WINSTAR Display

OLED SPECIFICATION

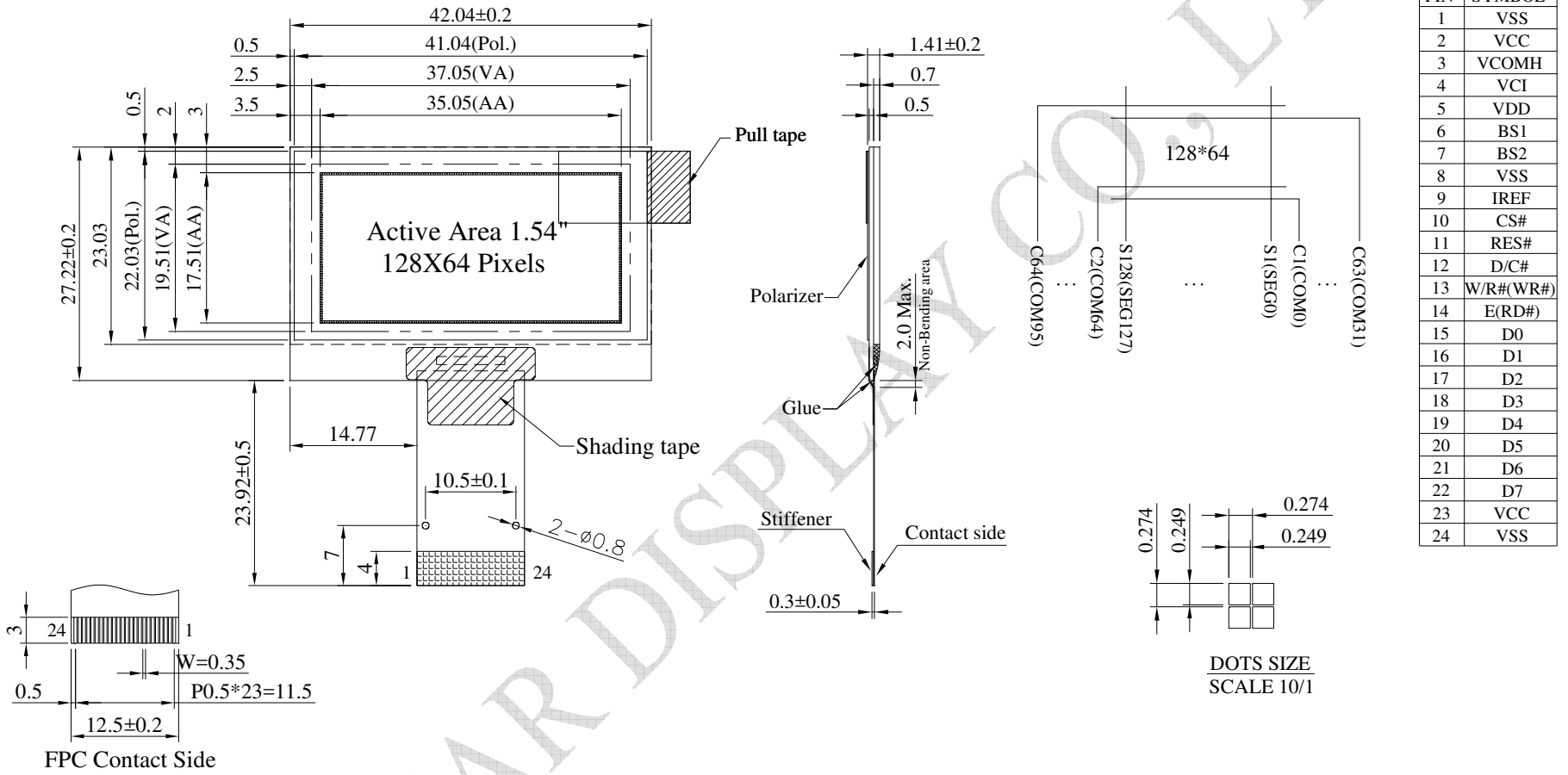
Model No:

WEO012864AA

General Specification

Item	Dimension	Unit
Dot Matrix	128 x 64	—
Module dimension	42.04 x 27.22 x 1.41	mm
Active Area	35.05 x 17.51	mm
Pixel Size	0.249 x 0.249	mm
Pixel Pitch	0.274 x 0.274	mm
Display Mode	Passive Matrix	
Display Color	Monochrome	
Drive Duty	1/64 Duty	
IC	SSD1327	
Interface	6800,8080, 4-wire SPI,I2C	
Size	1.54 inch	

Contour Drawing & Block Diagram



PIN	SYMBOL
1	VSS
2	VCC
3	VCOMH
4	VCI
5	VDD
6	BS1
7	BS2
8	VSS
9	IREF
10	CS#
11	RES#
12	D/C#
13	W/R#(WR#)
14	E(RD#)
15	D0
16	D1
17	D2
18	D3
19	D4
20	D5
21	D6
22	D7
23	VCC
24	VSS

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

Interface Pin Function

<table>
<tr><th>Pin No.</th><th>Symbol</th><th>Description</th></tr>
<tr><td>1</td><td>VSS</td><td>This is a ground pin.</td></tr>
<tr><td>2</td><td>VCC</td><td>Power supply for panel driving voltage.</td></tr>
<tr><td>3</td><td>VCOMH</td><td>COM signal deselected voltage level.
A capacitor should be connected between this pin and VSS. No external power supply is allowed to connect to this pin.</td></tr>
<tr><td>4</td><td>VCI</td><td>Low voltage power supply and power supply for interface logic level. It should match with the MCU interface voltage level and must be connected to external source.
VCI must always set to be equivalent to or higher than VDD.</td></tr>
<tr><td>5</td><td>VDD</td><td>Power supply pin for core logic operation.
VDD can be supplied externally (within the range of 2.4V to 2.6V) or regulated internally from VCI. A capacitor should be connected between VDD and VSS under all circumstances.</td></tr>
<tr><td>6</td><td>BS1</td><td rowspan="2">Communicating Protocol Select
These pins are MCU interface selection input. See the following table:
<table>
<tr><th></th><th>68XX-parallel</th><th>80XX-parallel</th><th>Serial</th><th>I2C</th></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>7</td><td>BS2</td></tr>
<tr><td>8</td><td>VSS</td><td>This is a ground pin.</td></tr>
<tr><td>9</td><td>IREF</td><td>This pin is the segment output current reference pin.
A resistor should be connected between this pin and VSS to maintain the current around 10uA.</td></tr>
<tr><td>10</td><td>CS#</td><td>This pin is the chip select input. The chip is enabled for MCU communication only when CS# is pulled low.</td></tr>
<tr><td>11</td><td>RES#</td><td>This pin is reset signal input. When the pin is low, initialization of the chip is executed.</td></tr>
<tr><td>12</td><td>D/C#</td><td>This pin is Data/Command control pin connecting to the MCU.
When the pin is pulled HIGH, the data at D[7:0] will be interpreted as data.
When the pin is pulled LOW, the data at D[7:0] will be transferred to a command register.
In I2C mode, this pin acts as SA0 for slave address selection.</td></tr>
<tr><td>13</td><td>R/W#
(WR#)</td><td>This pin is read / write control input pin connecting to the MCU interface.
When 6800 interface mode is selected, this pin will be used as Read/Write (R/W#) selection input. Read mode will be carried out when this pin is pulled HIGH and write mode when LOW.
When 8080 interface mode is selected, this pin will be the Write (WR#) input. Data write 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.</td></tr>
</table>

14	E/RD#	This pin is MCU interface input. When 6800 interface mode is selected, this pin will be used as the Enable (E) signal. Read/write operation is initiated when this pin is pulled HIGH and the chip is selected. When 8080 interface mode is selected, 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.
15	D0	These pins are 8-bit bi-directional data bus to be connected to the microprocessor's data bus. When serial mode is selected, D1 will be the serial data input SDIN and D0 will be the serial clock input SCLK.
16	D1	
17	D2	
18	D3	
19	D4	
20	D5	
21	D6	
22	D7	
23	VCC	Power supply for panel driving voltage.
24	VSS	This is a ground pin.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Low voltage power supply, power supply for I/O pins	VCI	-0.3	4.0	V
Supply Voltage for Logic	VDD	-0.5	2.75	V
Supply Voltage for Display	VCC	-0.5	19.0	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
Low voltage power supply, power supply for I/O pins	VCI	–	1.65	3.0	3.5	V
Supply Voltage for Display	VCC	–	8.0	12.5	13.0	V
Supply Voltage for Logic	VDD	–	1.65	–	2.6	V
High Level Input	VIH	–	0.8×VCI	–	VCI	V
Low Level Input	VIL	–	0	–	0.2×VCI	V
High Level Output	VOH	–	0.9×VCI	–	VCI	V
Low Level Output	VOL	–	0	–	0.1×VCI	V
50% Check Board operating Current	ICC	VCC =12.5V	–	10	20	mA