

# TFT DISPLAY SPECIFICATION



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



## SPECIFICATION

**MODULE NO.: WF70B4TIAGDNGA#**

### General Specifications

| Item                           | Dimension                               | Unit |
|--------------------------------|-----------------------------------------|------|
| Size                           | 7.0                                     | inch |
| Dot Matrix                     | 800 x RGB x 480 (TFT)                   | dots |
| Module dimension               | 165 x 100.0 x 7.4                       | mm   |
| Active area                    | 154.08 x 85.92                          | mm   |
| Pixel Pitch                    | 0.1926 X 0.179                          | mm   |
| LCD type                       | TFT, Normally White, Transmissive       |      |
| View Direction                 | 12 o'clock                              |      |
| Gray Scale Inversion Direction | 6 o'clock                               |      |
| Aspect Ratio                   | 16:9                                    |      |
| Backlight Type                 | LED, Normally White                     |      |
| Color arrangement              | RGB-STRIFE                              |      |
| TFT Driver IC                  | HX8264 & HX8664 or Equivalent           |      |
| TFT interface                  | 24-bit RGB                              |      |
| CTP IC                         | ILI2130 or Equivalent                   |      |
| CTP Interface                  | I2C                                     |      |
| CTP FW Version                 | 0x07.0x00.0x00.0x00.0x65.0x90.0x00.0x01 |      |
| CTP Resolution                 | 16384*16384                             |      |
| Touch Panel                    | Projected Capacitive Touch Panel (PCAP) |      |
| Surface                        | 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

### 1. Operating conditions:

| Item                     | Symbol           | Min   | Typ  | Max  | Unit |
|--------------------------|------------------|-------|------|------|------|
| Supply Voltage For Logic | VCC              | 3.0   | 3.3  | 3.6  | V    |
| Power voltage            | AVDD             | 10.2  | 10.4 | 10.6 | V    |
| Power Supply For Current | VCC =3.3V        | -     | 4.3  | -    | mA   |
| Power voltage            | VGH              | 14.5  | 15.0 | 15.5 | V    |
| Power voltage            | VGL              | -10.5 | -10  | -9.5 | V    |
| Input signal voltage     | VCOM             | 3.54  | 4.04 | 4.54 | V    |
| Supply CTP               | VDDT             | 3.0   | 3.3  | 3.6  | V    |
|                          | I <sub>DDT</sub> | —     | 65   | 98   | mA   |

### 2. LED driving conditions

| Parameter     | Symbol | Min.   | Typ. | Max. | Unit |
|---------------|--------|--------|------|------|------|
| LED current   | -      | -      | 180  | -    | mA   |
| LED voltage   | VLED+  | 8.4    | 9.8  | 11.0 | V    |
| LED Life Time | -      | 50,000 | -    | -    | Hr   |

# Interface

## 1. LCM PIN Definition

| Pin | Symbol | Function                    |
|-----|--------|-----------------------------|
| 1   | VLED+  | Power supply for backlight  |
| 2   | VLED+  | Power supply for backlight  |
| 3   | VLED-  | Backlight ground            |
| 4   | VLED-  | Backlight ground            |
| 5   | GND    | Power ground                |
| 6   | VCOM   | Common voltage              |
| 7   | VCC    | Power for Digital Circuit   |
| 8   | MODE   | DE/SYNC mode select         |
| 9   | DE     | Data Input Enable (DEN)     |
| 10  | VS     | Vertical Sync Input (VSD)   |
| 11  | HS     | Horizontal Sync Input (HSD) |
| 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                    |

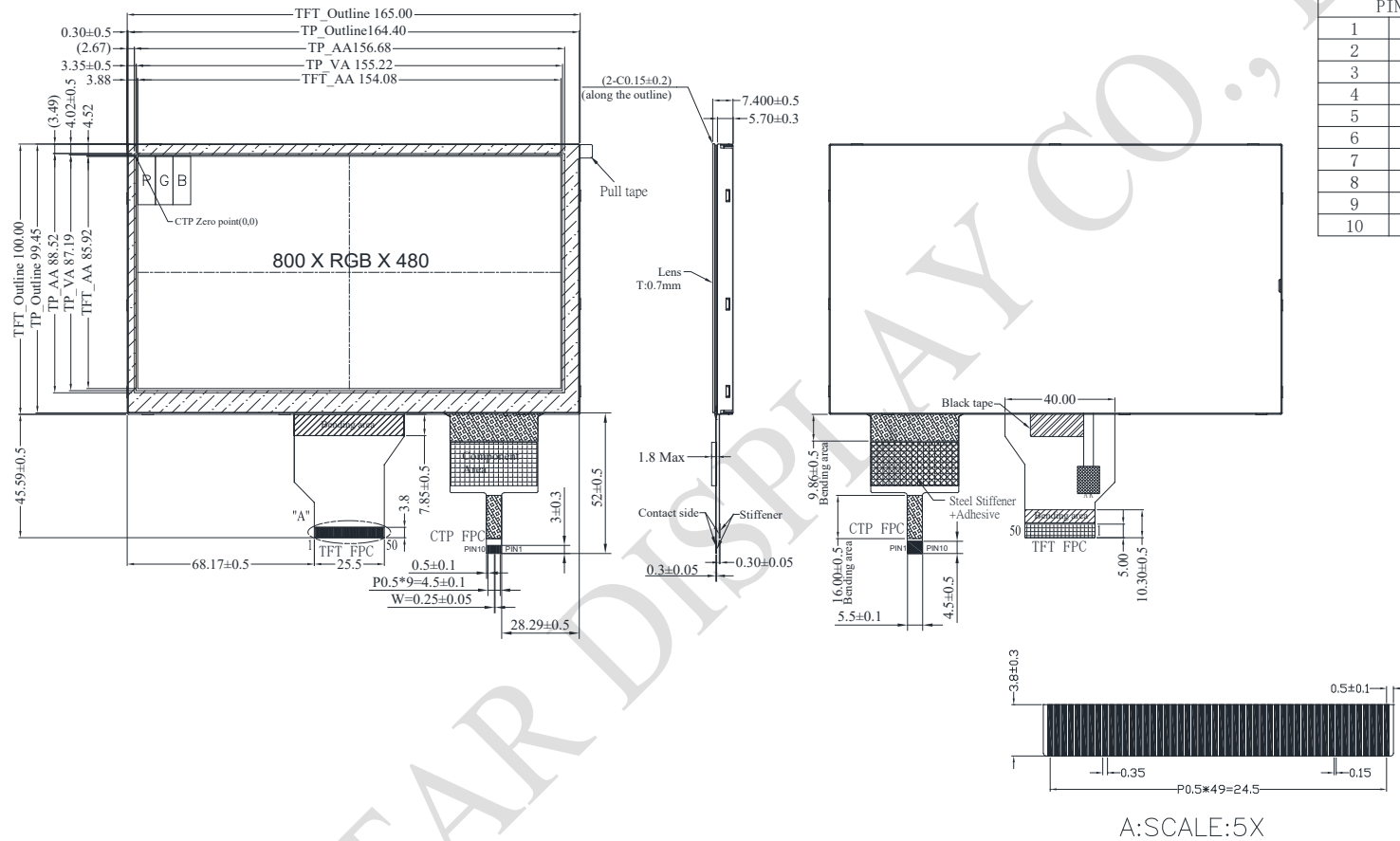
|    |       |                          |
|----|-------|--------------------------|
| 32 | R3    | Red data                 |
| 33 | R2    | Red data                 |
| 34 | R1    | Red data                 |
| 35 | R0    | Red data(LSB)            |
| 36 | GND   | Power Ground             |
| 37 | DCLK  | Sample clock (CLKIN)     |
| 38 | GND   | Power Ground             |
| 39 | L/R   | Left / right selection   |
| 40 | U/D   | Up/down selection        |
| 41 | VGH   | Gate ON Voltage          |
| 42 | VGL   | Gate OFF Voltage         |
| 43 | AVDD  | Power for Analog Circuit |
| 44 | RESET | Global reset pin.        |
| 45 | NC    | No connection            |
| 46 | VCOM  | Common Voltage           |
| 47 | DITHB | Dithering function       |
| 48 | GND   | Power Ground             |
| 49 | NC    | No connection            |
| 50 | NC    | No connection            |

I: input, O: output, P: Power

## 2. CTP PIN Definition

| Pin | Symbol | Function                       |
|-----|--------|--------------------------------|
| 1   | VSS    | Ground for analog circuit      |
| 2   | VDDT   | Power Supply : +3.3V           |
| 3   | SCL    | I2C clock input                |
| 4   | NC     | No connect                     |
| 5   | SDA    | I2C data input and output      |
| 6   | NC     | No connect                     |
| 7   | RST    | External Reset, Low is active  |
| 8   | NC     | No connect                     |
| 9   | INT    | External interrupt to the host |
| 10  | VSS    | Ground for analog circuit      |

# Contour Drawing



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