

# TFT DISPLAY SPECIFICATION



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



## SPECIFICATION

**MODULE NO.: WFN0276A2T0YADNN000**

### General Specifications

| Item              | Dimension                         | Unit |
|-------------------|-----------------------------------|------|
| Size              | 2.76                              | inch |
| Dot Matrix        | 480 x RGB x 480 (TFT)             | dots |
| Module dimension  | 73.03 x 76.48 x 2.34              | mm   |
| Active area       | 70.128 x 70.128                   | mm   |
| Pixel pitch       | 0.1461 x 0.1461                   | mm   |
| LCD type          | TFT, Normally Black, Transmissive |      |
| Viewing Angle     | 85/85/85/85                       |      |
| TFT Interface     | 3W SPI+RGB18bit                   |      |
| Backlight Type    | LED ,Normally White               |      |
| TFT Controller IC | ST7701 or Equivalent              |      |
| 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    | -20 | —   | +70 | °C   |
| Storage Temperature   | TST    | -30 | —   | +80 | °C   |

## Electrical Characteristics

### 4.1. Operating conditions

| Item                 |            | Symbol           | Min.                  | Typ. | Max.                  | Unit |
|----------------------|------------|------------------|-----------------------|------|-----------------------|------|
| Power supply Voltage |            | V <sub>CI</sub>  | 2.7                   | 3.0  | 3.3                   | V    |
| Input Signal Voltage | Low Level  | V <sub>IL</sub>  | 0                     | -    | 0.3 x V <sub>CI</sub> | V    |
|                      | High Level | V <sub>IH</sub>  | 0.7 x V <sub>CI</sub> | -    | V <sub>CI</sub>       | V    |
| Power supply Voltage |            | I <sub>VCI</sub> | -                     | 25   | 50                    | mA   |

### LED driving conditions

| Item          | Symbol            | Min.  | Typ. | Max. | Unit |
|---------------|-------------------|-------|------|------|------|
| LED current   | -                 | -     | 80   | 100  | mA   |
| LED voltage   | V <sub>LED+</sub> | -     | 6.4  | 6.8  | V    |
| LED Life Time | -                 | 30000 | -    | -    | Hr   |

# Interface

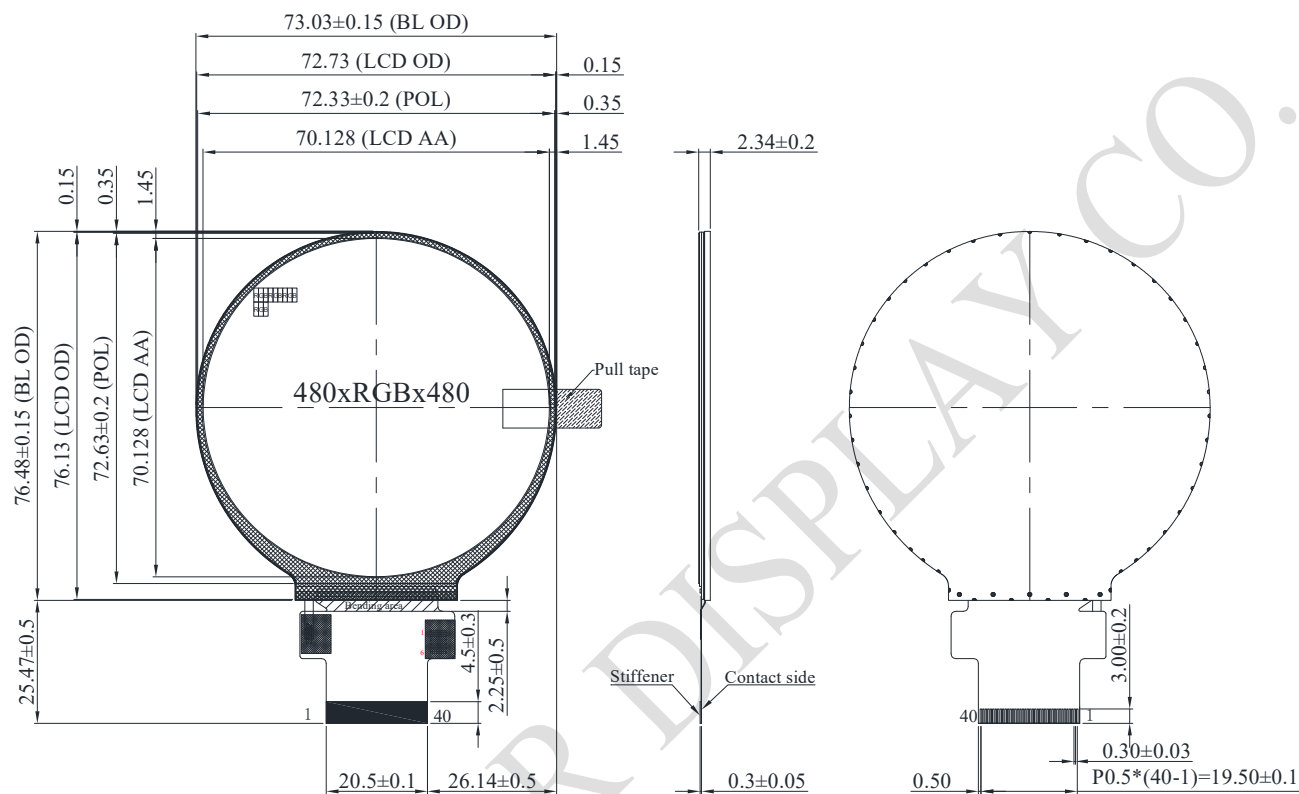
## 1. LCM PIN Definition

Match connector: XF2M-4015-1A (OMRON) or equivalent.

| Pin No | Symbol   | I/O | Description                                                                                                    |
|--------|----------|-----|----------------------------------------------------------------------------------------------------------------|
| 1      | VLED+    | P   | LED ANODE                                                                                                      |
| 2      | VLED1-   | P   | LED1 CATHODE                                                                                                   |
| 3      | VLED2-   | P   | LED2 CATHODE                                                                                                   |
| 4      | GND      | P   | Ground                                                                                                         |
| 5      | VCI      | P   | Power supply                                                                                                   |
| 6      | RESET    | I   | Reset Signal ,Active Low                                                                                       |
| 7      | NC       | -   | NC                                                                                                             |
| 8      | NC       | -   | NC                                                                                                             |
| 9      | SDA      | I   | SPI Data signal                                                                                                |
| 10     | SCK      | I   | SPI Clock signal                                                                                               |
| 11     | CS       | I   | SPI Chip select signal                                                                                         |
| 12     | PCLK     | I   | RGB dot clock signal                                                                                           |
| 13     | DE       | I   | RGB data enable signal                                                                                         |
| 14     | VSYNC    | I   | RGB frame synchronizing signal                                                                                 |
| 15     | HSYNC    | I   | RGB line synchronizing signal                                                                                  |
| 16~33  | DB0~DB17 | I   | RGB data signal:<br>DB0:BLUE LSB--DB5:BLUE MSB; DB6:GREEN LSB--<br>DB11:GREEN,MSB; DB12:RED LSB--DB17:RED MSB. |
| 34     | GND      | P   | Ground                                                                                                         |
| 35     | NC       | -   | No connection                                                                                                  |
| 36     | NC       | -   | No connection                                                                                                  |
| 37     | NC       | -   | No connection                                                                                                  |
| 38     | NC       | -   | No connection                                                                                                  |
| 39     | NC       | -   | No connection                                                                                                  |
| 40     | GND      | P   | Ground                                                                                                         |

I : Input, O : Output, P : Power/Ground

# Contour Drawing



| PIN NO. | SYMBOL   |
|---------|----------|
| 1       | VLED+    |
| 2       | VLED1-   |
| 3       | VLED2-   |
| 4       | GND      |
| 5       | VCI      |
| 6       | RESET    |
| 7       | NC       |
| 8       | NC       |
| 9       | SDA      |
| 10      | SCK      |
| 11      | CS       |
| 12      | PCLK     |
| 13      | DE       |
| 14      | VSYSN    |
| 15      | HSYSN    |
| 16~33   | DB0~DB17 |
| 34      | GND      |
| 35      | NC       |
| 36      | NC       |
| 37      | NC       |
| 38      | NC       |
| 39      | NC       |
| 40      | GND      |

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