



**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.: WF52ASZFSDHGX#**

### General Specifications

Item	Dimension	Unit
Size	5.2	inch
Dot Matrix	480 x 3(RGB) x 128	dots
Module dimension	180.0 x 75.8 x 23.94 (Max)	mm
Active area	127.152 x 33.9072	mm
Dot pitch	0.0883 x 0.2649	mm
LCD type	TFT, Normally White, Transmissive	
View Direction	6 o'clock	
Gray Scale Inversion Direction	12 o'clock	
Aspect Ratio	Bar Type	
Backlight Type	LED, Normally White	
Controller IC	TFP401	
Interface	HDMI	
With /Without TP	With PCAP	
CTP IC	GT911 or equivalent	
CTP Interface	USB	
CTP FW Version:	0x99	
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

## 1. Operating conditions:

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For LCM	VDD	—	—	5	—	V
Supply Current For LCM	IDD	—	—	1200	1800	mA
LED life time	—	—	—	50,000	—	Hr

# Interface

## 1. LCM PIN Definition(CON4)

Pin	Symbol	Function
1	NC	No connector
2	5V	Raspberry Pi:Power 5V
3	GPIO02	Raspberry Pi:GPIO02
4	5V	Raspberry Pi:Power 5V
5	GPIO03	Raspberry Pi:GPIO03
6	GND	Raspberry Pi:GND
7	GPIO04	Raspberry Pi:GPIO04
8	GPIO14	Raspberry Pi:GPIO14
9	GND	Raspberry Pi:GND
10	GPIO15	Raspberry Pi:GPIO15
11	GPIO17	Raspberry Pi:GPIO17
12	GPIO18	Raspberry Pi:GPIO18 (Backlight Enable)
13	GPIO27	Raspberry Pi:GPIO27
14	GND	Raspberry Pi:GND
15	GPIO22	Raspberry Pi:GPIO22
16	GPIO23	Raspberry Pi:GPIO23
17	NC	No connector
18	GPIO24	Raspberry Pi:GPIO24
19	GPIO10	Raspberry Pi:GPIO10
20	GND	Raspberry Pi:GND
21	GPIO09	Raspberry Pi:GPIO09
22	GPIO25	Raspberry Pi:GPIO25
23	GPIO11	Raspberry Pi:GPIO11
24	GPIO08	Raspberry Pi:GPIO08
25	GND	Raspberry Pi:GND
26	GPIO07	Raspberry Pi:GPIO07
27	ID_SD	Raspberry Pi:ID_SD
28	ID_SC	Raspberry Pi:ID_SC
29	GPIO05	Raspberry Pi:GPIO05
30	GND	Raspberry Pi:GND

31	GPIO06	Raspberry Pi:GPIO06
32	GPIO12	Raspberry Pi:GPIO12
33	GPIO13	Raspberry Pi:GPIO13
34	GND	Raspberry Pi:GND
35	GPIO19	Raspberry Pi:GPIO19
36	GPIO16	Raspberry Pi:GPIO16
37	GPIO26	Raspberry Pi:GPIO26
38	GPIO20	Raspberry Pi:GPIO20
39	GND	Raspberry Pi:GND
40	GPIO21	Raspberry Pi:GPIO21

## 2. LCM PIN Definition(CON5)

Pin	Symbol	Function	Remark
1	3.3V	TFT Module Power limit can only output 3.3V,100mA	Note1
2	5V	Raspberry Pi:Power 5V	
3	GPIO02	Raspberry Pi:GPIO02	
4	5V	Raspberry Pi:Power 5V	
5	GPIO03	Raspberry Pi:GPIO03	
6	GND	Raspberry Pi:GND	
7	GPIO04	Raspberry Pi:GPIO04	
8	GPIO14	Raspberry Pi:GPIO14	
9	GND	Raspberry Pi:GND	
10	GPIO15	Raspberry Pi:GPIO15	
11	GPIO17	Raspberry Pi:GPIO17	
12	GPIO18	Raspberry Pi:GPIO18 (Backlight Enable)	
13	GPIO27	Raspberry Pi:GPIO27	
14	GND	Raspberry Pi:GND	
15	GPIO22	Raspberry Pi:GPIO22	
16	GPIO23	Raspberry Pi:GPIO23	
17	3.3V	TFT Module Power limit can only output 3.3V,100mA	Note1
18	GPIO24	Raspberry Pi:GPIO24	
19	GPIO10	Raspberry Pi:GPIO10	
20	GND	Raspberry Pi:GND	
21	GPIO09	Raspberry Pi:GPIO09	

22	GPIO25	Raspberry Pi:GPIO25	
23	GPIO11	Raspberry Pi:GPIO11	
24	GPIO08	Raspberry Pi:GPIO08	
25	GND	Raspberry Pi:GND	
26	GPIO07	Raspberry Pi:GPIO07	
27	ID_SD	Raspberry Pi:ID_SD	
28	ID_SC	Raspberry Pi:ID_SC	
29	GPIO05	Raspberry Pi:GPIO05	
30	GND	Raspberry Pi:GND	
31	GPIO06	Raspberry Pi:GPIO06	
32	GPIO12	Raspberry Pi:GPIO12	
33	GPIO13	Raspberry Pi:GPIO13	
34	GND	Raspberry Pi:GND	
35	GPIO19	Raspberry Pi:GPIO19	
36	GPIO16	Raspberry Pi:GPIO16	
37	GPIO26	Raspberry Pi:GPIO26	
38	GPIO20	Raspberry Pi:GPIO20	
39	GND	Raspberry Pi:GND	
40	GPIO21	Raspberry Pi:GPIO21	

Note1: The 3.3V supply current is limited; please pay special attention to use

### 3. HDMI

Pin No.	Symbol	I/O	Function	Remark
1	Rx2+	I	+LVDS Differential Data Input	
2	GND	P	Ground	
3	Rx2-	I	-LVDS Differential Data Input	
4	Rx1+	I	+LVDS Differential Data Input	
5	GND	P	Ground	
6	Rx1-	I	-LVDS Differential Data Input	
7	Rx0+	I	+LVDS Differential Data Input	
8	GND	P	Ground	
9	Rx0-	I	-LVDS Differential Data Input	
10	RxC+	I	+LVDS Differential Clock Input	
11	GND	P	Ground	

12	RxC-	I	-LVDS Differential Clock Input	
13-14	NC	-	No connection	
15	NC	-	No connection	Note1
16	NC	-	No connection	Note1
17	GND	P	Ground	
18	5V	P	Power Supply	
19	NC	-	No connection	

I: input, O: output, P: Power

Note 1: Only supports Raspberry Pi series

#### 4. CTP USB PIN Definition (CON3)

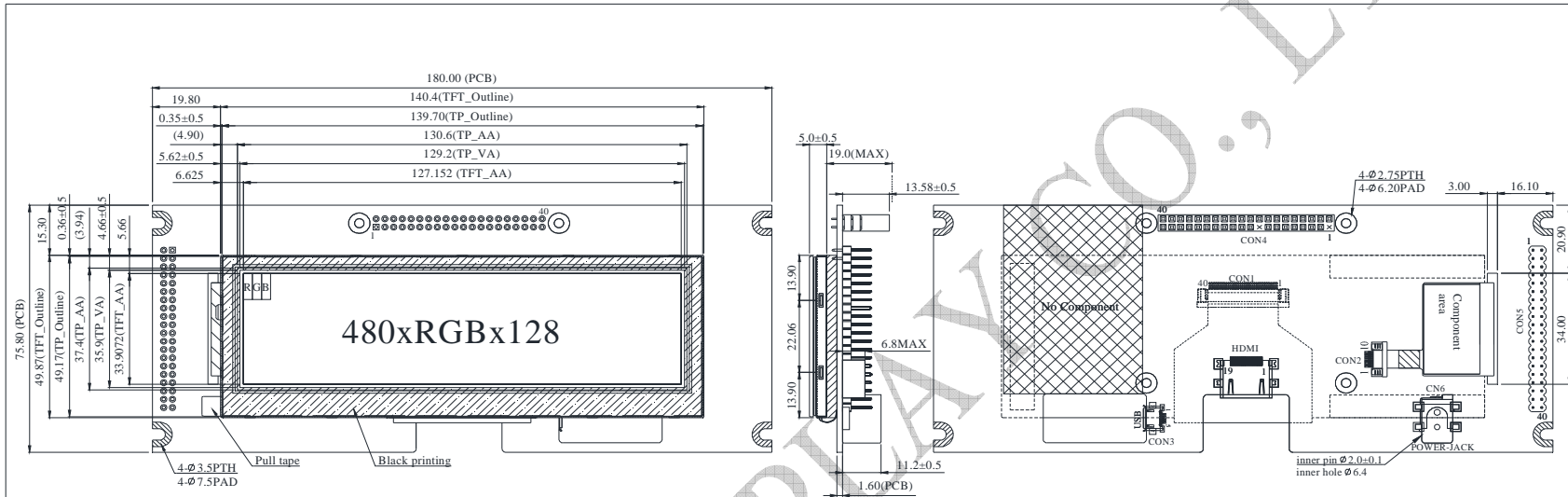
Pin	Symbol	Function	Remark
1	5V	Power Supply (5V)	Note1
2	D-	Data line -	Note1
3	D+	Data line +	Note1
4	NC	No connection	
5	GND	Power Ground	Note1

Note 1: Only supports Raspberry Pi series

#### 5. POWER-JACK

Pin No.	Symbol	I/O	Function	Remark
1	5V	P	Power Supply	
2	GND	P	Ground	
3	NC	-	No connection	

# Contour Drawing



Notes: Only for Raspberry Pi 3B+

### HDMI

Pin	Symbol
1	RX2+
2	GND
3	RX2-
4	RX1+
5	GND
6	RX1-
7	RX0+
8	GND
9	RX0-
10	RXC+
11	GND
12	RXC-
13	NC
14	NC
15	NC
16	NC
17	GND
18	5V
19	NC

### CON4

Pin	Symbol	Pin	Symbol	Pin	Symbol	Pin	Symbol
1	NC	11	GPIO17	21	GPIO09	31	GPIO06
2	5V	12	BL_E (GPIO18)	22	GPIO25	32	GPIO12
3	GPIO02	13	GPIO27	23	GPIO11	33	GPIO13
4	5V	14	GND	24	GPIO08	34	GND
5	GPIO03	15	GPIO22	25	GND	35	GPIO19
6	GND	16	GPIO23	26	GPIO07	36	GPIO16
7	GPIO04	17	NC	27	ID_SD	37	GPIO26
8	GPIO14	18	GPIO24	28	ID_SC	38	GPIO20
9	GND	19	GPIO10	29	GPIO05	39	GND
10	GPIO15	20	GND	30	GND	40	GPIO21

### CON5

Pin	Symbol	Pin	Symbol	Pin	Symbol	Pin	Symbol
1	3.3V	11	GPIO17	21	GPIO09	31	GPIO06
2	5V	12	BL_E (GPIO18)	22	GPIO25	32	GPIO12
3	GPIO02	13	GPIO27	23	GPIO11	33	GPIO13
4	5V	14	GND	24	GPIO08	34	GND
5	GPIO03	15	GPIO22	25	GND	35	GPIO19
6	GND	16	GPIO23	26	GPIO07	36	GPIO16
7	GPIO04	17	3.3V	27	ID_SD	37	GPIO26
8	GPIO14	18	GPIO24	28	ID_SC	38	GPIO20
9	GND	19	GPIO10	29	GPIO05	39	GND
10	GPIO15	20	GND	30	GND	40	GPIO21

### POWER-JACK

Pin	Symbol
1	5V
2	GND
3	NC

### CON3

Pin	Symbol
1	5V
2	D-
3	D+
4	NC
5	GND

The non-specified tolerance of dimension is  $\pm 0.3$  mm .