



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



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## SPECIFICATION

**MODULE NO.: WF70A8TYAHLNNO#**

### General Specifications

| Item             | Dimension                         | Unit |
|------------------|-----------------------------------|------|
| Size             | 7.0                               | inch |
| Dot Matrix       | 1024 x RGB x 600(TFT)             | dots |
| Module dimension | 169.9(W) x 103.4(H) x 5.6(D)      | mm   |
| Active area      | 154.2144 x 85.92                  | mm   |
| Dot pitch        | 0.1506 x 0.1432                   | mm   |
| LCD type         | TFT, Normally Black, Transmissive |      |
| Viewing Angle    | 85/85/85/85                       |      |
| Aspect Ratio     | 16:9                              |      |
| Driver IC        | ST5021 + ST5651 or equivalent     |      |
| Backlight Type   | LED, Normally White               |      |
| Touch Panel      | Without Touch Panel               |      |
| Interface        | LVDS                              |      |
| 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

## Typical Operation Conditions

| Item                 | Symbol | Values |      |      | Unit |
|----------------------|--------|--------|------|------|------|
|                      |        | Min.   | Typ. | Max. |      |
| Power voltage        | VDD    | 3.0    | 3.3  | 3.6  | V    |
| Analog Power         | AVDD   | 8.9    | 9.0  | 9.1  | V    |
| TFT Gate ON Voltage  | VGH    | 17     | 18   | 19   | V    |
| TFT Gate OFF Voltage | VGL    | -6.5   | -6.0 | -5.5 | V    |
| TFT Common Voltage   | Vcom   | 3.0    | 3.15 | 3.3  | V    |
| Current for Driver   | IDD    | -      | 14   | 21   | mA   |
| Power Current        | IAVDD  | -      | 25   | -    | mA   |
| TFT Gate ON Current  | IVGH   | -      | 1    | -    | mA   |
| TFT Gate OFF Current | IVGL   | -      | 1    | -    | mA   |
| TFT Common Current   | IVCOM  | -      | 1    | -    | mA   |

# Interface

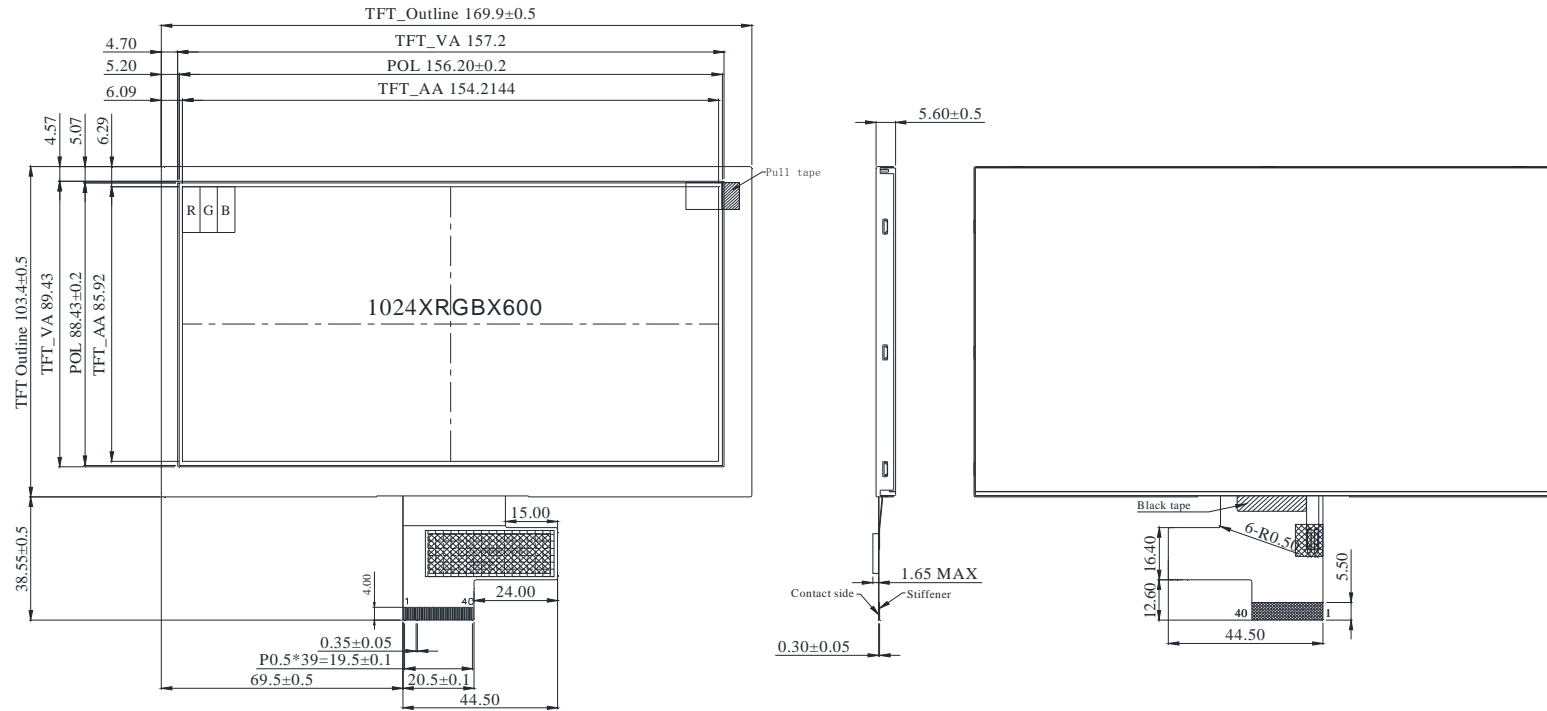
## LCM PIN Definition

| Pin No. | Symbol   | I/O | Function  |
|---------|----------|-----|---|
| 1       | VCOM     | P   | Common Voltage  |
| 2       | VDD      | P   | Digital circuit   |
| 3       | VDD      | P   | Digital circuit   |
| 4       | NC       | --- | No connection   |
| 5       | RESET    | I   | Global reset pin  |
| 6       | STBYB    | I   | Standby mode, Normally pulled high<br>STBYB = "1", normal operation<br>STBYB = "0", timing controller, source driver will turn off, all output are High-Z |
| 7       | GND      | P   | Ground  |
| 8       | RXIN0-   | I   | Negative LVDS differential data input   |
| 9       | RXIN0+   | I   | Positive LVDS differential data input   |
| 10      | GND      | P   | Ground  |
| 11      | RXIN1-   | I   | Negative LVDS differential data input   |
| 12      | RXIN1+   | I   | Positive LVDS differential data input   |
| 13      | GND      | P   | Ground  |
| 14      | RXIN2-   | I   | Negative LVDS differential data input   |
| 15      | RXIN2+   | I   | Positive LVDS differential data input   |
| 16      | GND      | P   | Ground  |
| 17      | RXCLKIN- | I   | Negative LVDS differential clock input  |
| 18      | RXCLKIN+ | I   | Positive LVDS differential clock input  |
| 19      | GND      | P   | Ground  |
| 20      | RXIN3-   | I   | Negative LVDS differential data input   |
| 21      | RXIN3+   | I   | Positive LVDS differential data input   |
| 22      | GND      | P   | Ground  |
| 23      | NC       | --- | No connection   |
| 24      | NC       | --- | No connection   |
| 25      | GND      | P   | Ground  |

|    |      |     |  |
|----|------|-----|--|
| 26 | NC   | --- | No connection                            |
| 27 | NC   | --- | No connection                            |
| 28 | SELB | I   | 6bit/8bit mode select<br>H:6bit / L:8bit |
| 29 | AVDD | P   | Power for Analog Circuit                 |
| 30 | GND  | P   | Ground                                   |
| 31 | LED- | P   | LED Cathode                              |
| 32 | LED- | P   | LED Cathode                              |
| 33 | L/R  | I   | Horizontal inversion                     |
| 34 | U/D  | I   | Vertical inversion                       |
| 35 | VGL  | P   | Negative power for TFT                   |
| 36 | NC   | --- | No connection                            |
| 37 | NC   | --- | No connection                            |
| 38 | VGH  | P   | Positive power for TFT                   |
| 39 | LED+ | P   | LED Anode                                |
| 40 | LED+ | P   | LED Anode                                |

I:input ,O:output,P:power

# Contour Drawing



| PIN NO | SYMBOL   |
|--------|----------|
| 1      | VCOM     |
| 2      | VDD      |
| 3      | VDD      |
| 4      | NC       |
| 5      | RESET    |
| 6      | STBYB    |
| 7      | GND      |
| 8      | RXIN0-   |
| 9      | RXIN0+   |
| 10     | GND      |
| 11     | RXIN1-   |
| 12     | RXIN1+   |
| 13     | GND      |
| 14     | RXIN2-   |
| 15     | RXIN2+   |
| 16     | GND      |
| 17     | RXCLKIN- |
| 18     | RXCLKIN+ |
| 19     | GND      |
| 20     | RXIN3-   |
| 21     | RXIN3+   |
| 22     | GND      |
| 23     | NC       |
| 24     | NC       |
| 25     | GND      |
| 26     | NC       |
| 27     | NC       |
| 28     | SELB     |
| 29     | AVDD     |
| 30     | GND      |
| 31     | LED-     |
| 32     | LED-     |
| 33     | L/R      |
| 34     | U/D      |
| 35     | VGL      |
| 36     | NC       |
| 37     | NC       |
| 38     | VGH      |
| 39     | LED+     |
| 40     | LED+     |

The non-specified tolerance of dimension is  $\pm 0.3\text{mm}$ .