TFT DISPLAY SPECIFICATION

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RFJ320D-ALW-DNS

SPECIFICATION

General Specifications

- Size: 3.2 inch
- Dot Matrix: 240 x RGB x 320(TFT) dots
- Module dimension: 55.04 (W) x 77.6 (H) x 3.65(D) mm
- Active area: 48.6 x 64.8 mm
- Pixel pitch: 0.2025 x 0.2025 mm
- LCD type: TFT, Normally White, Transmissive
- View Direction: 6 o'clock
- Gray Scale Inversion Direction: 12 o'clock
- Aspect Ratio: Portrait
- Driver IC: ILI9341 or Equivalent
- Interface: 80 MCU 8bit /9bit/16bit/18bit/SPI (3 Wire/4 Wire)
- Backlight Type: LED, Normally White
- Touch Panel: Resistive Touch Panel
- Surface: Glare

*Color tone slight changed by temperature and driving voltage.

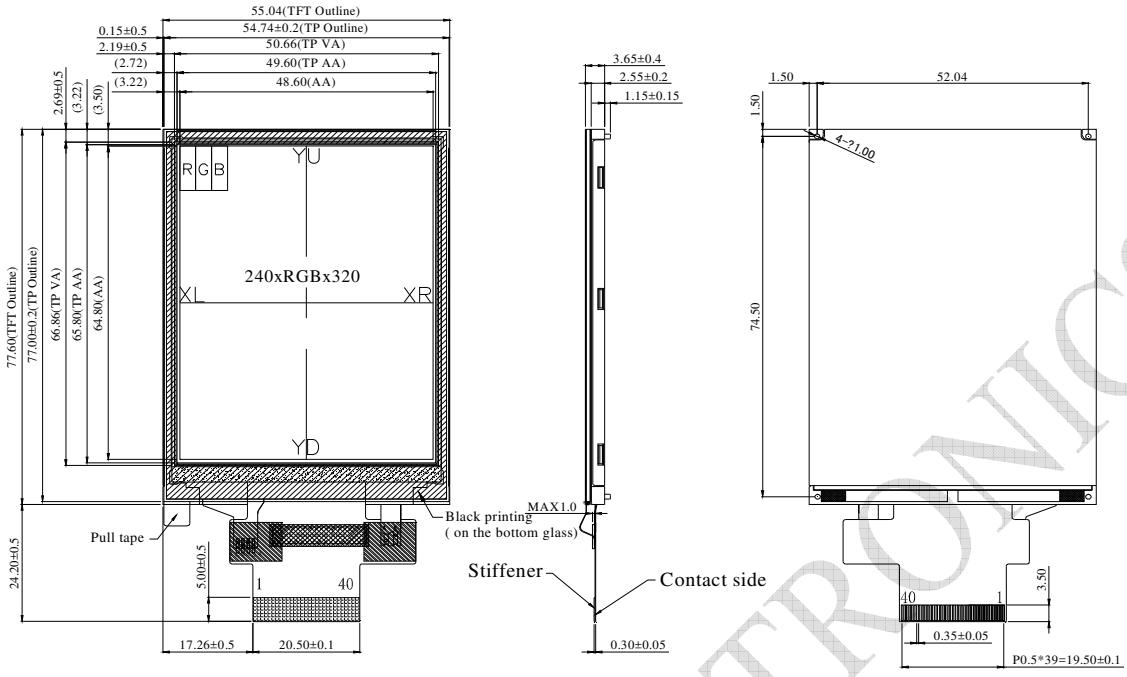
Interface

LCM PIN Definition

NO	Symbol	Function	I/O
1	YU	Y up for touch panel	—
2	XL	X left for touch panel	—
3	YD	Y down for touch panel	—
4	XR	X right for touch panel	—
5	VCI	Power supply(TYP: 2.8V).	P
6	IOVCC	Power supply(TYP:1.8V/2.8V).	P
7	R5	18-bit parallel bi-directional data bus for MCU system and RGB interface mode Fix to VSS level when not in use	I/O
8	R4		
9	R3		
10	R2		
11	R1		
12	R0		
13	G5		
14	G4		
15	G3		
16	G2		
17	G1		
18	G0		
19	B5		
20	B4		
21	B3		
22	B2		
23	B1		
24	B0		
25	SDA	Serial data input/output	I/O
26	DOTCLK	Data enable signal in RGB interface.	I
27	DE	A data ENABLE signal in RGB I/F mode	I
28	HSYNC	Horizontal synchronizing signal in RGB interface	I
29	VSYNC	Vertical synchronizing signal in RGB interface	I
30	NRD	Read enable pin I80 parallel bus system interface	I
31	NWR_DNC	NWR Write enable pin I80 parallel bus system interface	I

<table>
<tr><td></td><td></td><td>DNC Command/parameter or display data selection pin in serial bus system interface</td><td></td></tr>
<tr><td>32</td><td>DNC_SCL</td><td>DNC Command/parameter or display data selection pin in parallel interface
SCL Serial data clock in serial bus system Interface</td><td>I</td></tr>
<tr><td>33</td><td>NCS</td><td>Chip select signal</td><td>I</td></tr>
<tr><td>34</td><td>NRESET</td><td>System Reset</td><td>I</td></tr>
<tr><td>35
36
37</td><td>IM0
IM1
IM2</td><td>System interface select:
<table>
<tr><th rowspan="2">IM2</th><th rowspan="2">IM1</th><th rowspan="2">IM0</th><th rowspan="2">MCU-Interface Mode</th><th colspan="2">DB Pin in use</th></tr>
<tr><th>Register/Content</th><th>GRAM</th></tr>
<tr><td>0</td><td>0</td><td>0</td><td>80 MCU 8-bit bus interface I</td><td>D[7:0]</td><td>D[7:0]</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>80 MCU 16-bit bus interface I</td><td>D[7:0]</td><td>D[15:0]</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td>80 MCU 9-bit bus interface I</td><td>D[7:0]</td><td>D[8:0]</td></tr>
<tr><td>0</td><td>1</td><td>1</td><td>80 MCU 18-bit bus interface I</td><td>D[7:0]</td><td>D[17:0]</td></tr>
<tr><td>1</td><td>0</td><td>1</td><td>3-wire 9-bit data serial interface I</td><td colspan="2">SDA: In/OUT</td></tr>
<tr><td>1</td><td>1</td><td>0</td><td>4-wire 8-bit data serial interface I</td><td colspan="2">SDA: In/OUT</td></tr>
</table></td><td>I</td></tr>
<tr><td>38</td><td>GND</td><td>Ground</td><td>P</td></tr>
<tr><td>39</td><td>VLED+</td><td>Anode of LED backlight.</td><td>P</td></tr>
<tr><td>40</td><td>VLED-</td><td>Cathode of LED backlight.</td><td>P</td></tr>
</table>

Contour Drawing



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1	YU
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24	B0
25	SDA
26	DOTCLK
27	DE
28	HSYNC
29	VSYNC
30	NRD
31	NWR_DNC
32	DNC_SCL
33	NCS
34	NRESET
35	IM0
36	IM1
37	IM2
38	GND
39	VLED+
40	VLED-

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

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-20	—	+70	℃
Storage Temperature	TST	-30	—	+80	℃

Electrical Characteristics

Operating conditions

Item	Symbol	Condition	Min	Type	Max	Unit
Power supply voltage	VCI		2.5	2.8	3.3	V
Power supply voltage	IOVCC		1.65	2.8	3.3	V
Input high voltage	Vih		0.7IOVCC	-	IOVCC	V
Input low voltage	Vil		GND	-	0.3IOVCC	V
Output high voltage	Voh	IOL=-1.0mA	0.8 IOVCC	-	IOVCC	V
Output low voltage	Vol	IOL =1.0mA	GND	-	0.2 IOVCC	V
Current consumption	I_{VCI}	-	-	5.5	8.25	mA

This value is test for VDD=3.3V , Ta=25 ℃ only

LED driving conditions

Parameter	Symbol	Min	Typ	Max	Unit
LED current	—	—	120	—	mA
LED voltage	VLED+	2.7	3.1	3.4	V
LED Life Time	—	—	50000	—	Hr