## **TFT DISPLAY SPECIFICATION**



WINSTAR Display Co.,Ltd. 華凌光電股份有限公司



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#### **SPECIFICATION**

MODULE NO.: WF43QTIBEDBND#

# **General Specifications**

Item	Dimension	Unit
Size	4.3	inch
Dot Matrix	480 x RGB x 272(TFT)	dots
Module dimension	106.7 x 69.6 x 6.95	mm
Active area	95.04 x 53.856	mm
Dot pitch	0.066 x 0.198	mm
LCD type	TFT, Normally White, Transmissive	
View Direction	12 o'clock	
Gray Scale Inversion Direction	6 o'clock	
Aspect Ratio	16:9	
Backlight Type	LED, Normally White	
Controller IC	SSD1963	
Interface	Digital 8080 family MPU 8bit/16bit	
With Without TP	Without Touch Panel	
Surface	Glare	

<sup>\*</sup>Color tone slight changed by temperature and driving voltage.

# **Absolute Maximum Ratings**

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Item	Symbol	Min	Тур	Max	Unit
Operating Temperature	TOP	-20	_	+70	$^{\circ}\mathbb{C}$
Storage Temperature	TST	-30	_	+80	°C

### **Electrical Characteristics**

1. Operating conditions: (CON3.Pin1=GND, Pin2=VDD)

Item	Symbol	Condition	Min	Тур	Max	Unit
Supply Voltage For LCM	VDD	_	3.0	3.1	3.3	V
Supply Current For LCM	IDD	_	7	200	300	mA

2. Backlight driving conditions (CON3.Pin33,34=VLED-, Pin35,36=VLED+)

Parameter	Symbol	Min	Тур	Max	Unit
Operation Current For LED Driver	VLED+=3.3V	270	ı	405	mA
Power Consumption	VLED+=3.3V	891	-	1337	mW
Supply Voltage For LED Driver	VLED+	3.3	-	5	V
LED Life Time		-	50,000	-	Hr

### Interface

### 1. LCM PIN Definition (CON3)

Pin         Symbol         Function           1         GND         System round pin of the IC. Connect to system ground.           2         VDD         Power Supply: +3.3V           3         BL_E         Backlight control signal, H: On \ L: Off           4         D/C         Data/Command select           5         WR         Write strobe signal           6         RD         Read strobe signal           7         DB0         Data bus           8         DB1         Data bus           9         DB2         Data bus           10         DB3         Data bus           11         DB4         Data bus           12         DB5         Data bus           13         DB6         Data bus           14         DB7         Data bus           15         DB8         Data bus (When select 8bits mode, this pin is NC)           16         DB9         Data bus (When select 8bits mode, this pin is NC)           17         DB10         Data bus (When select 8bits mode, this pin is NC)           18         DB11         Data bus (When select 8bits mode, this pin is NC)           20         DB13         Data bus (When select 8bits mode, this pin is NC)	1. LCW	PIN Defini	
2         VDD         Power Supply: +3.3V           3         BL_E         Backlight control signal , H: On \ L: Off           4         D/C         Data/Command select           5         WR         Write strobe signal           6         RD         Read strobe signal           7         DB0         Data bus           8         DB1         Data bus           9         DB2         Data bus           10         DB3         Data bus           11         DB4         Data bus           12         DB5         Data bus           13         DB6         Data bus           14         DB7         Data bus           15         DB8         Data bus (When select 8bits mode, this pin is NC)           16         DB9         Data bus (When select 8bits mode, this pin is NC)           17         DB10         Data bus (When select 8bits mode, this pin is NC)           18         DB11         Data bus (When select 8bits mode, this pin is NC)           20         DB13         Data bus (When select 8bits mode, this pin is NC)           21         DB14         Data bus (When select 8bits mode, this pin is NC)           22         DB15         Data bus (When select 8bits mo	Pin	Symbol	Function
3 BL_E Backlight control signal , H: On \ L: Off 4 D/C Data/Command select 5 WR Write strobe signal 6 RD Read strobe signal 7 DB0 Data bus 8 DB1 Data bus 9 DB2 Data bus 10 DB3 Data bus 11 DB4 Data bus 12 DB5 Data bus 13 DB6 Data bus 14 DB7 Data bus 15 DB8 Data bus (When select 8bits mode, this pin is NC) 16 DB9 Data bus (When select 8bits mode, this pin is NC) 17 DB10 Data bus (When select 8bits mode, this pin is NC) 18 DB11 Data bus (When select 8bits mode, this pin is NC) 19 DB12 Data bus (When select 8bits mode, this pin is NC) 19 DB12 Data bus (When select 8bits mode, this pin is NC) 20 DB13 Data bus (When select 8bits mode, this pin is NC) 21 DB14 Data bus (When select 8bits mode, this pin is NC) 22 DB15 Data bus (When select 8bits mode, this pin is NC) 23 NC No connection 24 NC No connection 25 CS Chip select 26 RESET Hardware reset 27 DIP ON Display control H: On \ L:Off 28 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (GND) 35 VLED+ VLED+ for B/L LED inverter (+3.3V)	1	GND	System round pin of the IC. Connect to system ground.
4 D/C Data/Command select  5 WR Write strobe signal  6 RD Read strobe signal  7 DB0 Data bus  8 DB1 Data bus  9 DB2 Data bus  10 DB3 Data bus  11 DB4 Data bus  12 DB5 Data bus  13 DB6 Data bus  14 DB7 Data bus  15 DB8 Data bus (When select 8bits mode, this pin is NC)  16 DB9 Data bus (When select 8bits mode, this pin is NC)  17 DB10 Data bus (When select 8bits mode, this pin is NC)  18 DB11 Data bus (When select 8bits mode, this pin is NC)  19 DB12 Data bus (When select 8bits mode, this pin is NC)  20 DB13 Data bus (When select 8bits mode, this pin is NC)  21 DB14 Data bus (When select 8bits mode, this pin is NC)  22 DB15 Data bus (When select 8bits mode, this pin is NC)  23 NC No connection  24 NC No connection  25 CS Chip select  26 RESET Hardware reset  27 DIP ON Display control H: On \ L:Off  28 NC No connection  30 NC No connection  31 NC No connection  32 NC No connection  33 VLED- VLED- for B/L LED inverter (GND)  35 VLED+ VLED+ for B/L LED inverter (H3.3V)	2	VDD	Power Supply: +3.3V
5 WR Write strobe signal 6 RD Read strobe signal 7 DB0 Data bus 8 DB1 Data bus 9 DB2 Data bus 10 DB3 Data bus 11 DB4 Data bus 11 DB4 Data bus 12 DB5 Data bus 13 DB6 Data bus 14 DB7 Data bus 15 DB8 Data bus (When select 8bits mode, this pin is NC) 16 DB9 Data bus (When select 8bits mode, this pin is NC) 17 DB10 Data bus (When select 8bits mode, this pin is NC) 18 DB11 Data bus (When select 8bits mode, this pin is NC) 19 DB12 Data bus (When select 8bits mode, this pin is NC) 20 DB13 Data bus (When select 8bits mode, this pin is NC) 21 DB14 Data bus (When select 8bits mode, this pin is NC) 22 DB15 Data bus (When select 8bits mode, this pin is NC) 23 NC No connection 24 NC No connection 25 CS Chip select 26 RESET Hardware reset 27 DIP ON Display control H: On \ L:Off 28 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 35 VLED+ VLED+ for B/L LED inverter (H3.3V)	3	BL_E	Backlight control signal , H: On \ L: Off
6 RD Read strobe signal 7 DB0 Data bus 8 DB1 Data bus 9 DB2 Data bus 10 DB3 Data bus 11 DB4 Data bus 11 DB4 Data bus 12 DB5 Data bus 13 DB6 Data bus 14 DB7 Data bus 15 DB8 Data bus (When select 8bits mode, this pin is NC) 16 DB9 Data bus (When select 8bits mode, this pin is NC) 17 DB10 Data bus (When select 8bits mode, this pin is NC) 18 DB11 Data bus (When select 8bits mode, this pin is NC) 19 DB12 Data bus (When select 8bits mode, this pin is NC) 20 DB13 Data bus (When select 8bits mode, this pin is NC) 21 DB14 Data bus (When select 8bits mode, this pin is NC) 22 DB15 Data bus (When select 8bits mode, this pin is NC) 23 NC No connection 24 NC No connection 25 CS Chip select 26 RESET Hardware reset 27 DIP ON Display control H: On \ L:Off 28 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (F3.3V)	4	D/C	Data/Command select
7 DB0 Data bus 8 DB1 Data bus 9 DB2 Data bus 10 DB3 Data bus 11 DB4 Data bus 11 DB4 Data bus 12 DB5 Data bus 13 DB6 Data bus 14 DB7 Data bus 15 DB8 Data bus (When select 8bits mode, this pin is NC) 16 DB9 Data bus (When select 8bits mode, this pin is NC) 17 DB10 Data bus (When select 8bits mode, this pin is NC) 18 DB11 Data bus (When select 8bits mode, this pin is NC) 19 DB12 Data bus (When select 8bits mode, this pin is NC) 20 DB13 Data bus (When select 8bits mode, this pin is NC) 21 DB14 Data bus (When select 8bits mode, this pin is NC) 22 DB15 Data bus (When select 8bits mode, this pin is NC) 23 NC No connection 24 NC No connection 25 CS Chip select 26 RESET Hardware reset 27 DIP ON Display control H: On \ L:Off 28 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (+3.3V)	5	WR	Write strobe signal
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17 DB10 Data bus (When select 8bits mode, this pin is NC) 18 DB11 Data bus (When select 8bits mode, this pin is NC) 19 DB12 Data bus (When select 8bits mode, this pin is NC) 20 DB13 Data bus (When select 8bits mode, this pin is NC) 21 DB14 Data bus (When select 8bits mode, this pin is NC) 22 DB15 Data bus (When select 8bits mode, this pin is NC) 23 NC No connection 24 NC No connection 25 CS Chip select 26 RESET Hardware reset 27 DIP ON Display control H: On \ L:Off 28 NC No connection 29 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (+3.3V)	15	DB8	Data bus (When select 8bits mode, this pin is NC)
18 DB11 Data bus (When select 8bits mode, this pin is NC)  19 DB12 Data bus (When select 8bits mode, this pin is NC)  20 DB13 Data bus (When select 8bits mode, this pin is NC)  21 DB14 Data bus (When select 8bits mode, this pin is NC)  22 DB15 Data bus (When select 8bits mode, this pin is NC)  23 NC No connection  24 NC No connection  25 CS Chip select  26 RESET Hardware reset  27 DIP ON Display control H: On \ L:Off  28 NC No connection  30 NC No connection  31 NC No connection  32 NC No connection  33 VLED- VLED- for B/L LED inverter (GND)  35 VLED+ VLED+ for B/L LED inverter (+3.3V)	16	DB9	Data bus (When select 8bits mode, this pin is NC)
19 DB12 Data bus (When select 8bits mode, this pin is NC) 20 DB13 Data bus (When select 8bits mode, this pin is NC) 21 DB14 Data bus (When select 8bits mode, this pin is NC) 22 DB15 Data bus (When select 8bits mode, this pin is NC) 23 NC No connection 24 NC No connection 25 CS Chip select 26 RESET Hardware reset 27 DIP ON Display control H: On \ L:Off 28 NC No connection 29 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (H3.3V)	17	DB10	Data bus (When select 8bits mode, this pin is NC)
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DB15 Data bus (When select 8bits mode, this pin is NC)  NC No connection  CS Chip select  CS Chip select  Part Hardware reset  DIP ON Display control H: On \ L:Off  NO connection  NC No connection	20	DB13	Data bus (When select 8bits mode, this pin is NC)
23 NC No connection 24 NC No connection 25 CS Chip select 26 RESET Hardware reset 27 DIP ON Display control H: On \ L:Off 28 NC No connection 29 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (GND) 35 VLED+ VLED+ for B/L LED inverter (+3.3V)	21	DB14	Data bus (When select 8bits mode, this pin is NC)
24 NC No connection 25 CS Chip select 26 RESET Hardware reset 27 DIP ON Display control H: On \ L:Off 28 NC No connection 29 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED+ VLED+ for B/L LED inverter (+3.3V)	22	DB15	Data bus (When select 8bits mode, this pin is NC)
25 CS Chip select 26 RESET Hardware reset 27 DIP ON Display control H: On \ L:Off 28 NC No connection 29 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED+ for B/L LED inverter (H3.3V)	23	NC	No connection
26 RESET Hardware reset  27 DIP ON Display control H: On \ L:Off  28 NC No connection  29 NC No connection  30 NC No connection  31 NC No connection  32 NC No connection  33 VLED- VLED- for B/L LED inverter (GND)  34 VLED- VLED- for B/L LED inverter (GND)  35 VLED+ VLED+ for B/L LED inverter (+3.3V)	24	NC	No connection
27 DIP ON Display control H: On \ L:Off  28 NC No connection  29 NC No connection  30 NC No connection  31 NC No connection  32 NC No connection  33 VLED- VLED- for B/L LED inverter (GND)  34 VLED- VLED- for B/L LED inverter (GND)  35 VLED+ VLED+ for B/L LED inverter (+3.3V)	25	CS	Chip select
28 NC No connection 29 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (GND) 35 VLED+ VLED+ for B/L LED inverter (+3.3V)	26	RESET	Hardware reset
29 NC No connection 30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (GND) 35 VLED+ VLED+ for B/L LED inverter (+3.3V)	27	DIP ON	Display control H: On \ L:Off
30 NC No connection 31 NC No connection 32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (GND) 35 VLED+ VLED+ for B/L LED inverter (+3.3V)	28	NC	No connection
31 NC No connection  32 NC No connection  33 VLED- VLED- for B/L LED inverter (GND)  34 VLED- VLED- for B/L LED inverter (GND)  35 VLED+ VLED+ for B/L LED inverter (+3.3V)	29 🔨	NC	No connection
32 NC No connection 33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (GND) 35 VLED+ VLED+ for B/L LED inverter (+3.3V)	30	NC	No connection
33 VLED- VLED- for B/L LED inverter (GND) 34 VLED- VLED- for B/L LED inverter (GND) 35 VLED+ VLED+ for B/L LED inverter (+3.3V)	31	NC	No connection
34 VLED- VLED- for B/L LED inverter (GND) 35 VLED+ VLED+ for B/L LED inverter (+3.3V)	32	NC	No connection
35 VLED+ VLED+ for B/L LED inverter (+3.3V)	33	VLED-	VLED- for B/L LED inverter (GND)
, ,	34	VLED-	VLED- for B/L LED inverter (GND)
36 VLED+ VLED+ for B/L LED inverter (+3.3V)	35	VLED+	VLED+ for B/L LED inverter (+3.3V)
	36	VLED+	VLED+ for B/L LED inverter (+3.3V)

## **Contour Drawing**

