



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



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### SPECIFICATION

**MODULE NO.: WF70A9TWAGDNT0#**

### General Specifications

| Item             | Dimension                         | Unit |
|------------------|-----------------------------------|------|
| Size             | 7.0                               | inch |
| Dot Matrix       | 800 x RGB x 480(TFT)              | dots |
| Module dimension | 165.8 (W) x 106.61 (H) x 8.0(D)   | mm   |
| Active area      | 152.40 x 91.44                    | mm   |
| Pixel pitch      | 0.1905 x 0.1905                   | mm   |
| LCD type         | TFT, Normally Black, Transmissive |      |
| View Direction   | 80/80/80/80                       |      |
| TFT Interface    | 24-bit RGB                        |      |
| TFT Driver IC    | HX8249-A + HX8678-C or Equivalent |      |
| Aspect Ratio     | 15:9                              |      |
| Backlight Type   | LED, Normally White               |      |
| Touch Screen     | Resistive Touch Screen            |      |
| 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

### Operating conditions

| Item                    | Symbol | Min | Typ | Max | Unit |
|-------------------------|--------|-----|-----|-----|------|
| Supply Voltage          | Vcc    | 2.7 | 3.3 | 3.6 | V    |
| Current of power supply | Icc    | —   | 101 | 150 | mA   |

# Interface

## LCM PIN Definition

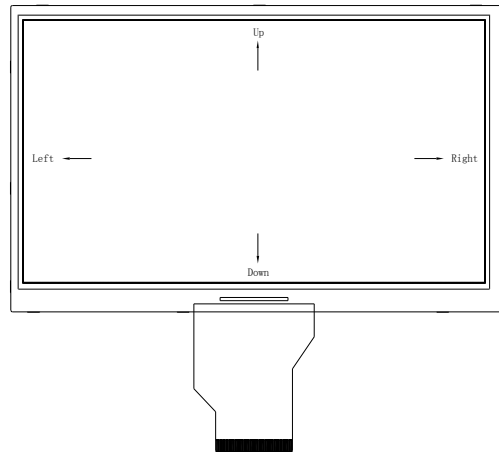
| Pin | Symbol | Function                         | Remark          |
|-----|--------|----------------------------------|-----------------|
| 1-4 | NC     | No connection                    |                 |
| 5   | GND    | Power Ground                     |                 |
| 6   | NC     | No connection                    |                 |
| 7   | VCC    | Power voltage                    |                 |
| 8   | MODE   | Input timing mode selection.     |                 |
|     |        | <b>MODE</b>                      | <b>Function</b> |
|     |        | 0                                | DE only         |
|     |        | 1                                | HS+VS           |
|     |        | <b>Note</b>                      |                 |
|     |        | -                                |                 |
|     |        | Default                          |                 |
| 9   | DE     | Data enable signal for TTL mode. |                 |
| 10  | VS     | Vertical sync input              |                 |
| 11  | HS     | Horizontal sync input            |                 |
| 12  | B7     | Blue data(MSB)                   |                 |
| 13  | B6     | Blue data                        |                 |
| 14  | B5     | Blue data                        |                 |
| 15  | B4     | Blue data                        |                 |
| 16  | B3     | Blue data                        |                 |
| 17  | B2     | Blue data                        |                 |
| 18  | B1     | Blue data                        |                 |
| 19  | B0     | Blue data(LSB)                   |                 |
| 20  | G7     | Green data(MSB)                  |                 |
| 21  | G6     | Green data                       |                 |
| 22  | G5     | Green data                       |                 |
| 23  | G4     | Green data                       |                 |
| 24  | G3     | Green data                       |                 |
| 25  | G2     | Green data                       |                 |
| 26  | G1     | Green data                       |                 |
| 27  | G0     | Green data(LSB)                  |                 |
| 28  | R7     | Red data(MSB)                    |                 |
| 29  | R6     | Red data                         |                 |
| 30  | R5     | Red data                         |                 |
| 31  | R4     | Red data                         |                 |

|    |               |   |  |       |             |
|----|---------------|---|--|-------|-------------|
| 32 | R3            | Red data  |  |       |             |
| 33 | R2            | Red data  |  |       |             |
| 34 | R1            | Red data  |  |       |             |
| 35 | R0            | Red data (LSB)  |  |       |             |
| 36 | GND           | Power Ground  |  |       |             |
| 37 | DCLK          | Sample clock  |  |       |             |
| 38 | GND           | Power Ground  |  |       |             |
| 39 | L/R           | Horizontal shift direction (source output) selection.                     |  | Note1 |             |
|    |               | <b>L/R</b>  | <b>Source output sequence and data order</b> |       | <b>Note</b> |
|    |               | 1   | Left to right                                |       | Default     |
| 0  | Right to left | -   |  |       |             |
| 40 | U/D           | Vertical shift direction (gate output) selection.                         |  | Note2 |             |
|    |               | <b>U/D</b>  | <b>Function</b>                              |       | <b>Note</b> |
|    |               | 1   | Top→bottom                                   |       | Default     |
| 0  | Bottom→top    | -   |  |       |             |
| 41 | NC            | No connection   |  |       |             |
| 42 | NC            | No connection   |  |       |             |
| 43 | NC            | No connection   |  |       |             |
| 44 | RESET         | Reset pin. The chip is in reset state when RESETB=0.                      |  |       |             |
| 45 | NC            | No connection   |  |       |             |
| 46 | NC            | No connection   |  |       |             |
| 47 | DITHB         | STBYB Standby mode setting pin. The chip is in standby mode when STBYB=0. |  |       |             |
| 48 | GND           | Power Ground  |  |       |             |
| 49 | NC            | No connection   |  |       |             |
| 50 | NC            | No connection   |  |       |             |

Note 1: Selection of scanning mode

| Setting of scan control input |     | Scanning direction           |
|-------------------------------|-----|------------------------------|
| U/D                           | L/R |                              |
| 1                             | 1   | Top to Bottom, left to right |
| 1                             | 0   | Top to Bottom, right to left |
| 0                             | 0   | Bottom to Top, right to left |
| 0                             | 1   | Bottom to Top, left to right |

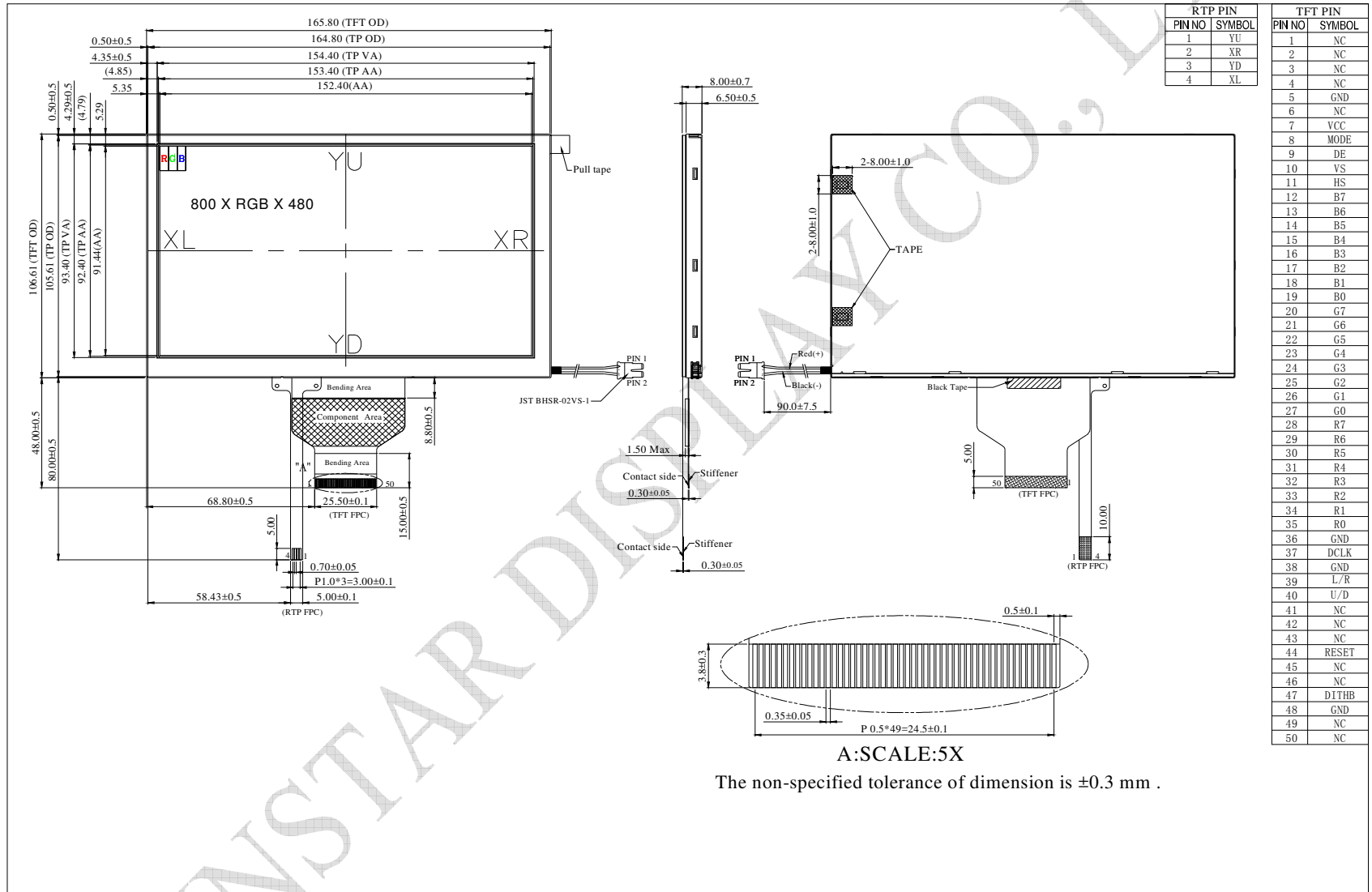
Note 2: Definition of scanning direction.  
Refer to the figure as below:



## 2. Backlight PIN Definition

| Pin | Symbol | Description         |
|-----|--------|---------------------|
| 1   | VLED+  | Red, LED_ Anode     |
| 2   | VLED-  | Black, LED_ Cathode |

# Contour Drawing



| RTP PIN |        |
|---------|--------|
| PIN NO  | SYMBOL |
| 1       | YU     |
| 2       | XR     |
| 3       | YD     |
| 4       | XL     |

| TFT PIN |        |
|---------|--------|
| PIN NO  | SYMBOL |
| 1       | NC     |
| 2       | NC     |
| 3       | NC     |
| 4       | NC     |
| 5       | GND    |
| 6       | NC     |
| 7       | VCC    |
| 8       | MODE   |
| 9       | DE     |
| 10      | VS     |
| 11      | HS     |
| 12      | B7     |
| 13      | B6     |
| 14      | B5     |
| 15      | B4     |
| 16      | B3     |
| 17      | B2     |
| 18      | B1     |
| 19      | B0     |
| 20      | G7     |
| 21      | G6     |
| 22      | G5     |
| 23      | G4     |
| 24      | G3     |
| 25      | G2     |
| 26      | G1     |
| 27      | G0     |
| 28      | R7     |
| 29      | R6     |
| 30      | R5     |
| 31      | R4     |
| 32      | R3     |
| 33      | R2     |
| 34      | R1     |
| 35      | R0     |
| 36      | GND    |
| 37      | DCLK   |
| 38      | GND    |
| 39      | L/R    |
| 40      | U/D    |
| 41      | NC     |
| 42      | NC     |
| 43      | NC     |
| 44      | RESET  |
| 45      | NC     |
| 46      | NC     |
| 47      | DITHB  |
| 48      | GND    |
| 49      | NC     |
| 50      | NC     |

A:SCALE:5X

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