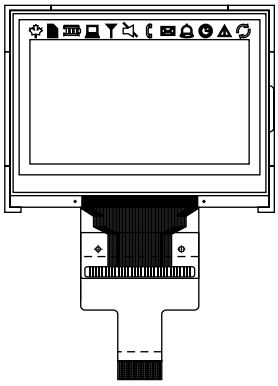
# 128 x 64 Graphic LCD



## FEATURES

- Type: Graphic
- Display format: 128 x 64 dots
- Built-in controller: Sitronix ST7565-F3
- Duty cycle: 1/64
- + 3.3 V power supply (4 times boosted voltage)
- Compliant to RoHS directive 2002/95/EC

Pb-free
RoHS COMPLIANT

## MECHANICAL DATA

| ITEM | STANDARD VALUE | UNIT |
|---|---|---|
| Module Dimension | 65.0 x 84.0 x 1.9 | mm |
| Viewing Area | 52.0 x 33.5 | |
| Dot Size | 0.35 x 0.40 | |
| Dot Pitch | 0.37 x 0.42 | |
| Mounting Hole | N/a | |
| Character Size | N/a | |

## ABSOLUTE MAXIMUM RATINGS

| ITEM | SYMBOL | STANDARD VALUE | | | UNIT |
|---|---|---|---|---|---|
| | | MIN. | TYP. | MAX. | |
| Power Supply | $V_{DD}$ to $V_{SS}$ | 2.6 | 3.0 | 3.5 | V |
| Input Voltage | $V_I$ | - 0.3 | - | $V_{DD}$ | |

**Note**

- $V_{SS}$ = 0 V, $V_{DD}$ = 5.0 V

## ELECTRICAL CHARACTERISTICS

| ITEM | SYMBOL | CONDITION | STANDARD VALUE | | | UNIT |
|---|---|---|---|---|---|---|
| | | | MIN. | TYP. | MAX. | |
| Input Voltage | $V_{DD}$ | L level | 0.8 $V_{DD}$ | - | $V_{DD}$ | V |
| | $V_{IO}$ | H level | - | - | - | V |
| Supply Current | $I_{DD}$ | $V_{DD}$ = + 5 V | - | - | - | mA |
| Recommended LC Driving Voltage for Normal Temperature Version Module | $V_{DD}$ to $V_0$ | - 20 °C | - | - | 10.5 | V |
| | | 0 °C | - | - | - | |
| | | 25 °C | - | 8.4 | - | |
| | | 50 °C | 7.0 | - | - | |
| | | 70 °C | - | - | - | |
| LED Forward Voltage | $V_F$ | 25 °C | - | - | - | V |
| LED Forward Current | $I_F$ | 25 °C | - | - | - | mA |
| CCFL | $V_F$ | 25 °C | - | - | - | Vms |
| | $I_F$ | 25 °C | - | - | - | mA |
| EL Power Supply Current | $I_{EL}$ | $V_{EL}$ = 110 $V_{AC}$, 400 Hz | - | - | - | mA |

## OPTIONS

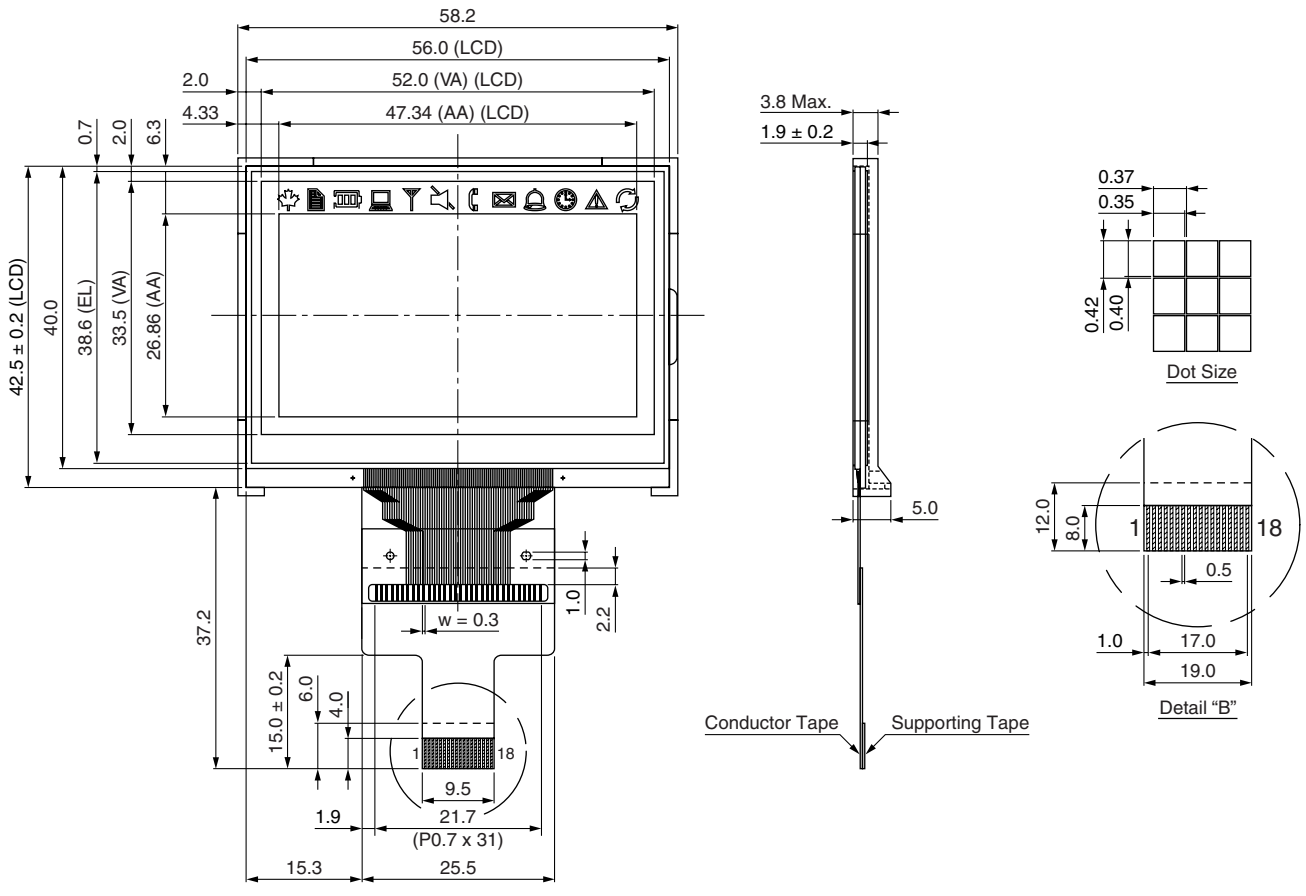
| PROCESS COLOR | | | | | | BACKLIGHT | | | |
|---|---|---|---|---|---|---|---|---|---|
| TN | STN Gray | STN Yellow | STN Blue | FSTN B&W | STN Color | None | LED | EL | CCFL |
| | x | x | | x | | x | | x | |

For detailed information, please see the “Product Numbering System” document.

## INTERFACE PIN FUNCTION

| PIN NO. | SYMBOL | FUNCTION |
|---|---|---|
| 1 | $V_{DD}$ | Power supply for logic |
| 2 | $V_{SS}$ | Ground |
| 3 | CS1B | Chip select input pin |
| 4 | CS2 | Chip select input pin |
| 5 | RES | Reset |
| 6 | RS | Register select signal |
| 7 | R/W | H: Read signal/L: Write signal |
| 8 | E | H → Enable signal |
| 9 | DB0 | Data bus line |
| 10 | DB1 | Data bus line |
| 11 | DB2 | Data bus line |
| 12 | DB3 | Data bus line |
| 13 | DB4 | Data bus line |
| 14 | DB5 | Data bus line |
| 15 | DB6 | Data bus line |
| 16 | DB7 | Data bus line |
| 17 | MI | H: 6800 series/L: 8080 series |
| 18 | P/S | H: Parallel/L: Serial |

## DIMENSIONS in millimeters



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