Next Vision Display
Brighten The Future

# NEXT VISION DISPLAY

## SPECIFICATION

MODULE NO: NL009GN001ML

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| | |
|---|---|
| Version | A |
| Engineer | |
| Date | May 5, 2015 |

| Customer: |
|---|
| Approved by |

**NEXT VISION DISPLAY CO., LTD.**

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# 1. Basic Specifications

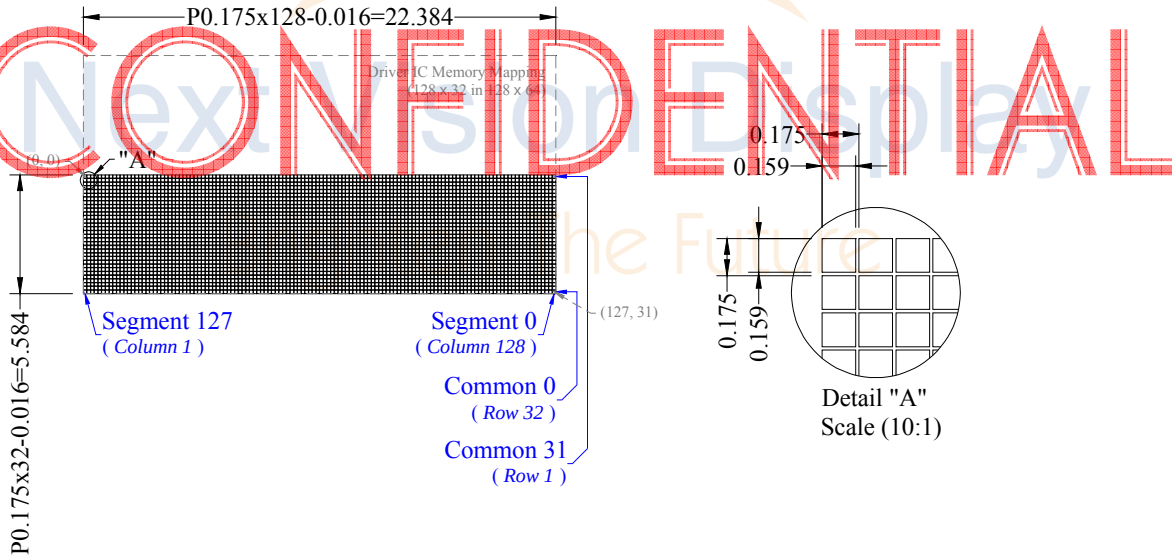
## 1.1 Display Specifications

1) Display Mode : Passive Matrix
2) Display Color : Monochrome
3) Drive Duty : 1/32 Duty

## 1.2 Mechanical Specifications

1) Outline Drawing : According to the annexed outline drawing
2) Number of Pixels : 128 × 32
3) Module Size : 40.50 × 11.50 × 1.20 (mm)
4) Panel Size : 30.00 × 11.50 × 1.20 (mm) including "Anti-Glare polarizer"
5) Active Area : 22.384 × 5.584 (mm)
6) Pixel Pitch : 0.175 × 0.175 (mm)
7) Pixel Size : 0.159 × 0.159 (mm)
8) Weight : 0.89 (g) ± 10%

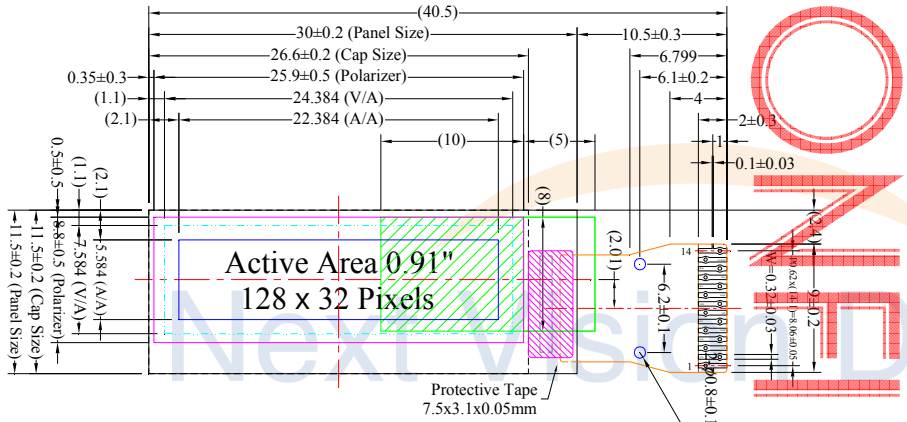
## 1.3 Active Area / Memory Mapping & Pixel Construction

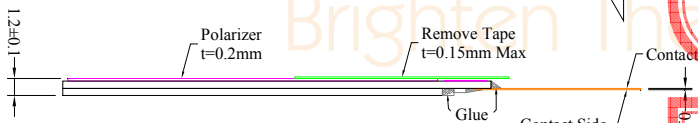


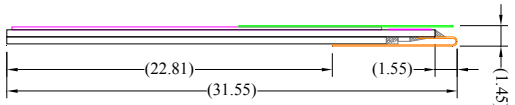

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| Item | Date | Remark |
|---|---|---|
| A | 20150424 | Original Drawing |

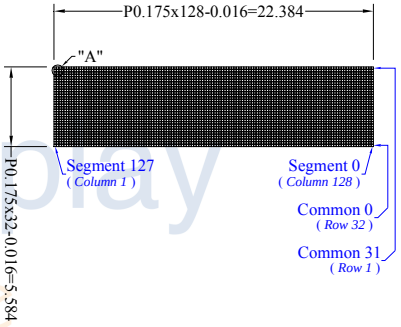
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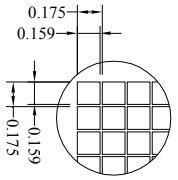



(Reference Mechnical Design)




| Pin | Symbol |
|---|---|
| 1 | C2P |
| 2 | C2N |
| 3 | C1P |
| 4 | C1N |
| 5 | VDDB |
| 6 | N.C. |
| 7 | VSS |
| 8 | VDD |
| 9 | RES# |
| 10 | SCL |
| 11 | SDA |
| 12 | IREF |
| 13 | VCOMH |
| 14 | VCC |

Notes:

1. Color: Mono
2. Driver IC: SSD1306
3. FPC Number: UT-0206-P02
4. Interface: I2C
5. General Tolerance: ±0.30
6. The total thickness 1.3 Max is without polarizer protective film & remove tape.
   The actual assembled total thickness with above materials should be 1.55 Max.

NL009GN001ML

| Unless Otherwise Specified | | Title | Folding Type OEL Display Module<br>Pixel Number: 128 x 32, Monochrome, COG Package | | | | Material | | |
|---|---|---|---|---|---|---|---|---|---|
| Unit | mm | | | | | | Soda Lime / Polyimide | | |
| General Roughness | | | | | | | | | |
| Tolerance | | | Drawn | E.E. | Panel / E. | P.M. | | | |
| Dimension | ±0.3 | By | Sunny Chang | Ting-Kuo Hu | Vicky Tu | Tiffany Hsu | Scale | Sheet | Size |
| Angle | ±1 | Date | 20150424 | 20150424 | 20150424 | 20150424 | 1:1 | 1 of 1 | A3 |

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## 1.5 Pin Definition

| Pin Number | Symbol | I/O | Function |
|---|---|---|---|
| ***Power Supply*** | | | |
| 8 | VDD | P | **Power Supply for Logic**<br>This is a voltage supply pin. It must be connected to external source. |
| 7 | VSS | P | **Ground of OEL System**<br>This is a ground pin. It also acts as a reference for the logic pins, the OEL driving voltages, and the analog circuits. It must be connected to external ground. |
| 14 | VCC | P | **Power Supply for OEL Panel**<br>This is the most positive voltage supply pin of the chip. A stabilization capacitor should be connected between this pin and $V_{SS}$ when the converter is used. It must be connected to external source when the converter is not used. |
| ***Driver*** | | | |
| 12 | IREF | I | **Current Reference for Brightness Adjustment**<br>This pin is segment current reference pin. A resistor should be connected between this pin and $V_{SS}$. Set the current at 12.5μA maximum. |
| 13 | VCOMH | O | **Voltage Output High Level for COM Signal**<br>This pin is the input pin for the voltage output high level for COM signals. A capacitor should be connected between this pin and $V_{SS}$. |
| ***DC/DC Converter*** | | | |
| 5 | VDDB | P | **Power Supply for DC/DC Converter Circuit**<br>This is the power supply pin for the internal buffer of the DC/DC voltage converter. It must be connected to external source when the converter is used. It should be connected to $V_{DD}$ when the converter is not used. |
| 3 / 4<br>1 / 2 | C1P / C1N<br>C2P / C2N | I | **Positive Terminal of the Flying Inverting Capacitor**<br>**Negative Terminal of the Flying Boost Capacitor**<br>The charge-pump capacitors are required between the terminals. They must be floated when the converter is not used. |
| ***Interface*** | | | |
| 9 | RES# | I | **Power Reset for Controller and Driver**<br>This pin is reset signal input. When the pin is low, initialization of the chip is executed. |
| 10 | SCL | I | **I2C Bus Clock Signal**<br>The transmission if information in the $I^2C$ bus is following a clock signal. Each transmission of data bit is taken place during a single clock period of this pin. |
| 11 | SDA | I/O | **I2C Bus Data Signal**<br>This pin acts as a communication channel between the transmitter and the receiver. |
| ***Reserve*** | | | |
| 6 | N.C. | - | **Reserved Pin**<br>The N.C. pin between function pins are reserved for compatible and flexible design. It must be floated. |

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