

# TFT DISPLAY SPECIFICATION



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



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### SPECIFICATION

**MODULE NO.: WF101LSYFPLHGV#**

### General Specifications

| Item                         | Dimension                               | Unit |
|------------------------------|-----------------------------------------|------|
| Screen Diagonal              | 10.1                                    | inch |
| Number of Pixels             | 1280 x 3(R GB) x 800                    | dots |
| Module dimension             | 257.96 x 168.6 x 28.66                  | mm   |
| Active area                  | 216.96 (H) x 135.6(V)                   | mm   |
| Pixel pitch                  | 0.1695 x 0.1695                         | mm   |
| Display Mode                 | Normally Black , Transmissive           |      |
| Viewing Angle                | 80/80/80/80                             |      |
| Pixel Arrangement            | R.G.B. Vertical Stripe                  |      |
| Backlight Type               | LED, Normally White                     |      |
| Aspect Ratio                 | 16:10                                   |      |
| Electrical Interface (Logic) | HDMI(only for DVI)                      |      |
| PCAP IC                      | GT928 or Equivalent                     |      |
| PCAP FW Version              | 80                                      |      |
| PCAP Interface               | USB                                     |      |
| Touch Panel                  | Projected Capacitive Touch Panel (PCAP) |      |
| Surface                      | Glare                                   |      |

## 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   | Typ | Max | Unit |
|------------------------|--------|-----------|-------|-----|-----|------|
| Supply Voltage For LCM | VDD    | —         | 4.9   | 5   | 5.1 | V    |
| Supply Current For LCM | IDD    | —         | —     | 1.7 | 2.6 | A    |
| LED life time          | —      | —         | 50000 | —   | —   | Hr   |

# Interface

## 1. CON6

| Pin No. | 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      | BL-PWM (GPIO18) | Backlight Enable ,Active_L (Raspberry Pi:GPIO18)  | Note 2<br>Note 3 |
| 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

## 2. CON5

| Pin No. | Symbol             | Function                                         | Remark           |
|---------|--------------------|--------------------------------------------------|------------------|
| 1       | NC                 | No connection                                    |                  |
| 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      | BL-PWM<br>(GPIO18) | Backlight Enable ,Active_L (Raspberry Pi:GPIO18) | Note 2<br>Note 3 |
| 13      | GPIO27             | Raspberry Pi:GPIO27                              |                  |
| 14      | GND                | Raspberry Pi:GND                                 |                  |
| 15      | GPIO22             | Raspberry Pi:GPIO22                              |                  |
| 16      | GPIO23             | Raspberry Pi:GPIO23                              |                  |
| 17      | NC                 | No connection                                    |                  |
| 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 |  |

### 3. PCAP USB PIN Definition

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

**4. DVI**

| 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      | SCL    | I/O | DDC(Data Display Channel) Clock |        |
| 16      | SDA    | I/O | DDC(Data Display Channel) Data  |        |
| 17      | GND    | P   | Ground                          |        |
| 18      | 5V     | P   | Power Supply                    |        |
| 19      | Detect | I/O | Hot plug detect                 |        |

I: input, O: output, P: Power

**5. POWER-JACK**

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

# Contour Drawing



