OLED DISPLAY SPECIFICATION

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REX006448A

General Specification

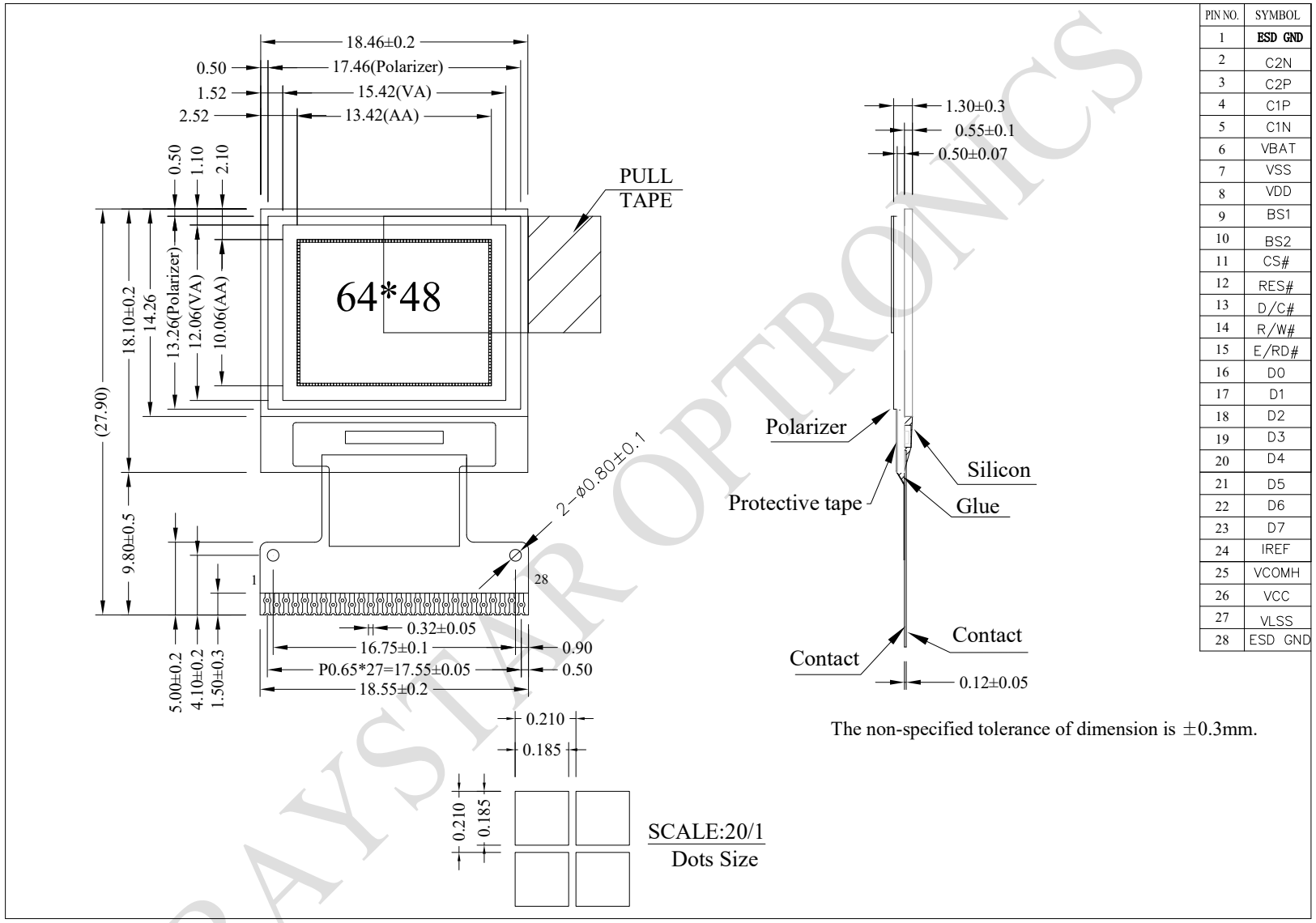
- Module dimension: 18.46 × 18.10 × 1.3 mm
- Active area: 13.42 × 10.06 mm
- Dot Matrix: 64 x 48 Dots
- Pixel size: 0.185 × 0.185 mm
- Pixel pitch: 0.210 × 0.210 mm
- Display Mode: Passive Matrix
- Drive Duty: 1/48 Duty
- Display Color: Monochrome
- IC: SSD1306
- Interface:6800, 8080, 4-Wire SPI, I2C
- Size:0.66 inch

Interface Pin Function

<table>
<tr><th>No.</th><th>Symbol</th><th>Function</th></tr>
<tr><td>1</td><td>ESD-GND</td><td>It should be connected to ground.</td></tr>
<tr><td>2</td><td>C2N</td><td rowspan="4">Positive Terminal of the Flying Inverting Capacitor Negative Terminal of the Flying Boost Capacitor The charge-pump capacitors are required between the terminals. They must be floated when the converter is not used.</td></tr>
<tr><td>3</td><td>C2P</td></tr>
<tr><td>4</td><td>C1P</td></tr>
<tr><td>5</td><td>C1N</td></tr>
<tr><td>6</td><td>VBAT</td><td>Power Supply for DC/DC Converter Circuit
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 VDD when the converter is not used.</td></tr>
<tr><td>7</td><td>VSS</td><td>This is a ground pin.</td></tr>
<tr><td>8</td><td>VDD</td><td>Power supply pin for core logic operation.</td></tr>
<tr><td>9</td><td>BS1</td><td rowspan="2">MCU bus interface selection pins.
Table : MCU Bus Interface Pin Selection
<table>
<tr><th>SSD1306B Pin Name</th><th>I²C Interface</th><th>6800-parallel interface (8 bit)</th><th>8080-parallel interface(8 bit)</th><th>4-wire Serial interface</th></tr>
<tr><td>BS0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>BS1</td><td>1</td><td>0</td><td>1</td><td>0</td></tr>
<tr><td>BS2</td><td>0</td><td>1</td><td>1</td><td>0</td></tr>
</table>
Note
(1) 0 is connected to VSS
(2) 1 is connected to VDD</td></tr>
<tr><td>10</td><td>BS2</td></tr>
<tr><td>11</td><td>CS#</td><td>Chip Select
This pin is the chip select input. The chip is enabled for MCU communication only when CS# is pulled low.</td></tr>
<tr><td>12</td><td>RES#</td><td>Power Reset for Controller and Driver
This pin is reset signal input. When the pin is low, initialization of the chip is executed.</td></tr>
<tr><td>13</td><td>D/C#</td><td>This is Data/Command control pin. When it is pulled HIGH (i.e. connect to VDD), the data at D[7:0] is treated as data. When it is pulled LOW, the data at D[7:0] will be transferred to the command register.
In I2C mode, this pin acts as SA0 for slave address selection.</td></tr>
<tr><td>14</td><td>R/W#</td><td>This is read / write control input pin connecting to the MCU interface. When interfacing to a 6800-series microprocessor, this pin will be used as Read/Write (R/W#) Selection input. Read mode will be carried out when this pin is pulled HIGH (i.e. connect to VDD) and write mode when LOW.</td></tr>
</table>

15	E/RD#	When interfacing to a 6800-series microprocessor, this pin will be used as the Enable (E) signal. Read/write operation is initiated when this pin is pulled HIGH (i.e. connect to VDD) and the chip is selected. When connecting to an 8080-series microprocessor, this pin receives the Read (RD#) signal. Read operation is initiated when this pin is pulled LOW and the chip is selected. When serial or I2C interface is selected, this pin must be connected to VSS
16~23	D0~D7	These are 8-bit bi-directional data bus to be connected to the microprocessor's data bus. When serial interface mode is selected, D0 will be the serial clock input: SCLK; D1 will be the serial data input: SDIN. When I2C mode is selected, D2, D1 should be tied together and serve as SDAout, SDAin in application and D0 is the serial clock input, SCL.
24	IREF	This pin is segment current reference pin. A resistor should be connected Between this pin and VSS. Set the current lower than 30uA. When internal IREF is used, this pin should be kept NC.
25	VCOMH	*Voltage Output High Level for COM Signal* This pin is the input pin for the voltage output high level for COM signals. A capacitor should be connected between this pin and VSS.
26	VCC	*Power Supply for OEL Panel* This is the most positive voltage supply pin of the chip. A stabilization capacitor should be connected between this pin and VSS when the converter is used. It must be connected to external source when the converter is not used.
27	VLSS	This is an analog ground pin. It should be connected to VSS externally.
28	ESD GND	It should be connected to ground.

Contour Drawing



PIN NO.	SYMBOL
1	**ESD GND**
2	C2N
3	C2P
4	C1P
5	C1N
6	VBAT
7	VSS
8	VDD
9	BS1
10	BS2
11	CS#
12	RES#
13	D/C#
14	R/W#
15	E/RD#
16	D0
17	D1
18	D2
19	D3
20	D4
21	D5
22	D6
23	D7
24	IREF
25	VCOMH
26	VCC
27	VLSS
28	ESD GND

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage for Logic	VDD	0	4.0	V
Supply Voltage for Display	VCC	0	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	—	2.8	3.0	3.3	V
Supply Voltage for Display (Supplied Externally)	VCC	—	6.75	7.25	7.75	V
Charge Pump Regulator Supply Voltage	VBAT	—	3.0	—	4.2	V
Charge Pump Output Voltage for Display (Generated by Internal DC/DC)	Charge Pump VCC	—	7.0	7.5	—	V
Input High Volt.	VIH	—	0.8×VDD	—	VDD	V
Input Low Volt.	VIL	—	0	—	0.2×VDD	V
Output High Volt.	VOH	—	0.9×VDD	—	VDD	V
Output Low Volt.	VOL	—	0	—	0.1×VDD	V
50% Check Board operating Current (VCC Supplied Externally)	ICC	VCC=7.25V	—	6.0	13.0	mA
50% check Board operating Current (VCC Generated by Internal DC/DC)	IBAT	—	—	15	25	mA