

# OLED DISPLAY SPECIFICATION



RAYSTAR

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## REX012832R

### General Specification

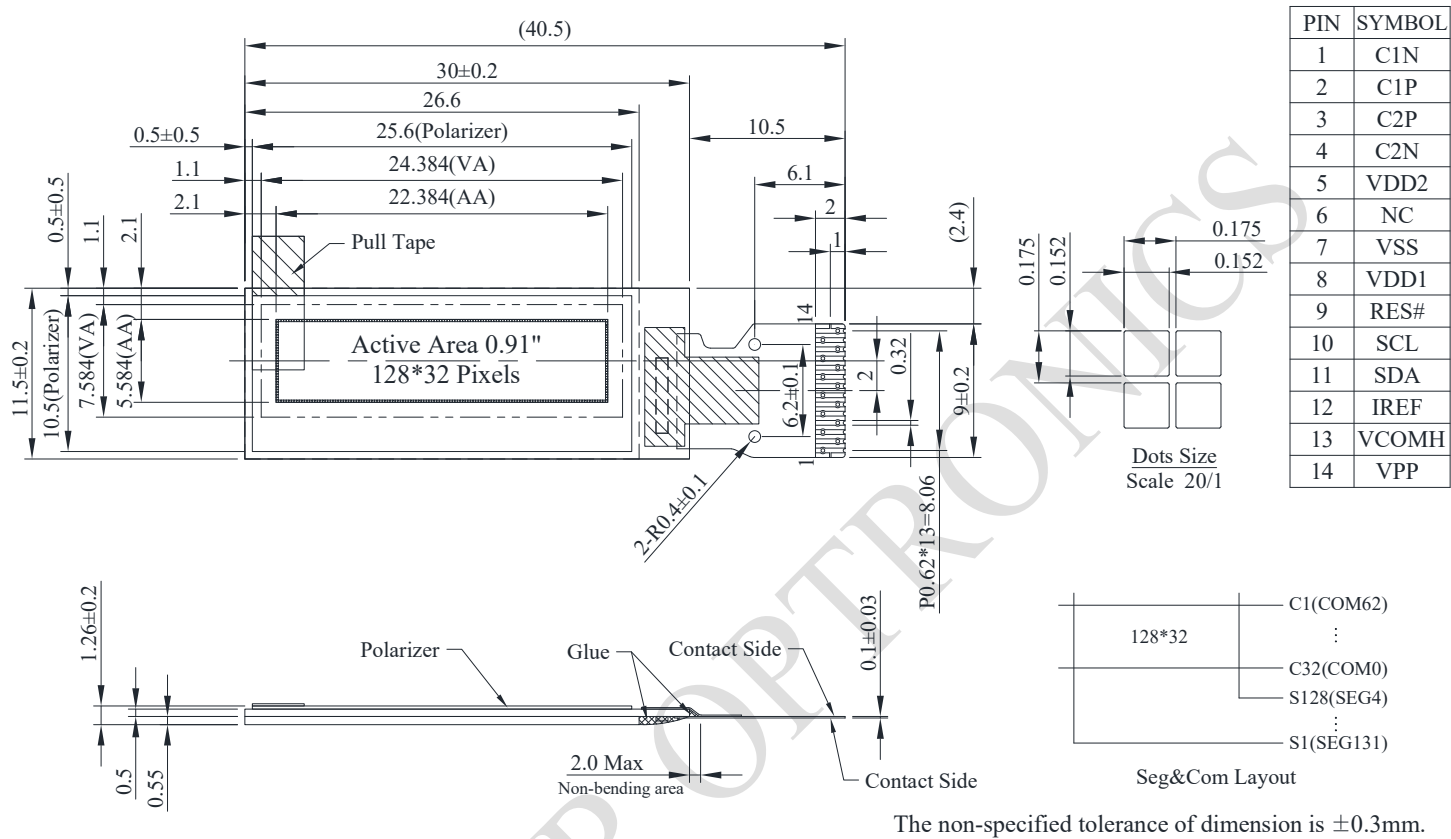
The Features is described as follow:

- Module Dimension: 30.0 × 11.5 × 1.26 mm
- Active Area: 22.384 × 5.584 mm
- Dot Matrix: 128\*32
- Pixel Size: 0.152 × 0.152 mm
- Pixel Pitch: 0.175 × 0.175 mm
- Display Mode : Passive Matrix
- Duty: 1/32 Duty
- Display Color: Monochrome
- IC: SH1106
- Interface: I2C
- Size: 0.91-inch

## Interface Pin Function

| Pin No. | Symbol | Function                                                                                                                                          |
|---------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | C1N    | Connect to charge pump capacitor.<br>These pins are not used and should be disconnected when Vpp is supplied externally.                          |
| 2       | C1P    |                                                                                                                                                   |
| 3       | C2P    |                                                                                                                                                   |
| 4       | C2N    |                                                                                                                                                   |
| 5       | VDD2   | Power supply pad for Power supply for charge pump circuit.<br>This pin should be disconnected when VPP is supplied externally                     |
| 6       | NC     | No connection                                                                                                                                     |
| 7       | VSS    | Ground.                                                                                                                                           |
| 8       | VDD1   | Power supply input                                                                                                                                |
| 9       | RES#   | This is a reset signal input pad. When RES is set to "L", the settings are initialized. The reset operation is performed by the RES signal level. |
| 10      | SCL    | When the I2C interface is selected, D0 serves as the serial clock input pad (SCL) and D1 serves as the serial data input pad (SDA).               |
| 11      | SDA    |                                                                                                                                                   |
| 12      | IREF   | This is a segment current reference pad. A resistor should be connected between this pad and VSS. Set the current at 18.75uA.                     |
| 13      | VCOMH  | This is a pad for the voltage output high level for common signals.<br>A capacitor should be connected between this pad and VSS.                  |
| 14      | VPP    | OLED panel power supply. Generated by internal charge pump.<br>Connect to capacitor. It could be supplied externally.                             |

Contour Drawing



## Absolute Maximum Ratings

| Parameter                            | Symbol | Min  | Max  | Unit |
|--------------------------------------|--------|------|------|------|
| Supply Voltage for Logic             | VDD1   | -0.3 | 3.6  | V    |
| Power supply for charge pump circuit | VDD2   | -0.3 | 4.8  | V    |
| Supply Voltage for Display           | VPP    | -0.3 | 14.5 | 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                                                      | VDD1                  | —           | 1.65              | 3.0  | 3.3               | V    |
| Supply Voltage for Display<br>(Supplied Externally)                           | VPP                   | —           | 6.4               | 7.25 | 8                 | V    |
| Charge Pump Regulator<br>Supply Voltage                                       | VDD2                  | —           | 2.9               | —    | 4.2               | V    |
| Charge Pump Output<br>Voltage for Display<br>(Generated by Internal<br>DC/DC) | Charge<br>Pump<br>VPP | —           | 7.0               | 7.4  | —                 | V    |
| Input High Volt                                                               | VIH                   | —           | $0.8 \times VDD1$ | —    | VDD1              | V    |
| Input Low Volt                                                                | VIL                   | —           | VSS               | —    | $0.2 \times VDD1$ | V    |
| Output High Volt                                                              | VOH                   | —           | $0.8 \times VDD1$ | —    | VDD1              | V    |
| Output Low Volt                                                               | VOL                   | —           | VSS               | —    | $0.2 \times VDD1$ | V    |
| Operating Current for VPP<br>(VPP Supplied Externally)                        | IPP                   | VPP = 7.25V | —                 | 8    | 12                | mA   |
| Display 50% Pixel on<br>(VPP Generated by<br>Internal DC/DC)                  | IDD2                  | —           | —                 | 15   | 25                | mA   |