

TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司



SPECIFICATION

MODULE NO.: WFN0240A2T0GADNN000

General Specifications

Item	Dimension	Unit
Size	2.4"	inch
Dot Matrix	240 x RGB x 320 (TFT)	dots
Module dimension	42.72 x 60.26 x 2.63	mm
Active area	36.72 x 48.96	mm
Pixel pitch	0.153 x 0.153	mm
LCD type	TFT, Normally White, Transflective	
Viewing Direction	3 O'clock	
TFT Interface	8/9/16/18Bit MCU 3/4SPI+16/18Bit RGB 3-line/4-line Serial	
Backlight Type	LED ,Normally White	
TFT Controller IC	ST7789 or Equivalent	
Touch Panel	Without Touch Panel	
Surface	Anti-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

1. Operating conditions

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Digital Supply Voltage	VCC	2.4	3.3	3.6	V
Supply Voltage (Logic)	IOVCC	1.65	1.8	3.3	
Normal mode Current consumption	IDD	--	5	10	mA
Level input voltage	VIH	0.7 Iovcc		Iovcc	V
	VIL	GND		0.3Iovcc	V
Level output voltage	VOH	0.8 Iovcc		Iovcc	V
	VOL	GND		0.2 Iovcc	V

2. LED driving conditions

Item	Symbol	Min.	Typ.	Max.	Unit
LED current	-	-	80	-	mA
LED voltage	VLEDA	2.7	3.1	3.3	V
LED Life Time	-	50,000	-	-	Hr

Interface

1. LCM PIN Definition

Pin No	Symbol	Description	I/O
1	NC	No connection	--
2	NC	No connection	--
3	NC	No connection	--
4	NC	No connection	--
5	GND	Ground.	P
6	GND	Ground.	P
7	VCC	Supply voltage(3.3V).	I
8	VCC	Supply voltage(3.3V).	I
9	IOVCC	Power Supply for I/O System.	I
10	SDO	SPI interface output pin. -The data is output on the falling edge of the SCL signal. -If not used, let this pin open.	O
11-28	DB17-DB0	18-bit parallel bi-directional data bus for MCU system and RGB i nterface mode. Fix to GND level when not in use	I/O
29	DIN(SDA)	Serial input signal. The data is latched on the rising edge of the SCL signal. fix this pin at IOVCC or GND when not in use.	I/O
30	PCLK	Dot clock signal for RGB interface operation. Fix this pin at IOVCC or GND when not in use.	I
31	DE	Data enable signal for RGB interface operation. fix this pin at IOVCC or GND when not in use.	I
32	HSYNC	Line synchronizing signal for RGB interface operation. fix this pin at IOVCC or GND when not in use.	I
33	VSNC	Frame synchronizing signal for RGB interface operation. fix this pin at IOVCC or GND when not in use.	I
34	RD	Read enable in 8080 MCU parallel interface. -If not used, please fix this pin at IOVCC or DGND.	I
35	WR(SPI-RS)	-Write enable in MCU parallel interface. 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 IOVCC or DGND.	I

36	RS(SPI-SCL)	-Display data/command selection pin in parallel interface. -This pin is used to be serial interface clock. RS='1': display data or parameter. RS='0': command data. -If not used, please fix this pin at IOVCC or DGND.	I
37	CS	Chip select input pin ("Low" enable). fix this pin at IOVCC or GND when not in use.	I
38	RESET	This signal will reset the device and must be applied to properly initialize the chip.	I
39	IM0	18-bit parallel bi-directional data bus for MCU system and RGB interface mode. Fix to GND level when not in use	I
40	IM1		
41	IM2		
42	NC	No connection	-
43	LEDA	Anode pin of backlight	P
44	NC	No connection	-
45	LEDK	Cathode pin OF backlight	P

Contour Drawing

