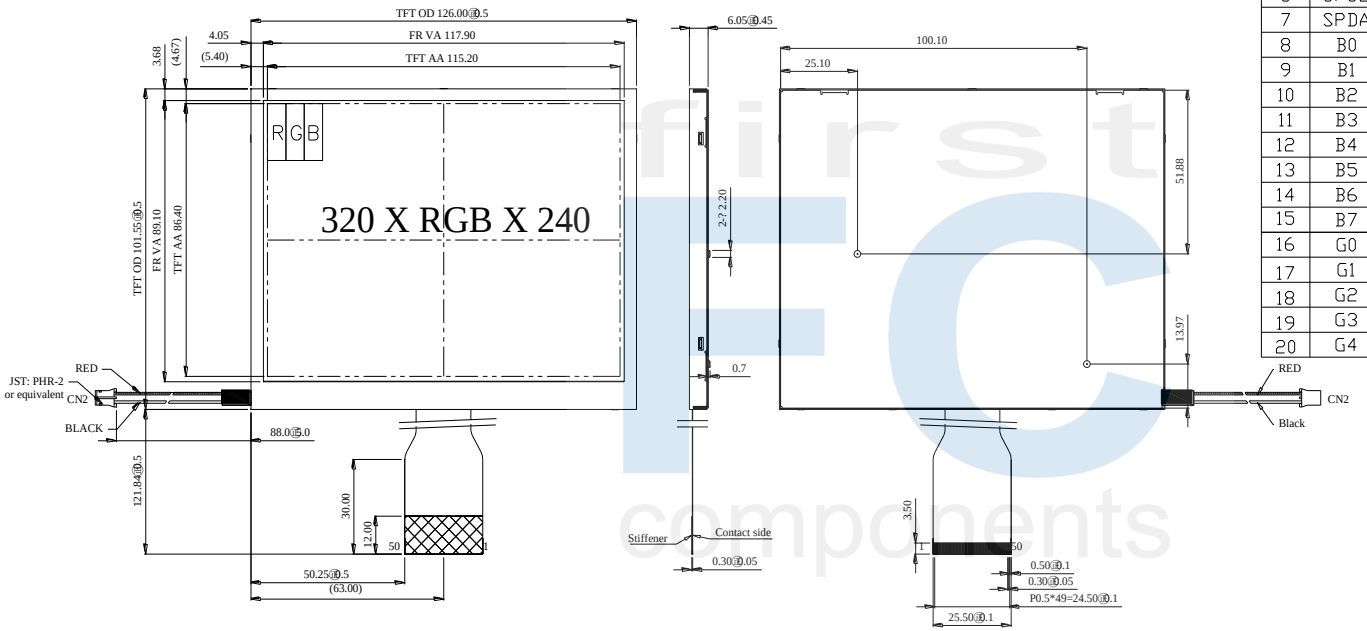
Parameter		Symbol	Min.	Typ.	Max.	Unit
Rising time		Tr	-	-	10	ns
Falling time		Tf	-	-	10	ns
Intemal STH setup time		Tsus	12	-	-	ns
Intemal STH hold time		THDS	12	-	-	ns
Intemal data setup time		TSUD	60	-	-	ns
Intemal data hold time		THDD	40	-	-	ns
OEH pulse width		TOEH	-	1248	-	ns
OEV pulse width		TOEV	-	4992	-	ns
CKV pulse width		TCKV	-	3744	-	ns
Hsync-DEH time		T1	-	4368	-	ns
Hsync-CKV time		T2	-	2496	-	ns
Hsync-OEV time		T3	-	624	-	ns
Vsync-setup time		TSUV	-	1872	-	ns
Vsync-pulse time		TSTV		1	-	TH
Vsync-STV time	NTSC	TVS1	-	19	-	TH
	PAL	TVS1	-	27	-	TH
OEH-STV time		THE	-	2	-	TH
Output settling time		TOES	-	12	20	μ s

24-bits parallel RGB Interface

AC Timing Characteristics

Signal	Item	Symbol	Min.	Typ.	Max.	Unit
Dclk	Frequency	Dclk	-	6.4	-	MHZ
	High time	Tch	-	78	-	ns
	Low time	Tcl	-	78	-	ns
Data	Setup time	Tds	12	-	-	ns
	Hold time	Tdh	12	-	-	ns
Hsync	Period	TH	-	408	-	DCLK
	Pulse Width	Thp	-	30	-	DCLK
	Back-Porch	Thb	-	38	-	DCLK

Contour Drawing



PIN NO	SYMBOL	PIN NO	SYMBOL	PIN NO	SYMBOL
1	IF1	21	G5	41	VGL
2	IF2	22	G6	42	UD
3	POL	23	G7	43	VGH
4	RESET	24	R0	44	LRC
5	SPENA	25	R1	45	GND
6	SPCL	26	R2	46	VCOM
7	SPDA	27	R3	47	VCOM
8	B0	28	R4	48	ENB
9	B1	29	R5	49	GND
10	B2	30	R6	50	GND
11	B3	31	R7		
12	B4	32	Hsync	CN2	
13	B5	33	Vsync	RED	VLED+
14	B6	34	Data CLK	BLACK	VLED-
15	B7	35	AVDD		
16	G0	36	AVDD		
17	G1	37	Vcc		
18	G2	38	Vcc		
19	G3	39	NPC		
20	G4	40	VGL		

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