

# TFT DISPLAY SPECIFICATION



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



## SPECIFICATION

**MODULE NO.: WF0840ATWAMLNB0#**

### General Specifications

| Item              | Dimension                       | Unit |
|-------------------|---------------------------------|------|
| Screen Diagonal   | 8.4                             | inch |
| Number of Pixels  | 1024 x 3(BGR) x 768             | dots |
| Module dimension  | 199.5 x 149.0 x 14.3            | mm   |
| Active area       | 170.8032 (H) x 128.1024(V)      | mm   |
| Pixel pitch       | 0.1668 × 0.1668                 | mm   |
| Display Mode      | Normally Black , Transmissive   |      |
| Viewing Angle     | 80/80/80/80                     |      |
| TFT Drive IC      | ST5821AH+ST5084AA or Equivalent |      |
| TFT Interface     | LVDS                            |      |
| Backlight Type    | LED, Normally White             |      |
| Aspect Ratio      | 4:3                             |      |
| Side screw torque | Typ:0.9 Max:1.3 (Unit,Kgf-cm)   |      |
| CTP IC            | EXC81W32 or equivalent          |      |
| CTP Interface     | USB (I2C available)             |      |
| CTP FW Version    | 00_T1_M03                       |      |
| CTP Resolution    | 16384x16384                     |      |
| Touch Panel       | With PCAP                       |      |
| Surface           | 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

### 1. Operating conditions:

| Item                     |         | Symbol                | Min                | Typ | Max                | Unit |
|--------------------------|---------|-----------------------|--------------------|-----|--------------------|------|
| Supply Voltage For Logic |         | V <sub>DD</sub>       | 3.0                | 3.3 | 3.6                | V    |
| Power Supply For Current |         | V <sub>DD</sub> =3.3V | —                  | 330 | 495                | mA   |
| Input Voltage            | H level | V <sub>IH</sub>       | 0.7V <sub>DD</sub> | —   | V <sub>DD</sub>    | V    |
|                          | L Level | V <sub>IL</sub>       | GND                | —   | 0.3V <sub>DD</sub> | V    |
| Supply CTP               |         | USB_VDD 5V            | 4.4                | 5.0 | 5.5                | V    |
|                          |         | I <sub>VDD 5V</sub>   | —                  | 45  | 68                 | mA   |
|                          |         | VDDT                  | 2.8                | 3.3 | 3.5                | V    |
|                          |         | I <sub>VDDT</sub>     | —                  | 45  | 68                 | mA   |

### 2. Backlight Characteristics

| Parameter                             | Symbol | Min. | Typ.    | Max. | Unit |
|---------------------------------------|--------|------|---------|------|------|
| Supply voltage of white LED backlight | VLED   | 32.4 | 36      | 40.8 | V    |
| Current for LED backlight             | ILED   | —    | 70*2    | —    | mA   |
| LED life time                         | -      | —    | 100,000 | —    | Hr   |

# Interface

## 1. LCM PIN Definition

| Pin No. | Symbol | Function                                             |
|---------|--------|------------------------------------------------------|
| 1       | VDD    | Power supply                                         |
| 2       | VDD    | Power supply                                         |
| 3       | GND    | Ground                                               |
| 4       | GND    | Ground                                               |
| 5       | Link0- | 0- LVDS differential data input ( <b>D0N</b> )       |
| 6       | Link0+ | 0+ LVDS differential data input ( <b>D0P</b> )       |
| 7       | GND    | Ground                                               |
| 8       | Link1- | 1- LVDS differential data input ( <b>D1N</b> )       |
| 9       | Link1+ | 1+ LVDS differential data input ( <b>D1P</b> )       |
| 10      | GND    | Ground                                               |
| 11      | Link2- | 2- LVDS differential data input ( <b>D2N</b> )       |
| 12      | Link2+ | 2+ LVDS differential data input ( <b>D2P</b> )       |
| 13      | GND    | Ground                                               |
| 14      | CLKIN- | - LVDS differential clock input ( <b>CLKN</b> )      |
| 15      | CLKIN+ | + LVDS differential clock input ( <b>CLKP</b> )      |
| 16      | GND    | Ground                                               |
| 17      | Link3- | 3- LVDS differential data input ( <b>D3N</b> )       |
| 18      | Link3+ | 3+ LVDS differential data input ( <b>D3P</b> )       |
| 19      | MODE   | Bit 6/8:Low(6 Bit);High(8 Bit)                       |
| 20      | SC     | Scan direction selector (Low: Normal ;High: Reverse) |

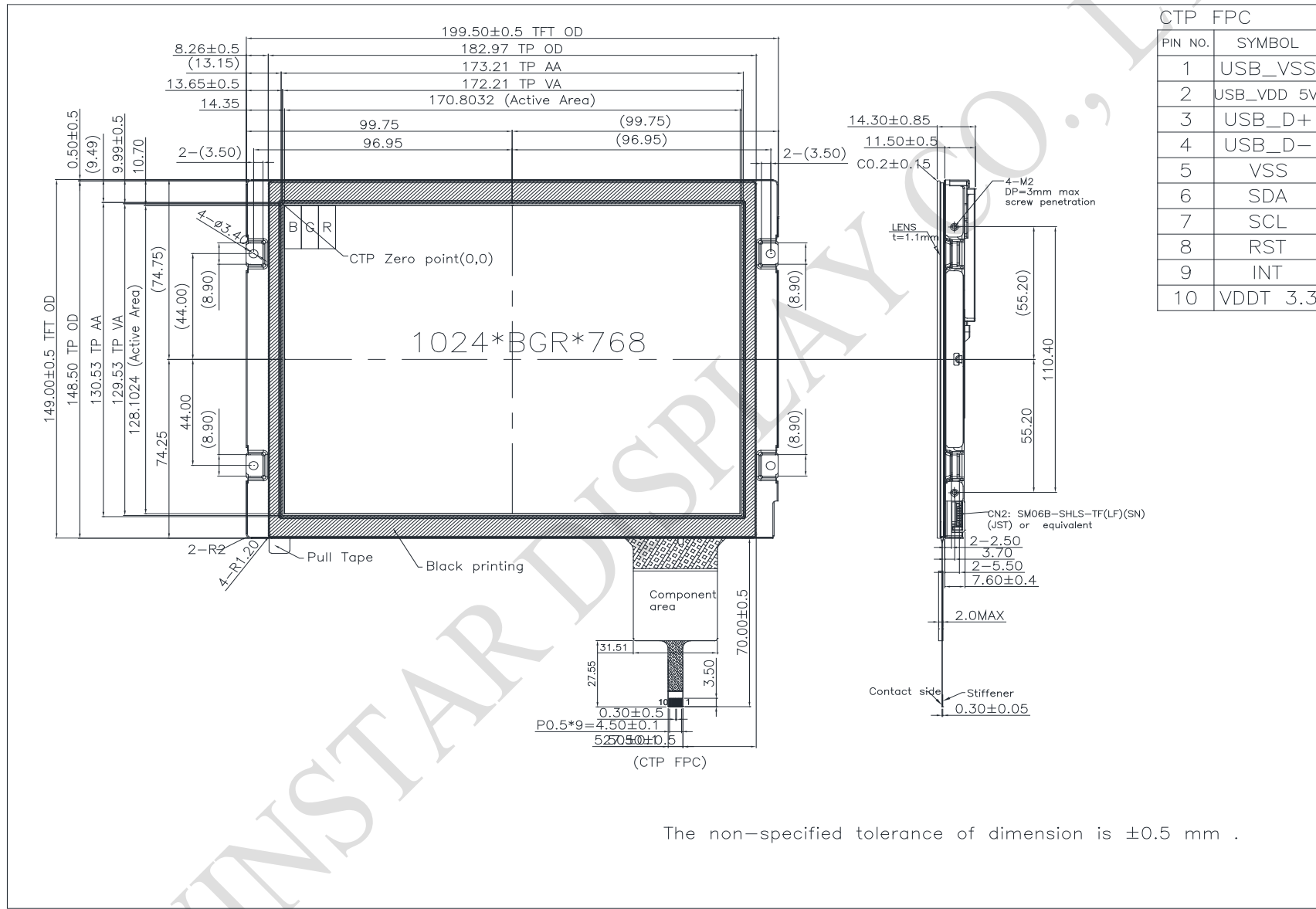
## 2. CN2

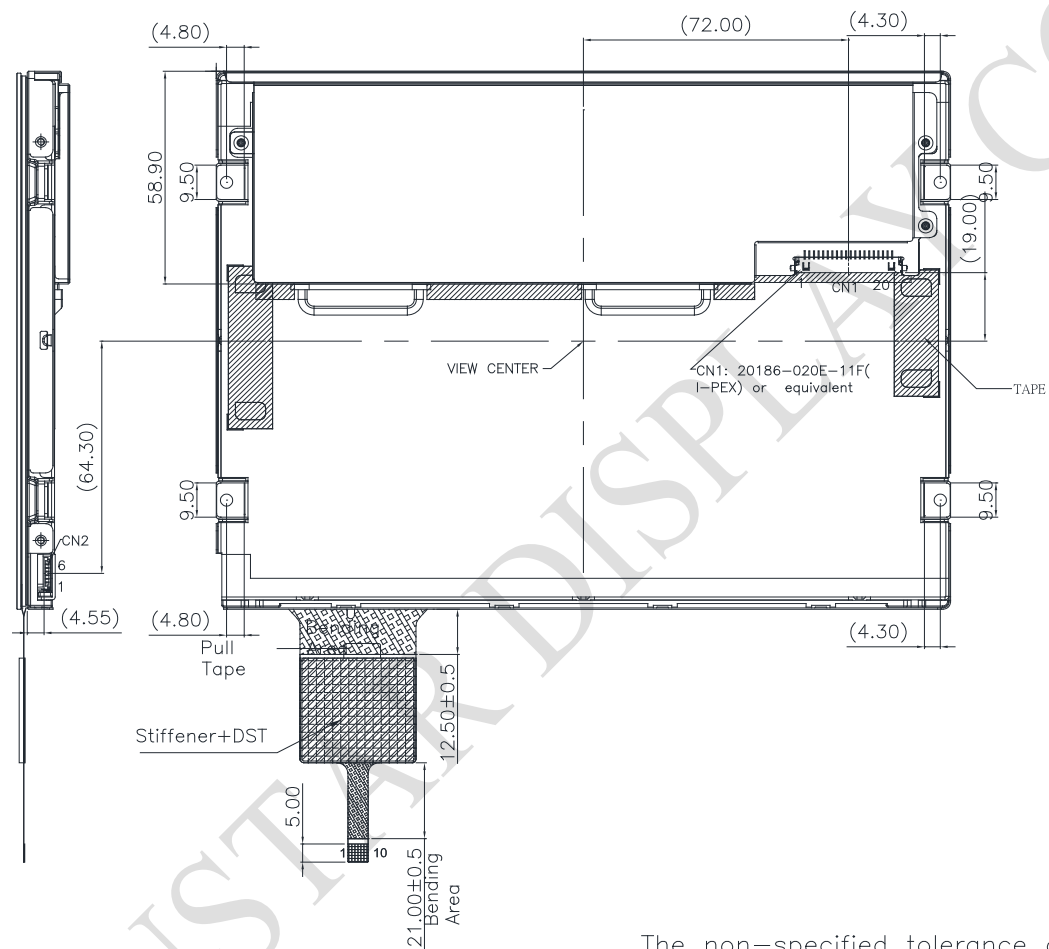
| Pin No. | Symbol | Function       |
|---------|--------|----------------|
| 1       | NC     | No connection  |
| 2       | NC     | No connection  |
| 3       | LED C1 | LED_ Cathode 1 |
| 4       | LED A1 | LED_ Anode 1   |
| 5       | LED A2 | LED_ Anode 2   |
| 6       | LED C2 | LED_ Cathode 2 |

### 3. CTP PIN Definition

| Pin | Symbol     | Function                                         |
|-----|------------|--------------------------------------------------|
| 1   | USB_VSS    | System ground                                    |
| 2   | USB_VDD 5V | Power supply                                     |
| 3   | USB_D+     | Data +                                           |
| 4   | USB_D-     | Data -                                           |
| 5   | VSS        | System ground                                    |
| 6   | SDA        | I2C data input and output (Must be pulled high.) |
| 7   | SCL        | I2C clock input (Must be pulled high.)           |
| 8   | RST        | External Reset, Low is active                    |
| 9   | INT        | External interrupt to the host                   |
| 10  | VDDT 3.3   | Power supply                                     |

# Contour Drawing





CN2

| Pin | Symbol |
|-----|--------|
| 1   | NC     |
| 2   | NC     |
| 3   | LED C1 |
| 4   | LED A1 |
| 5   | LED A2 |
| 6   | LED C2 |

CN1

| Pin | Symbol |
|-----|--------|
| 1   | VDD    |
| 2   | VDD    |
| 3   | GND    |
| 4   | GND    |
| 5   | Link0- |
| 6   | Link0+ |
| 7   | GND    |
| 8   | Link1- |
| 9   | Link1+ |
| 10  | GND    |
| 11  | Link2- |
| 12  | Link2+ |
| 13  | GND    |
| 14  | CLKIN- |
| 15  | CLKIN+ |
| 16  | GND    |
| 17  | Link3- |
| 18  | Link3+ |
| 19  | MODE   |
| 20  | SC     |

The non-specified tolerance of dimension is  $\pm 0.5$  mm .