WINSTAR Display

# OLED SPECIFICATION

Model No:

***WEO12832W#SP3N00000-FC***

Represented by:

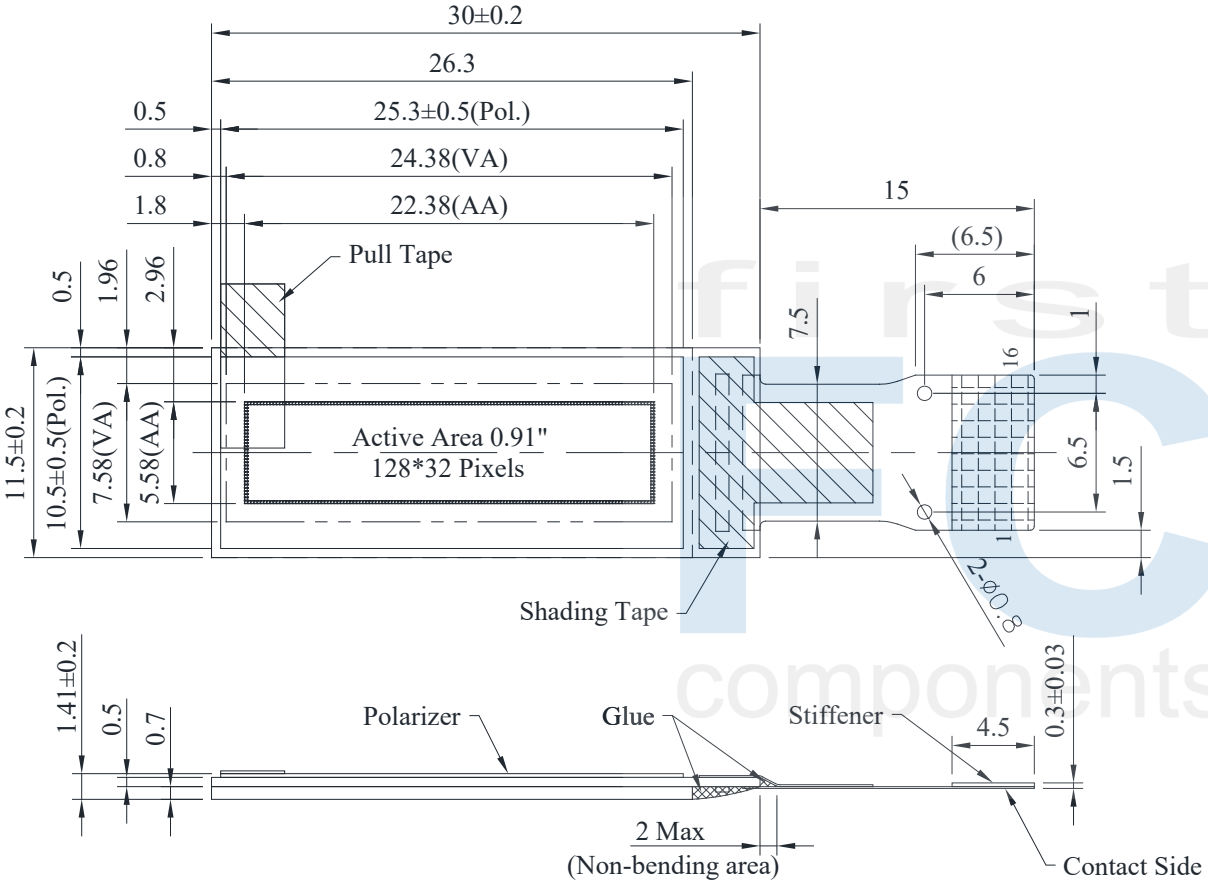
**FIRST Components s.r.l.**
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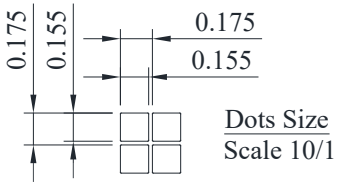
# General Specification

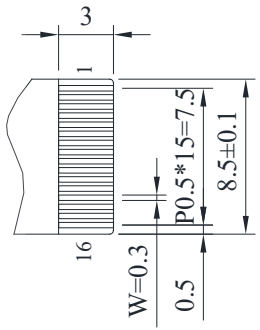
| Item | Dimension | Unit |
|---|---|---|
| Dot Matrix | 128 x 32 Dots | — |
| Module dimension | 30.0 × 11.5 × 1.41 | mm |
| Active Area | 22.38 × 5.58 | mm |
| Pixel Size | 0.155 × 0.155 | mm |
| Pixel Pitch | 0.175 × 0.175 | mm |
| Display Mode | Passive Matrix | |
| Display Color | White | |
| Drive Duty | 1/32 Duty | |
| Gray Scale | 4 bits | |
| IC | CH1120 | |
| Interface | 4-wire SPI,I2C | |
| Size | 0.91 inch | |

first FC components

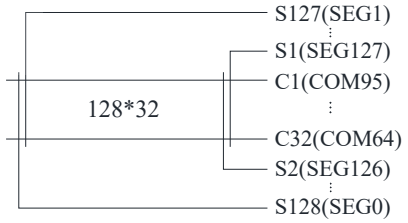
# Contour Drawing & Block Diagram




FPC Contact Side
Scale 1/1




Com & Seg layout

| PIN | SYNBOL |
|---|---|
| 1 | ESD_GND |
| 2 | VPP |
| 3 | VCOMH |
| 4 | SEGH |
| 5 | VSL |
| 6 | VSS |
| 7 | VDD |
| 8 | RES |
| 9 | A0/SA0 |
| 10 | CS |
| 11 | SCL |
| 12 | SI |
| 13 | IM1 |
| 14 | IREF |
| 15 | DVDD |
| 16 | ESD_GND |

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

# Interface Pin Function

| No. | Symbol | Function |
|---|---|---|
| 1 | ESD_GND | This pin should be connected to GND. |
| 2 | VPP | OLED panel power supply.<br>Connect to capacitor. It could be supplied externally. This is the most positive voltage supply. |
| 3 | VCOMH | This is a pin for the voltage output high level for common signals.<br>A capacitor should be connected between this pin and VSS. |
| 4 | SEGH | This is a segment pre-charge voltage.<br>A capacitor can be connected between this pin and GND if necessary. When external capacitor is not used, this pin should be kept NC. |
| 5 | VSL | Discharge voltage level pad.<br>This pad should be connected to resistor and diode externally. |
| 6 | VSS | Ground for logic and analog. This pin should be connected to GND externally. |
| 7 | VDD | Power supply for logic. |
| 8 | RES | This is a reset signal input pin. When RES is set to “L”, the settings are initialized. The reset operation is performed by the RES signal level.<br>This pin internal pull high. |
| 9 | A0/SA0 | This is the Data/Command control pin that determines whether the data bits are data or a command.<br>In I2C interface, this pad serves as SA0 to distinguish the different address of OLED driver. |
| 10 | CS | This pin is the chip select input. When CS = “L”, then the chip select becomes active, and data/command I/O is enabled. |
| 11 | SCL | The serial clock input. |
| 12 | SI | The serial data input. |
| 13 | IM1 | MCU bus interface selection pins.<br>4-Wire SPI: IM1 = 0<br>I2C: IM1 = 1 |
| 14 | IREF | This is a segment current reference pin.<br>A resistor should be connected between this pin and GND. |
| 15 | DVDD | This pin is for regulator circuit.<br>A capacitor should be connected between this pin and GND if necessary. When external capacitor Is not used, this pin should be kept NC |
| 16 | ESD_GND | This pin should be connected to GND. |

# Absolute Maximum Ratings

| Parameter | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| Supply Voltage for Logic | VDD | -0.3 | 3.5 | V |
| Supply Voltage for Display | VPP | -0.3 | 15.0 | V |
| Operating Temperature | TOP | -40 | +80 | °C |
| Storage Temperature | TSTG | -40 | +85 | °C |

# Electrical Characteristics

## DC Electrical Characteristics

| Item | Symbol | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Supply Voltage for Logic | VDD | — | 1.65 | 3.0 | 3.5 | V |
| Supply Voltage for Display | VPP | — | 8.0 | 9.0 | 9.5 | V |
| Input High Volt. | VIH | — | 0.8×VDD | — | VDD | V |
| Input Low Volt. | VIL | — | VSS | — | 0.2×VDD | V |
| Output High Volt. | VOH | — | 0.8×VDD | — | VDD | V |
| Output Low Volt. | VOL | — | VSS | — | 0.2×VDD | V |
| Display 50% Pixel On | IPP | VPP=9V | — | 3 | 6 | mA |

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