Winstar Display Co., LTD
華凌光電股份有限公司
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SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF35-320240RD#BS0-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
			葉虹蘭
ISSUED DATE: 2021/09/03			

Represented by:
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3.General Specifications

Item	Dimension	Unit
Size	3.5	inch
Dot Matrix	320 x RGBx240(TFT)	dots
Module dimension	76.84(W) x 63.84(H) x 3.27(D)	mm
Active area	70.08 x 52.56	mm
Dot pitch	0.073 x 0.219	mm
LCD type	TFT, Normally White, Transmissive	
View Direction	12 o'clock	
Gray Scale Inversion Direction	6 o'clock	
TFT Interface	8-bit/16-bit CPU or SPI+RGB or SPI (build in controller)	
Aspect Ratio	4:3	
Backlight Type	LED,Normally White	
IC	SSD2119 or Equivalent	
With /Without TP	Without TP	
Surface	Anti-Glare	

*Color tone slight changed by temperature and driving voltage.

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℃

5.Electrical Characteristics

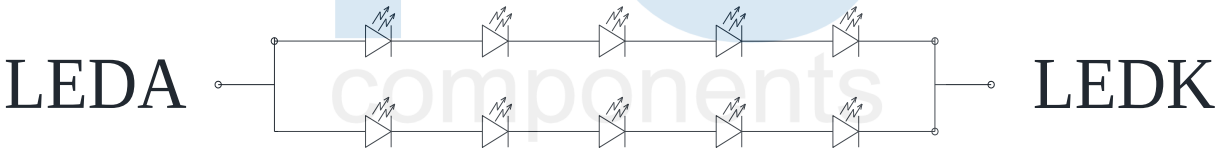
5.1. Operating conditions:

Item	Symbol	MIN	TYP	MAX	Unit	Remark
Power supply voltage	VCI	2.5	3.3	3.6	V	
Power supply pin of IO pins	VDDIO	1.4	3.3	3.6	V	
Current consumption	IVCI+IVDDIO	-	6	-	mA	
Dot clock	DCK	-	5.5	8.2	MHz	

5.2. LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
LED current		-	40		mA	
Power Consumption		540	620	660	mW	
LED voltage	LED+	13.5	15.0	16.5	V	Note 1
LED Life Time		-	50,000	-	Hr	Note 2,3,4

Note 1 : There are 1 Groups LED



CIRCUIT DIAGRAM

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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8.Interface

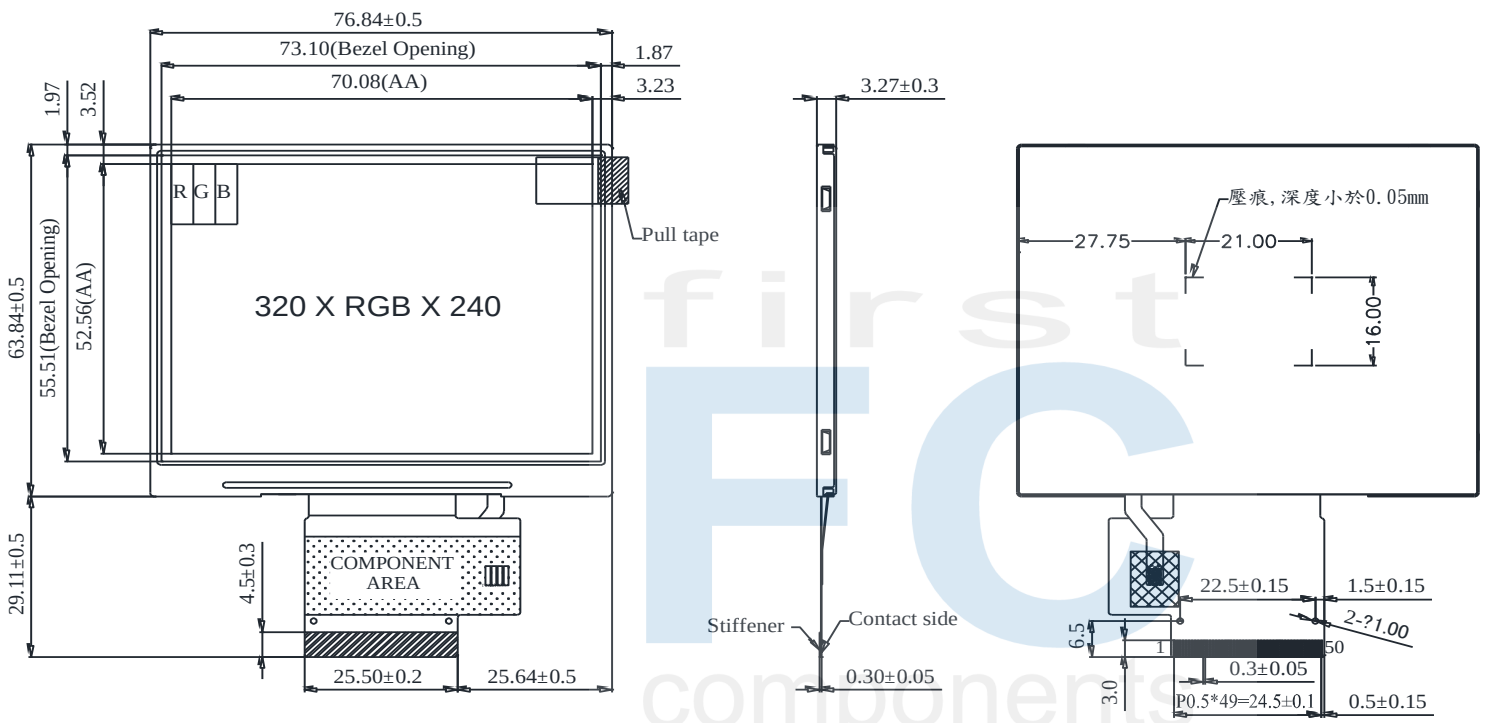
8.1. LCM PIN Definition

No.	Symbol	Description
1	VCI	Booster input voltage pin
2	VCI	Booster input voltage pin
3	VSS	Ground
4	VDDIO	Voltage input pin for logic
5	VSS	Ground
6	RESET	Reset Signal pin (“Low” is enable)
7	DC/SDC	Data or Command select PIN.
8	E/RD	6800 system: E(enable signal) 8080 system : RD(read strobe signal) Serial mode: Not use and should be connected to VDDIO or VSS
9	WR	6800 system : RW (indicates read cycle when high ,write cycle when low) 8080 system : WR (write strobe signal)
10	CS	Chip select
11	SCL	Serial Clock.
12	SD0	Serial Data output
13	SDI	Serial Data Input
14	WSYNC	Ram write synchronization output. Leave it OPEN when not used.
15~32	D17~D0	Data bus
33	VSS	Ground
34	DOTCLK	Dot-clock signal and oscillator source
35	HSYNC	Line Synchronous Signal
36	VSYNC	Frame Synchronous Signal
37	DE	Display enable pin for controller
38	VSS	Ground
39	PS0	Interface select PIN
40	PS1	
41	PS2	
42	PS3	
43	VSS	Ground
44~47	NC	NC
48	VSS	Ground
49	LEDK	Backlight LED Cathode

50	LEDA	Backlight LED Anode.

PS3	PS2	PS1	PS0	Interface Mode	Data bus input
0	0	0	0	16-bit 6800 parallel interface	D[17:10], D[8:1]
0	0	0	1	8-bit 6800 parallel interface	D[17:10]
0	0	1	0	16-bit 8080 parallel interface	D[17:10], D[8:1]
0	0	1	1	8-bit 8080 parallel interface	D[17:10]
0	1	0	0	9-bit generic D[9:16] (262k colour) + 3-wire SPI If 65K color, D12 shorts to D17 internally	
0	1	0	1	16-bit generic (262k colour) + 3-wire SPI	
0	1	1	0	18-bit generic (262k colour) + 3-wire SPI	
0	1	1	1	6-bit generic D[8:3] (262k colour) + 3-wire SPI	
1	0	0	0	18-bits 6800 parallel interface	D[17:0]
1	0	0	1	9-bits 6800 parallel interface	D[17:9]
1	0	1	0	18-bit 8080 parallel interface	D[17:0]
1	0	1	1	9-bit 8080 parallel interface	D[17:9]
1	1	1	0	3-wire SPI	
1	1	1	1	4-wire SPI	

11.Contour Drawing



PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	VCI	26	D6
2	VCI	27	D5
3	VSS	28	D4
4	VDDIO.	29	D3
5	VSS	30	D2
6	RESET	31	D1
7	DC/SDC(RS)	32	D0
8	E/RD	33	VSS
9	WR	34	DOTCLK
10	CS	35	HSYNC
11	SCL	36	VSYNC
12	SDO	37	DE
13	SDI	38	VSS
14	WSYNC(NC)	39	PS0
15	D17	40	PS1
16	D16	41	PS2
17	D15	42	PS3
18	D14	43	VSS
19	D13	44	NC(YU)
20	D12	45	NC(XL)
21	D11	46	NC(YD)
22	D10	47	NC(XR)
23	D9	48	VSS
24	D8	49	LEDK
25	D7	50	LEDA

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

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