



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



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### SPECIFICATION

**MODULE NO.: WF50FTWAGLNN0#**

### General Specifications

| Item             | Dimension                         | Unit |
|------------------|-----------------------------------|------|
| Size             | 5.0                               | inch |
| Dot Matrix       | 800 × 3(RGB) × 480                | dots |
| Module dimension | 120.7(W) × 75.8(H) × 2.8mm        | mm   |
| Active area      | 108(W) × 64.8 (H) mm              | mm   |
| Dot pitch        | 0.135(W) × 0.135(H) mm            | mm   |
| LCD type         | TFT, Normally Black, Transmissive |      |
| View Direction   | 80/80/80/80                       |      |
| Aspect Ratio     | 16:9                              |      |
| Driver IC        | ST7262 or equivalent              |      |
| Interface        | LVDS                              |      |
| Backlight Type   | LED, Normally White               |      |
| 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    | -30 | —   | +80 | °C   |
| Storage Temperature   | TST    | -30 | —   | +80 | °C   |

## Electrical Characteristics

### Typical Operation Conditions

| Item                      | Symbol | Values |      |      | Unit |
|---------------------------|--------|--------|------|------|------|
|                           |        | Min.   | Typ. | Max. |      |
| Power voltage             | VCC    | 3.1    | 3.3  | 3.6  | V    |
| Power voltage             | VCCI   | 3.1    | 3.3  | 3.6  | V    |
| Current for Driver(Black) | ICC    | -      | 67.6 | 102  | mA   |

# Interface

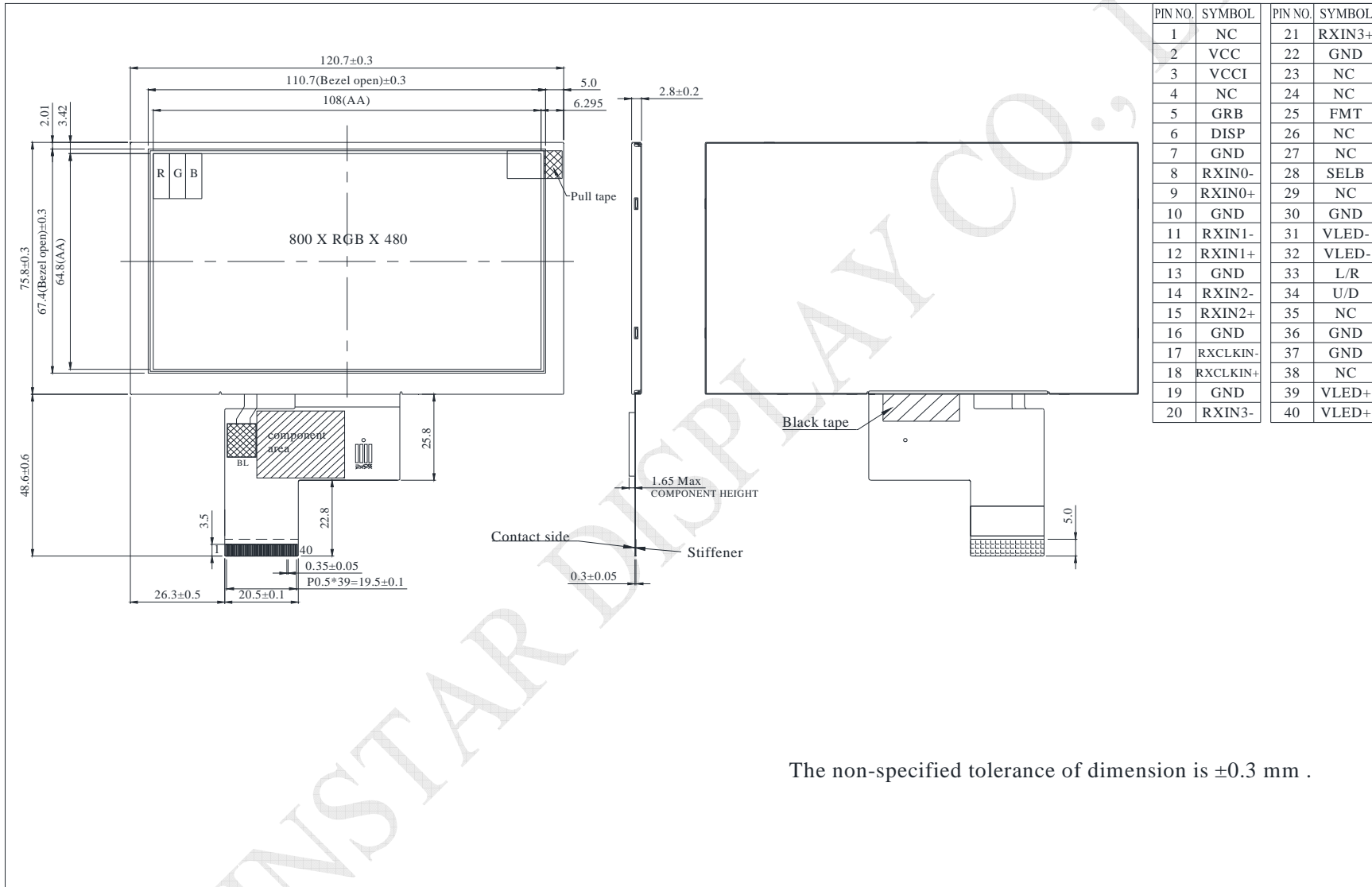
## LCM PIN Definition

FPC Connector is used for the module electronics interface.

| Pin      | Symbol               | Function   |          |                      |   |                    |   |            |
|----------|----------------------|--|----------|----------------------|---|--------------------|---|------------|
| 1        | NC                   | No connection  |          |                      |   |                    |   |            |
| 2        | VCC                  | Power voltage  |          |                      |   |                    |   |            |
| 3        | VCCI                 | Power supply for digital I/O pins.   |          |                      |   |                    |   |            |
| 4        | NC                   | No connection  |          |                      |   |                    |   |            |
| 5        | GRB                  | Global reset pin. When GRB is “L” , internal initialization procedure is executed  |          |                      |   |                    |   |            |
| 6        | DISP                 | Display on/off   |          |                      |   |                    |   |            |
| 7        | GND                  | Power Ground   |          |                      |   |                    |   |            |
| 8        | RXIN0-               | LVDS input lane: RX0-/ RX0+  |          |                      |   |                    |   |            |
| 9        | RXIN0+               |  |          |                      |   |                    |   |            |
| 10       | GND                  | Power Ground   |          |                      |   |                    |   |            |
| 11       | RXIN1-               | LVDS input lane: RX1-/ RX1+  |          |                      |   |                    |   |            |
| 12       | RXIN1+               |  |          |                      |   |                    |   |            |
| 13       | GND                  | Power Ground   |          |                      |   |                    |   |            |
| 14       | RXIN2-               | LVDS input lane: RX2-/ RX2+  |          |                      |   |                    |   |            |
| 15       | RXIN2+               |  |          |                      |   |                    |   |            |
| 16       | GND                  | Power Ground   |          |                      |   |                    |   |            |
| 17       | RXCLKIN-             | LVDS input lane, detail pin define please refer to LVDS Input Pin Mapping Table.   |          |                      |   |                    |   |            |
| 18       | RXCLKIN+             |  |          |                      |   |                    |   |            |
| 19       | GND                  | Power Ground   |          |                      |   |                    |   |            |
| 20       | RXIN3-               | LVDS input lane: RX3-/ RX3+  |          |                      |   |                    |   |            |
| 21       | RXIN3+               |  |          |                      |   |                    |   |            |
| 22       | GND                  | Power Ground   |          |                      |   |                    |   |            |
| 23-24    | NC                   | No connection  |          |                      |   |                    |   |            |
| 25       | FMT                  | LVDS_FMT sets LVDS data format. <table border="1" style="margin: 10px auto;"> <thead> <tr> <th>LVDS_FMT</th> <th>Function Description</th> </tr> </thead> <tbody> <tr> <td>L</td> <td>VESA Mode(Default)</td> </tr> <tr> <td>H</td> <td>JEIDA Mode</td> </tr> </tbody> </table> LVDS_FMT is not used in RGB interface and should be connected to “L” . | LVDS_FMT | Function Description | L | VESA Mode(Default) | H | JEIDA Mode |
| LVDS_FMT | Function Description |  |          |                      |   |                    |   |            |
| L        | VESA Mode(Default)   |  |          |                      |   |                    |   |            |
| H        | JEIDA Mode           |  |          |                      |   |                    |   |            |
| 26-27    | NC                   | No connection  |          |                      |   |                    |   |            |

|       |                      |   |                             |                                   |
|-------|----------------------|---|-----------------------------|-----------------------------------|
| 28    | SELB                 | SELB sets VSYNC polarity in RGB interface and sets LVDS 3- / 4-lane in LVDS interface.                          |                             |                                   |
|       |                      | MCU Type  | VDPOL                       | Function Description              |
|       |                      | RGB interface   | L                           | VSYNC polarity: positive          |
|       |                      |   | H                           | VSYNC polarity: negative(Default) |
|       |                      | LVDS interface  | L                           | LVDS 3 lane                       |
| H     | LVDS 4 lane(Default) |   |                             |                                   |
| 29    | NC                   | No connection   |                             |                                   |
| 30    | GND                  | Power Ground  |                             |                                   |
| 31-32 | VLED-                | Power for LED backlight (Cathode)   |                             |                                   |
| 33    | L/R                  | Horizontal scan direction control pin. This pin must be connected to “H” or “L” according to system application |                             |                                   |
|       |                      | HDIR  | Function Description        |                                   |
|       |                      | L   | From right to left          |                                   |
|       |                      | H   | From left to right(Default) |                                   |
| 34    | U/D                  | Vertical scan direction control pin. This pin must be connected to “H” or “L” according to system application.  |                             |                                   |
|       |                      | VDIR  | Function Description        |                                   |
|       |                      | L   | From down to up.            |                                   |
|       |                      | H   | From up to down. (Default)  |                                   |
| 35    | NC                   | No connection   |                             |                                   |
| 36-37 | GND                  | Power Ground  |                             |                                   |
| 38    | NC                   | No connection   |                             |                                   |
| 39-40 | VLED+                | Power for LED backlight (Anode)   |                             |                                   |

# Contour Drawing



The non-specified tolerance of dimension is ±0.3 mm .