



**WINSTAR Display Co.,Ltd.**  
**華凌光電股份有限公司**



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## 華凌光電股份有限公司



WEB: <https://www.winstar.com.tw> E-mail: sales@winstar.com.tw

### SPECIFICATION

**MODULE NO.: WF32DTLAJDNT0#**

### General Specifications

Item	Dimension	Unit
Size	3.2	inch
Dot Matrix	240x 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	
With /Without TP	Resistive Touch Screen	
Surface	Glare	

\*Color tone slight changed by temperature and driving voltage.

## Absolute Maximum Ratings

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

## Electrical Characteristics

Operating conditions:

Item	Symbol	Condition	Min	Type	Max	Unit
Power supply voltage	V <sub>CI</sub>		2.5	2.8	3.3	V
Power supply voltage	IOVCC		1.65	2.8	3.3	V
Input high voltage	V <sub>ih</sub>		0.7IOVCC	-	IOVCC	V
Input low voltage	V <sub>il</sub>		GND	-	0.3IOVCC	V
Output high voltage	V <sub>oh</sub>	I <sub>OL</sub> =-1.0mA	0.8 IOVCC	-	IOVCC	V
Output low voltage	V <sub>ol</sub>	I <sub>OL</sub> =1.0mA	GND	-	0.2 IOVCC	V
Current consumption	I <sub>vci</sub>	-	-	5.5	8.25	mA

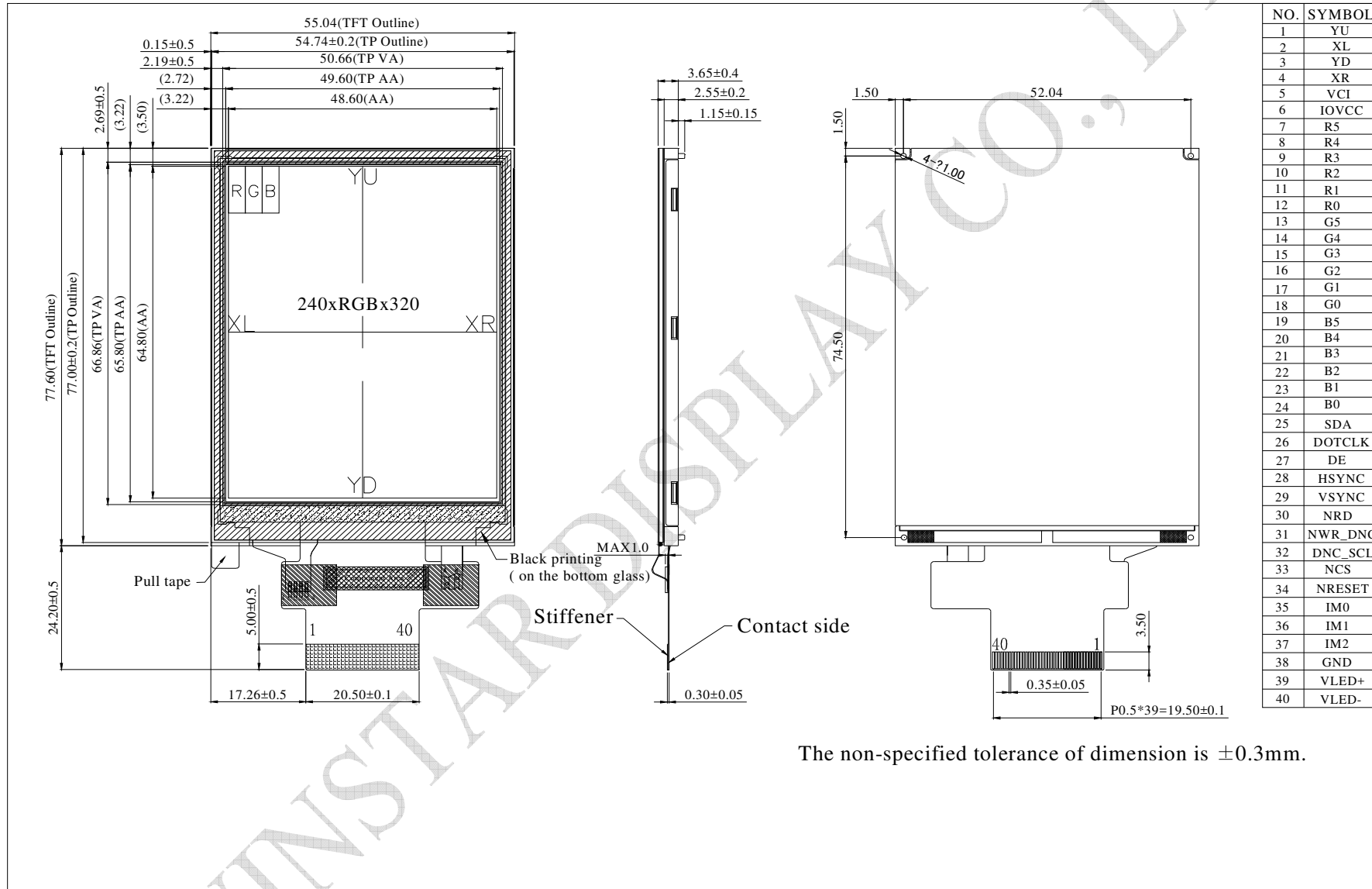
# Interface

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

# Contour Drawing



NO.	SYMBOL
1	YU
2	XL
3	YD
4	XR
5	VCI
6	IOVCC
7	R5
8	R4
9	R3
10	R2
11	R1
12	RO
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
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.