**Winstar Display Co., LTD**
華凌光電股份有限公司
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# SPECIFICATION

**CUSTOMER :** _____

**MODULE NO.: WG12864U5-TFH-V#T**

## General Specification

| Item | Dimension | Unit |
|---|---|---|
| Number of dots | 128 x 64 | — |
| Module dimension | 93.0 x 70.0 x 13.6 (MAX) | mm |
| View area | 72.0 x 40.0 | mm |
| Active area | 66.52 x 33.24 | mm |
| Dot size | 0.48 x 0.48 | mm |
| Dot pitch | 0.52 x 0.52 | mm |
| LCD type | FSTN Positive Transflective<br>(In LCD production, It will occur slightly color difference. We can only guarantee the same color in the same batch.) | |
| Duty | 1/32 | |
| View direction | 6 o'clock | |
| Backlight Type | LED, White | |
| IC | ST7920 | |

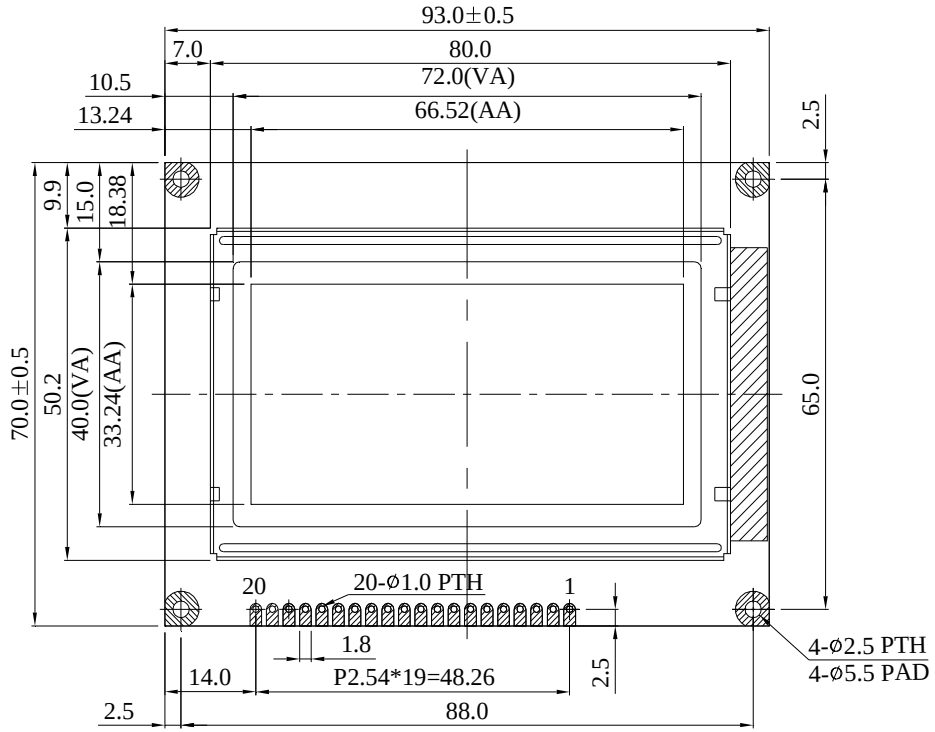
# Absolute Maximum Ratings

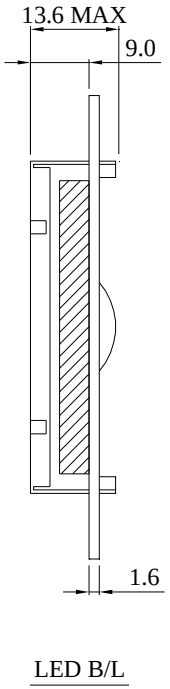
| Item | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Operating Temperature | $T_{OP}$ | -20 | — | +70 | ℃ |
| Storage Temperature | $T_{ST}$ | -30 | — | +80 | ℃ |
| Input Voltage | $V_{IN}$ | -0.3 | — | $V_{DD}$+0.3 | V |
| Supply Voltage For Logic | $V_{DD}$-$V_{SS}$ | -0.3 | — | 5.5 | V |
| Supply Voltage For LCD | $V_O$-$V_{SS}$ | 0 | — | 7.0 | V |

# Interface Pin Function

| Pin No. | Symbol | Level | Description |
|---|---|---|---|
| 1 | $V_{SS}$ | 0V | Ground |
| 2 | Vdd | 5.0V | Power Supply (+5V) |
| 3 | $V_0$ | (Variable) | Contrast Adjustment |
| 4 | RS | H/L | Data/ Instruction |
| 5 | R/W | H/L | Data read /write |
| 6 | E | H | Enable signal |
| 7 | DB0 | H/L | Data bus line |
| 8 | DB1 | H/L | Data bus line |
| 9 | DB2 | H/L | Data bus line |
| 10 | DB3 | H/L | Data bus line |
| 11 | DB4 | H/L | Data bus line |
| 12 | DB5 | H/L | Data bus line |
| 13 | DB6 | H/L | Data bus line |
| 14 | DB7 | H/L | Data bus line |
| 15 | PSB | — | Interface selection:<br>0: serial mode;<br>1: 8/4-bit parallel bus mode. |
| 16 | NC | — | No connection |
| 17 | /RST | — | Reset signal |
| 18 | Vout | — | Positive Voltage output |
| 19 | A | — | Power Supply for LED ( +) |
| 20 | K | — | Power Supply for LED ( - ) |

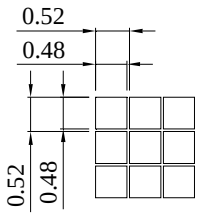
# Contour Drawing &Block Diagram




LED B/L

| PIN NO | SYMBOL |
|---|---|
| 1 | Vss |
| 2 | Vdd |
| 3 | VO |
| 4 | RS |
| 5 | R/$\overline{W}$ |
| 6 | E |
| 7 | DB0 |
| 8 | DB1 |
| 9 | DB2 |
| 10 | DB3 |
| 11 | DB4 |
| 12 | DB5 |
| 13 | DB6 |
| 14 | DB7 |
| 15 | PSB |
| 16 | NC |
| 17 | RST |
| 18 | Vout |
| 19 | A |
| 20 | K |




DOT SIZE
SCALE 10/1

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