

TFT DISPLAY SPECIFICATION



RAYSTAR

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RFJ240M-ALW-DNS

SPECIFICATION

General Specifications

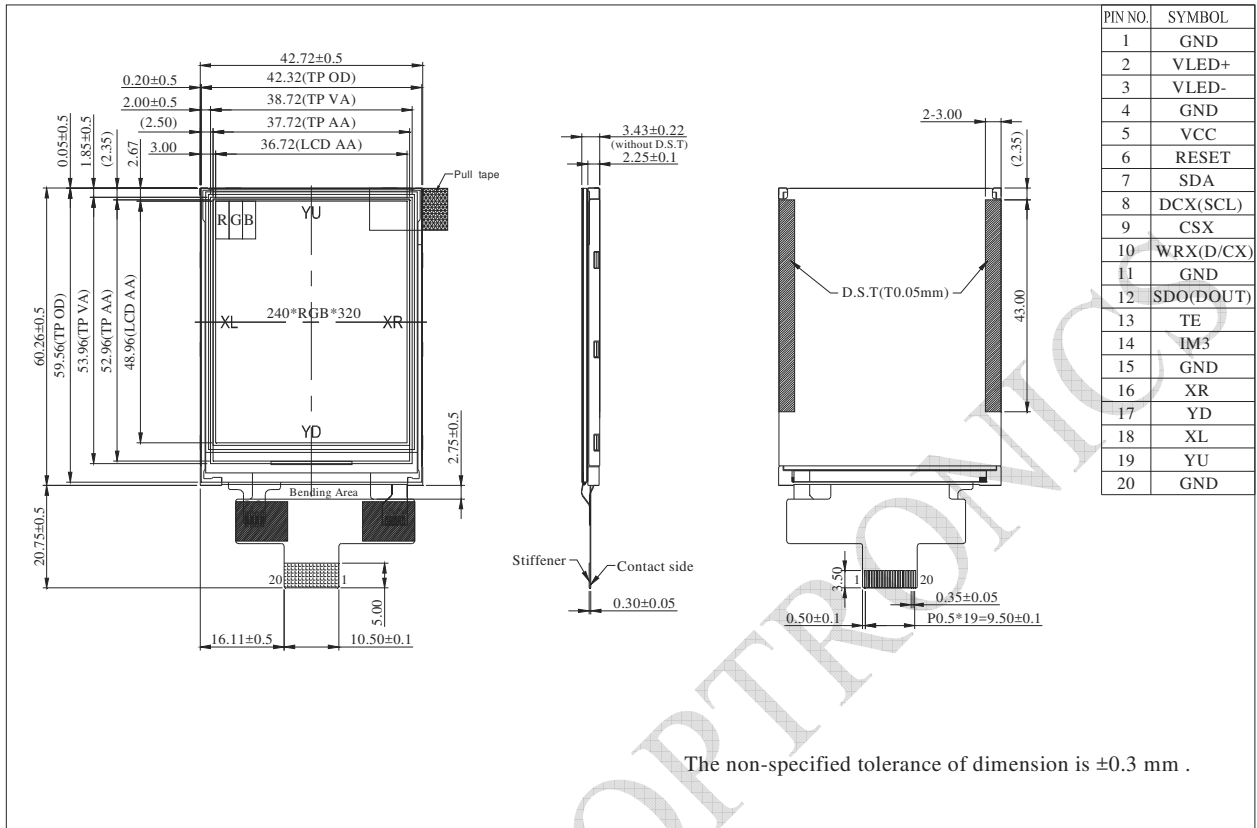
- Size: 2.4 inch
 - Dot Matrix: 240 x RGB x 320(TFT) dots
 - Module dimension: 42.72(W) x 60.26(H) x 3.43(D) mm
 - Active area: 36.72 x 48.96 mm
 - Pixel Pitch: 0.153 x 0.153 mm
 - LCD type: TFT, Normally White, Transmissive
 - TFT Interface: SPI
 - TFT Driver IC: ST7789V or Equivalent
 - View Direction: 6 o'clock
 - Gray Scale Inversion Direction: 12 o'clock
 - Aspect Ratio: Portrait
 - Backlight Type: LED, Normally White
 - Touch Panel: Resistive Touch Screen
 - Surface: Anti-Glare
- *Color tone slight changed by temperature and driving voltage.

Interface

1. LCM PIN Definition

NO	Symbol	Function																		
1	GND	Ground																		
2	VLED+	Anode of LED backlight.																		
3	VLED-	Cathode of LED backlight.																		
4	GND	Ground																		
5	VCC	Power supply																		
6	RESET	System reset pin. (RESX) signal is active low																		
7	SDA	When IM3: Low, SPI interface input/output pin. When IM3: High, SPI interface input pin. The data is latched on the rising edge of the SCL signal. If not used, please fix this pin at VDDI or DGND level.																		
8	DCX(SCL)	This pin is used to be serial interface clock. DCX='1': display data or parameter. DCX='0': command data. If not used, please fix this pin at VDDI or DGND.																		
9	CSX	Chip selection pin Low enable. High disable.																		
10	WRX(D/CX)	Display data/command selection pin in 4-line serial interface. Second Data lane in 2 data lane serial interface. If not used, please fix this pin at VDDI or DGND.																		
11	GND	Ground																		
12	SDO(DOUT)	SPI interface output pin. The data is output on the falling edge of the SCL signal. If not used, let this pin open.																		
13	TE	Tearing effect signal is used to synchronize MCU to frame memory writing. If not used, please let this pin open																		
14	IM3	The MCU interface mode select. <table border="1" data-bbox="507 1496 1370 1715"> <thead> <tr> <th>IM3</th> <th>IM2</th> <th>IM1</th> <th>IM0</th> <th>MPU Interface Mode</th> <th>Data pin</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>4-line 8bit serial I/F</td> <td>SDA: in/out</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>4-line 8bit serial I/F II</td> <td>SDA:in/ SDO: out</td> </tr> </tbody> </table>	IM3	IM2	IM1	IM0	MPU Interface Mode	Data pin	0	1	1	0	4-line 8bit serial I/F	SDA: in/out	1	1	1	0	4-line 8bit serial I/F II	SDA:in/ SDO: out
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15	GND	Ground																		
16	XR	Right electrode																		
17	YD	Bottom electrode																		
18	XL	Left electrode																		
19	YU	Top electrode																		
20	GND	Ground																		

Contour Drawing



RAYSTAR OPTRO

Absolute Maximum Ratings

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

Electrical Characteristics

1. Operating conditions

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Analog	V _{CC}	—	2.4	3.3	3.6	V
Supply Current For LCM	I _{CC}	—	—	6.4	9.6	mA

2. LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
LED current	—	—	80	—	mA
Power Consumption	—	—	256	—	mW
LED voltage	V _{LED+}	2.8	3.1	3.3	V
LED Life Time	—	—	50,000	—	Hr