WINSTAR Display

# OLED SPECIFICATION

Model No:

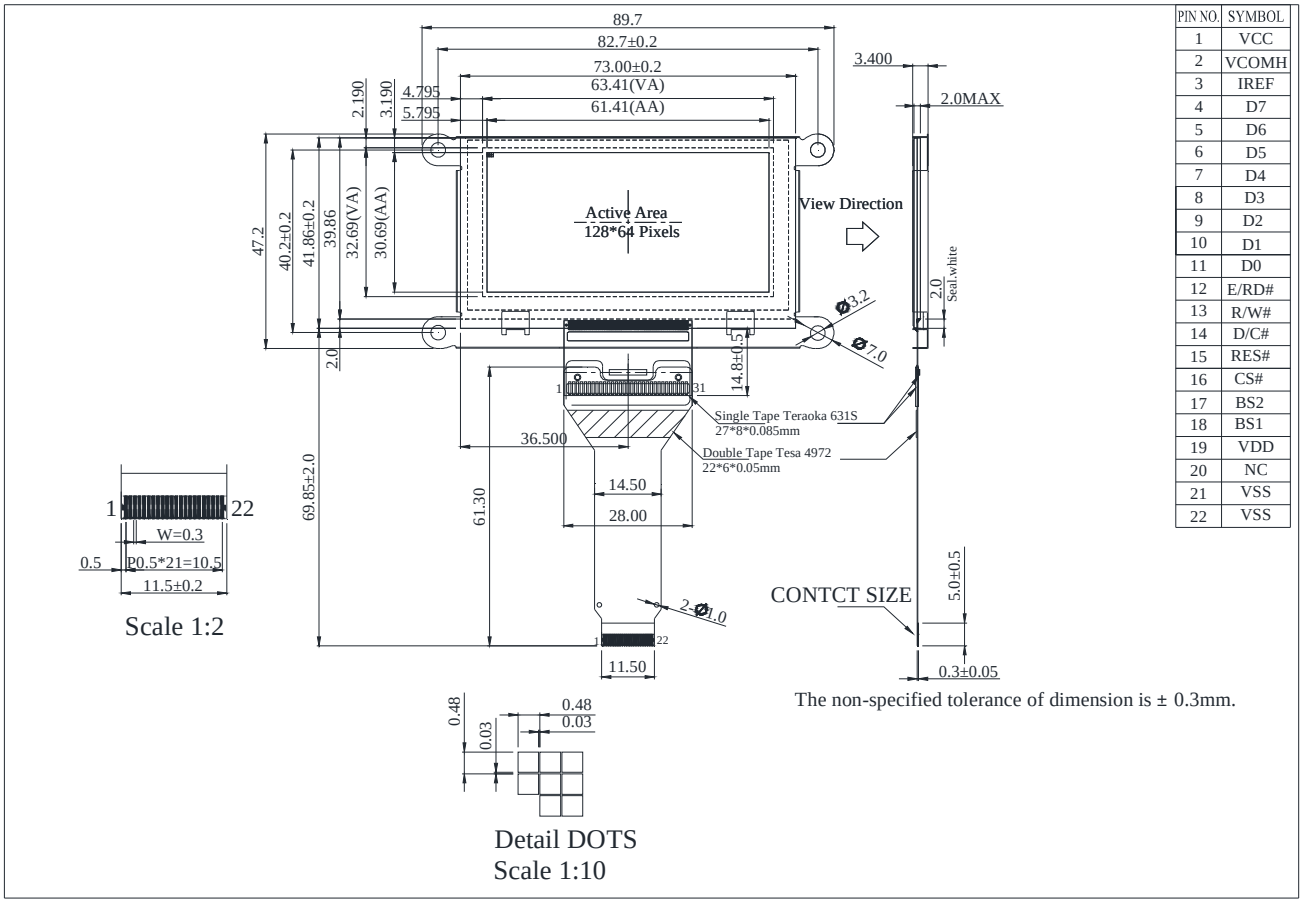
WEX012864C

## General Specification

| Item | Dimension | Unit |
|---|---|---|
| Dot Matrix | 128 x 64 Dots | – |
| Module dimension | 89.7 × 47.2 × 3.4 | mm |
| Active Area | 61.41 × 30.69 | mm |
| Pixel Size | 0.45 × 0.45 | mm |
| Pixel Pitch | 0.48 × 0.48 | mm |
| Display Mode | Passive Matrix | |
| Display Color | Monochrome | |
| Drive Duty | 1/64 Duty | |

first FC components

# Contour Drawing & Block Diagram




| PIN NO. | SYMBOL |
|---|---|
| 1 | VCC |
| 2 | VCOMH |
| 3 | IREF |
| 4 | D7 |
| 5 | D6 |
| 6 | D5 |
| 7 | D4 |
| 8 | D3 |
| 9 | D2 |
| 10 | D1 |
| 11 | D0 |
| 12 | E/RD# |
| 13 | R/W# |
| 14 | D/C# |
| 15 | RES# |
| 16 | CS# |
| 17 | BS2 |
| 18 | BS1 |
| 19 | VDD |
| 20 | NC |
| 21 | VSS |
| 22 | VSS |

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

# Interface Pin Function

<table>
<tr><th>No.</th><th>Symbol</th><th>Function</th></tr>
<tr><td>1</td><td>VCC</td><td>Power supply for analog circuit.</td></tr>
<tr><td>2</td><td>VCOMH</td><td>Com Voltage Output. A capacitor should be connected<br>between this pin and VSS.</td></tr>
<tr><td>3</td><td>IREF</td><td>Reference current input pin.<br>A resistor should be connected between this pin and VSS.</td></tr>
<tr><td>4~11</td><td>D7~D0</td><td>Data bus.</td></tr>
<tr><td>12</td><td>E/RD#</td><td>Data read operation is initiated when it’s pull low.</td></tr>
<tr><td>13</td><td>R/W#</td><td>Data write operation is initiated when it’s pull low.</td></tr>
<tr><td>14</td><td>D/C#</td><td>Data/ Command control.<br>Pull high for write/read display data.<br>Pull low for write command or read status.</td></tr>
<tr><td>15</td><td>RES#</td><td>Reset signal input.<br>When it’s low, initialization of SSD1305 is executed.</td></tr>
<tr><td>16</td><td>CS#</td><td>Chip select input.</td></tr>
<tr><td>17</td><td>BS2</td><td rowspan="2">Communicating Protocol Select<br>These pins are MCU interface selection input. See the following table:
<table>
<tr><td></td><td>68XX-parallel</td><td>80XX-parallel</td><td>Serial</td><td>I2C</td></tr>
<tr><td>BS1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr>
<tr><td>BS2</td><td>1</td><td>1</td><td>0</td><td>0</td></tr>
</table></td></tr>
<tr><td>18</td><td>BS1</td></tr>
<tr><td>19</td><td>VDD</td><td>Power supply for logic circuit.</td></tr>
<tr><td>20</td><td>NC</td><td>No connection.</td></tr>
<tr><td>21</td><td>VSS</td><td>Ground.</td></tr>
<tr><td>22</td><td>VSS</td><td>Ground.</td></tr>
</table>

# Absolute Maximum Ratings

| Parameter | Symbol | Min | Max | Unit | Notes |
|---|---|---|---|---|---|
| Supply Voltage for Logic | VDD | -0.3 | 4 | V | 1, 2 |
| Supply Voltage for Display | VCC | 0 | 15 | V | 1, 2 |
| Operating Temperature | TOP | -40 | +80 | ℃ | - |
| Storage Temperature | TSTG | -40 | +80 | ℃ | - |

Note 1: All the above voltages are on the basis of “VSS = 0V”.
Note 2: When this module is used beyond the above absolute maximum ratings, permanent breakage of the module may occur. Also, for normal operations, it is desirable to use this module under the conditions according to Section 6 ‘’Electrical Characteristics’’. If this module is used beyond these conditions, malfunctioning of the module can occur and the reliability of the module may deteriorate

# Electrical Characteristics

| Item | Symbol | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Supply Voltage for Logic | VDD | — | 2.8 | 3.0 | 3.3 | V |
| Supply Voltage for Display | VCC | — | 10 | 12 | 15 | V |
| High Level Input | VIH | — | 0.8×VDD | — | VDD | V |
| Low Level Input | VIL | — | 0 | — | 0.2×VDD | V |
| High Level Output | VOH | — | 0.9×VDD | — | VDD | V |
| Low Level Output | VOL | — | 0 | — | 0.1×VDD | V |
| 50% Check Board operating Current | | VCC =12V | 20 | 22 | 25 | mA |