



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



## SPECIFICATION

**MODULE NO.: WF0096ATYAA3DNF10#**

### General Specifications

| Item             | Dimension                         | Unit |
|------------------|-----------------------------------|------|
| Size             | 0.96                              | inch |
| Dot Matrix       | 80 x RGB x 160(TFT)               | dots |
| Module dimension | 18.7 (W) x 31.9 (H) x 2.59 (D)    | mm   |
| Active area      | 10.8 x 21.696                     | mm   |
| Dot pitch        | 0.135 x 0.1356                    | mm   |
| LCD type         | TFT, Normally black, Transmissive |      |
| Viewing Angle    | 80/80/80/80                       |      |
| Aspect Ratio     | 1:2                               |      |
| IC               | ST7735S or equivalent             |      |
| TFT Interface    | SPI Interface                     |      |
| Backlight Type   | LED, Normally White               |      |
| PCAP Interface   | I2C                               |      |
| PCAP IC          | FT3267 or equivalent              |      |
| PCAP FW Version  | V06                               |      |
| 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    | -20 | —   | +70 | °C   |
| Storage Temperature   | TST    | -30 | —   | +80 | °C   |

## Electrical Characteristics

Operating conditions:

| Item               | Symbol            | Min | Typ | Max | Unit |
|--------------------|-------------------|-----|-----|-----|------|
| Supply Voltage     | VCC               | 3.0 | 3.3 | 3.6 | V    |
| Supply LCM current | ICC               | —   | 2   | 3   | mA   |
| Supply CTP         | VDDT              | 2.8 | —   | 3.3 | V    |
|                    | I <sub>VDDT</sub> | —   | 2   | 3   | mA   |

# Interface

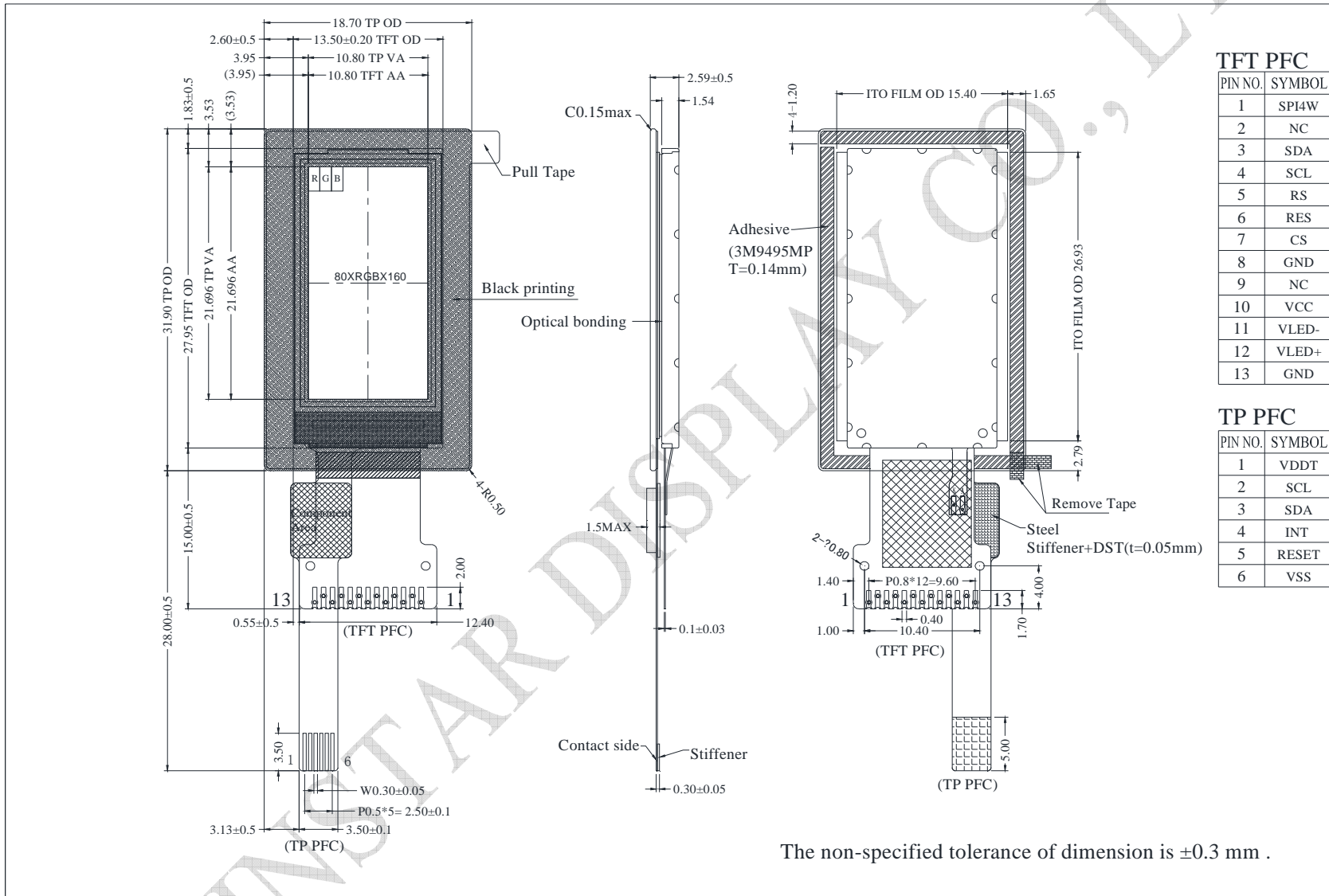
## LCM PIN Definition

| Pin | Symbol | Function   |
|-----|--------|--|
| 1   | SPI4W  | SPI4W='0', 3-wire SPI.<br>SPI4W='1', 4-wire SPI. |
| 2   | NC     | No connection                                    |
| 3   | SDA    | Serial interface data                            |
| 4   | SCL    | Serial interface clock                           |
| 5   | RS     | Data/command selection pin (4-wire SPI use)      |
| 6   | RES    | Reset pin (low active)                           |
| 7   | CS     | Chip selection pin (low active)                  |
| 8   | GND    | Ground   |
| 9   | NC     | No connection                                    |
| 10  | VCC    | Power supply.                                    |
| 11  | VLED-  | Back light cathode                               |
| 12  | VLED+  | Back light anode                                 |
| 13  | GND    | Ground   |

## PCAP PIN Definition

| Pin | Symbol | Function                              |
|-----|--------|---------------------------------------|
| 1   | VDDT   | Power supply                          |
| 2   | SCL    | IIC clock signal. Must be pulled high |
| 3   | SDA    | IIC data signal. Must be pulled high. |
| 4   | INT    | External interrupt to the host        |
| 5   | RESET  | External Reset. Low is active         |
| 6   | VSS    | Power ground.                         |

# Contour Drawing



**TFT PFC**

| PIN NO. | SYMBOL |
|---------|--------|
| 1       | SPI4W  |
| 2       | NC     |
| 3       | SDA    |
| 4       | SCL    |
| 5       | RS     |
| 6       | RES    |
| 7       | CS     |
| 8       | GND    |
| 9       | NC     |
| 10      | VCC    |
| 11      | VLED-  |
| 12      | VLED+  |
| 13      | GND    |

**TP PFC**

| PIN NO. | SYMBOL |
|---------|--------|
| 1       | VDDT   |
| 2       | SCL    |
| 3       | SDA    |
| 4       | INT    |
| 5       | RESET  |
| 6       | VSS    |

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