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NEXT VISION DISPLAY

SPECIFICATION

CUSTOMER : _____

MODULE NO.: NL013PN001WS

Version	0
Engineer	
Date	2022/11/24

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Customer:
Approved by

NEXT VISION DISPLAY CO., LTD.

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MODEL NO：

RECORDS OF REVISION			DOC. FIRST ISSUE
VERSION	DATE	REVISED PAGE NO.	SUMMARY
0	2022/11/24		First release Preliminary SPEC.

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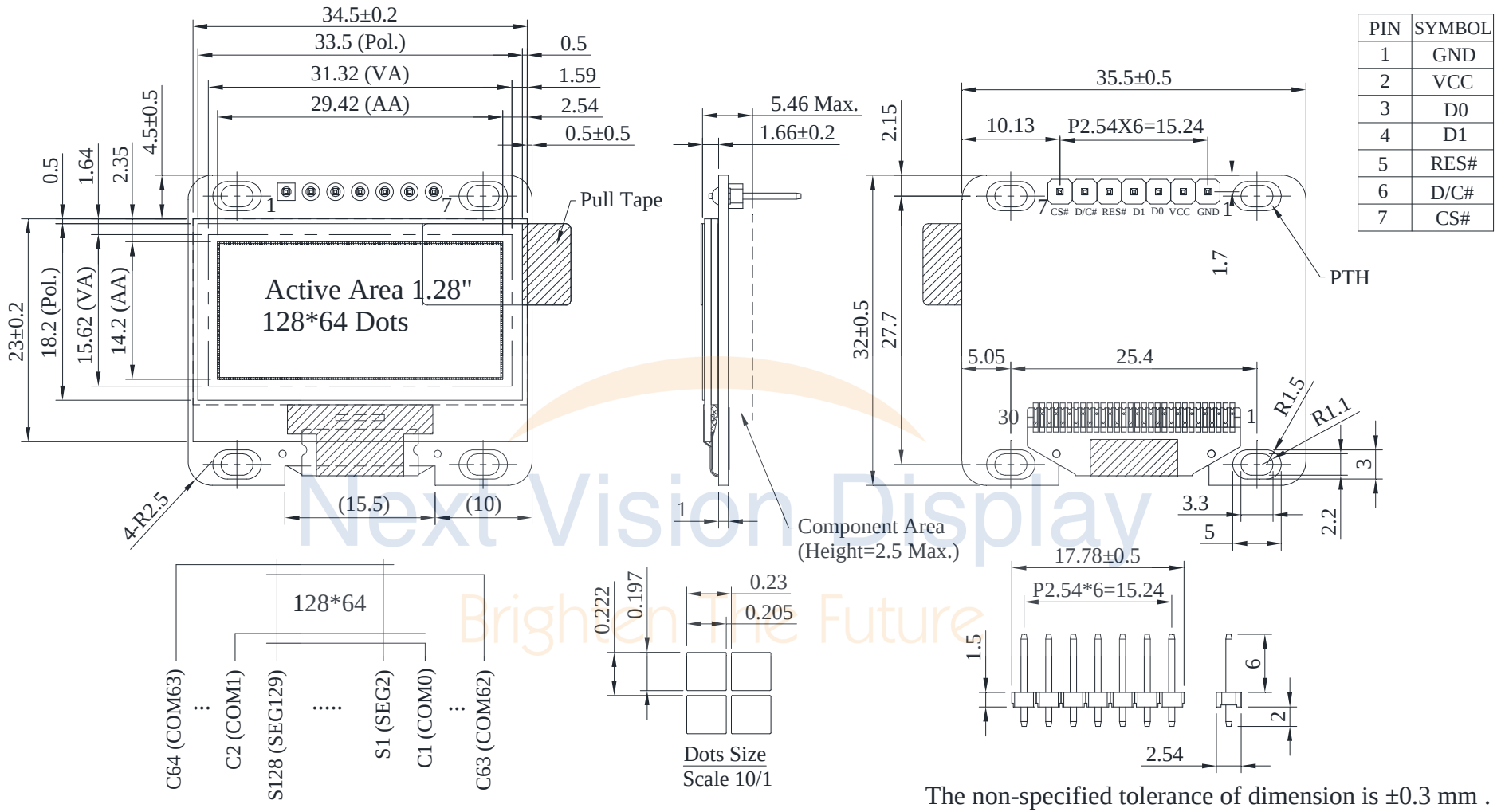
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1.General Specification

Item	Dimension	Unit
Dot Matrix	128 × 64	—
Module dimension	35.50 × 32.00 × 5.46 Max.	mm
Active Area	29.42 × 14.20	mm
Pixel Size	0.205 × 0.197	mm
Pixel Pitch	0.230 × 0.222	mm
Display Mode	Passive Matrix	
Display Color	White	
Drive Duty	1/64 Duty	
Controller IC	SH1106	
Interface	SPI	
Size	1.28 inch	

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2. Contour Drawing & Block Diagram

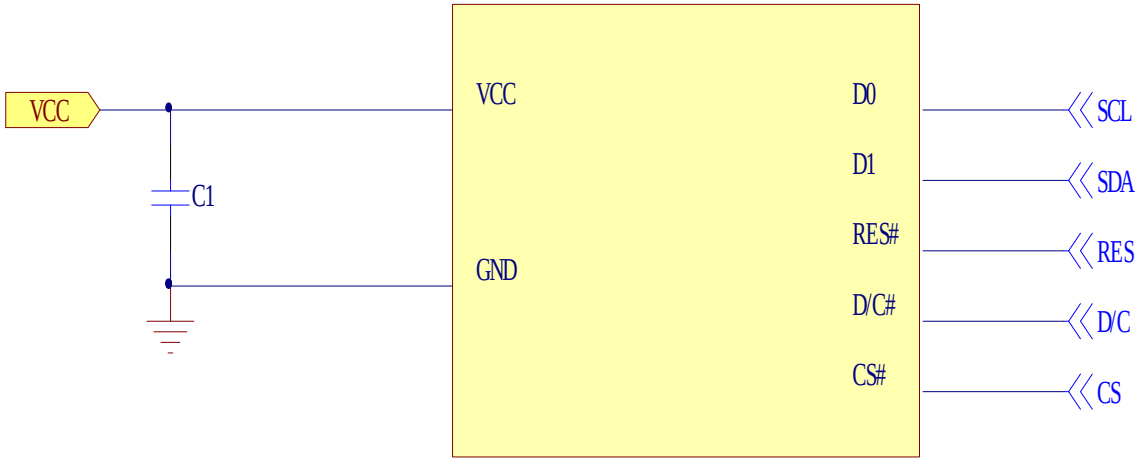


PIN	SYMBOL
1	GND
2	VCC
3	D0
4	D1
5	RES#
6	D/C#
7	CS#

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

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2.1 Application recommendations



C1: 1.0uF (1)

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Note:
(1) The capacitor value is recommended value. Select appropriate value against module application.

3.Interface Pin Function

No.	Symbol	Function
1	GND	Ground
2	VCC	Power supply input
3	D0	The serial clock input
4	D1	The serial data input
5	RES#	This is a reset signal input pad. When $\overline{RES}$ is set to “L”, the settings are initialized. The reset operation is performed by the $\overline{RES}$ signal level.
6	D/C#	This is the Data/Command control
7	CS#	This pad is the chip select input.

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4.Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Supply Voltage for Logic	VCC	1.65	5.5	V	1,2
Operating Temperature	TOP	-40	+80	°C	—
Storage Temperature	TSTG	-40	+85	°C	—

Note ：

1. All the above voltages are on the basis of “VSS = 0V”.
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.
3. The absolute limit temperature was verified according to the test conditions of reliability test (See section 9. Reliability) , and module was met all criteria.
4. The defined temperature ranges do not include the polarizer. The maximum withstood temperature of the polarizer should be 80 °C.

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5.Electrical Characteristics

5.1 DC Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage for Logic	VCC	—	3.0	3.3	5.2	V
Input High Volt.	VIH	—	0.8×VCC	—	VCC	V
Input Low Volt.	VIL	—	0	—	0.2×VCC	V
Output High Volt.	VOH	—	0.8×VCC	—	VCC	V
Output Low Volt.	VOL	—	0	—	0.2×VCC	V
Display 50% Pixel on	ICC	VCC =3.3V	-	25	37.5	mA

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5.2 Initial code

```
void INIT_SH1106(){
        WriteCommand(0xAE);         // display OFF

        WriteCommand(0xB0);         //set page address
        WriteCommand(0x10);         //set higher column address
        WriteCommand(0x00);         //set lower column address

        WriteCommand(0xA4);         //set entire display off

        WriteCommand(0xD5);         //set display clock divide ratio/osc frequency
        WriteCommand(0x50);

        WriteCommand(0xA8);         //Select Multiplex Ratio
        WriteCommand(0x3F);         //64Duty

        WriteCommand(0xD3);         //display offset,set to 0x00
        WriteCommand(0x00);

        WriteCommand(0x40);         //set start line,set to 0x40

        WriteCommand(0xAD);         //set DC-DC
        WriteCommand(0x8A);         //8B: ON ; 8A: OFF

        WriteCommand(0xA1);         //set segment re-map,SEG131~S0

        WriteCommand(0xC8);         //set common output scan direction;

        WriteCommand(0xDA);         //common pad configuration
          WriteCommand(0x12);

        WriteCommand(0x81);         //set contrast
        WriteCommand(0x4F);

        WriteCommand(0xD9);         //set dis-charge/pre-charge period
        WriteCommand(0x11);

        WriteCommand(0xDB);         //set VCOM deselect level
        WriteCommand(0x35);

        WriteCommand(0xA6);         //set normal display

        WriteCommand(0xAF);         //display ON
}
```

Note 1: Initial code is for reference only. Please make the best adjustment with the OLED module.
Note 2: Command: Set Contrast Control (0x81) , This command sets the Contrast Setting of the display. The chip has 256 contrast steps from 00h to FFh. The segment output current increases as the contrast step value increases. The segment current increases, the OLED brightness increases.

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