WINSTAR Display

OLED SPECIFICATION

Model No:

WEO128128x#B04-FC

WINSTAR DISPLAY CO.; LTD

Represented by:

first FC components

FIRST Components srl Via Cavour 69, 21020 Buguggiate (VA)

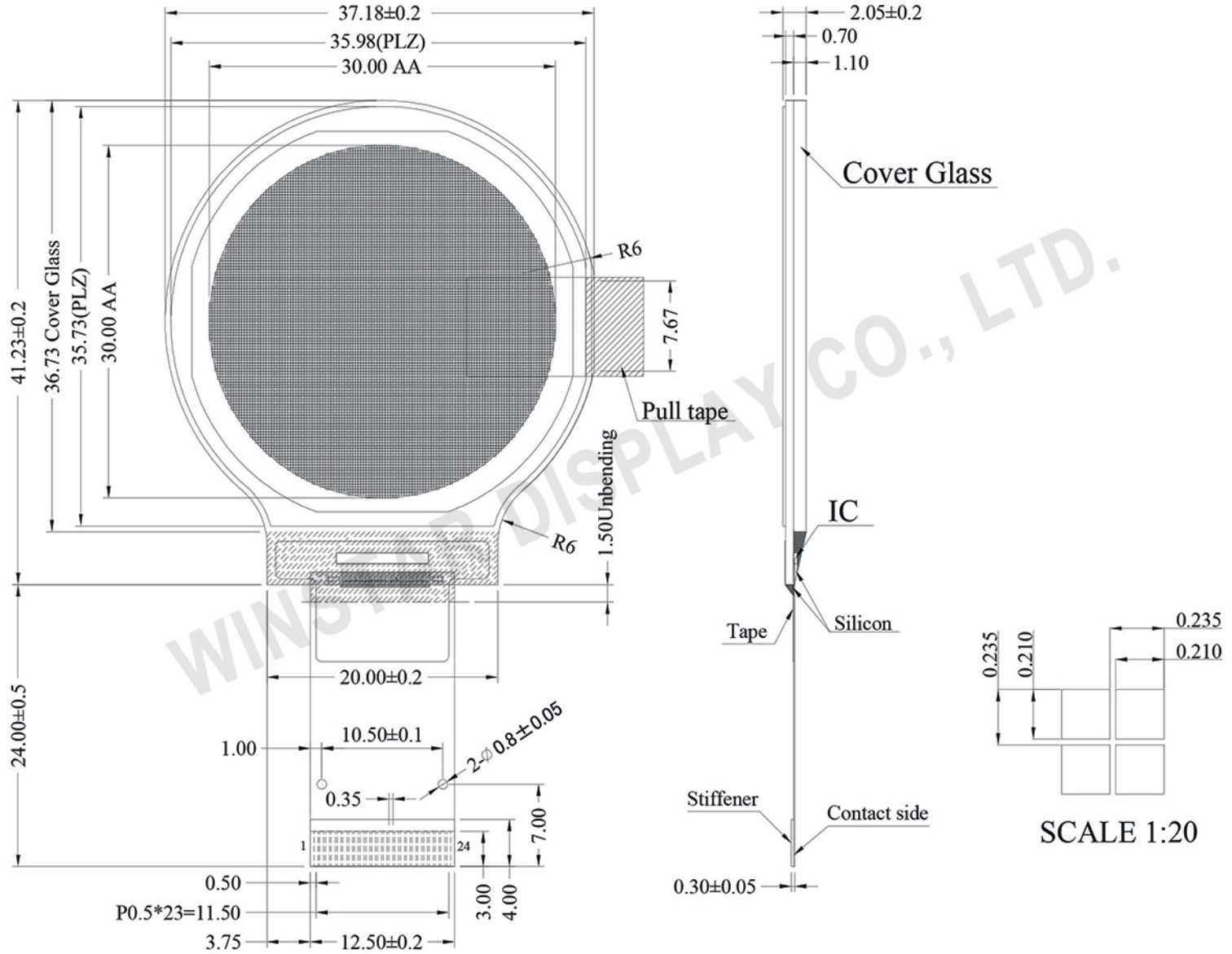
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General Specification

Item	Dimension	Unit
Dot Matrix	128 x 128 Dots	—
Module dimension	37.18 x 41.23 x 2.05	mm
Active Area	Ø30	mm
Pixel Size	0.210 x 0.210	mm
Pixel Pitch	0.235 x 0.235	mm
Display Mode	Passive Matrix	
Display Color	Monochrome	
Drive Duty	1/128 Duty	
Gray Scale	4 bits	
IC	SSD1327	
Interface	6800,8080,4 line SPI,I2C	
Size	1.18 inch	

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Contour Drawing & Block Diagram



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Interface Pin Function

<table>
<tr><th>No.</th><th>Symbol</th><th>Function</th></tr>
<tr><td>1</td><td>VSS</td><td>Ground pin. It must be connected to external ground.</td></tr>
<tr><td>2</td><td>VCC</td><td>Power supply for panel driving voltage. This is also the most positive power voltage supply pin. It is supplied by external high voltage source.</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">MCU bus interface selection pins. Select appropriate logic setting as described in the following table. BS2 and BS1 are pin select.
Bus Interface selection
<table>
<tr><th>BS[2:1]</th><th>Interface</th></tr>
<tr><td>00</td><td>4 line SPI</td></tr>
<tr><td>01</td><td>I2C</td></tr>
<tr><td>11</td><td>8-bit 8080 parallel</td></tr>
<tr><td>10</td><td>8-bit 6800 parallel</td></tr>
</table>
Note (1) 0 is connected to VSS (2) 1 is connected to VCI</td></tr>
<tr><td>7</td><td>BS2</td></tr>
<tr><td>8</td><td>VSS</td><td>Ground pin. It must be connected to external ground.</td></tr>
<tr><td>9</td><td>IREF</td><td>This pin is the segment output current reference pin</td></tr>
<tr><td>10</td><td>CS#</td><td>This pin is the chip select input connecting to the MCU.
The chip is enabled for MCU communication only when CS# is pulled LOW (active LOW).</td></tr>
<tr><td>11</td><td>RES#</td><td>This pin is reset signal input.
When the pin is pulled LOW, initialization of the chip is executed.
Keep this pin pull HIGH during normal operation.</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.
When 3-wire serial interface is selected, this pin must be connected to VSS.</td></tr>
<tr><td>13</td><td>W/R#</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.</td></tr>
</table>

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14	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 bi-directional data bus connecting to the MCU data bus. Unused pins are recommended to tie LOW. When serial interface mode is selected, D0 will be the serial clock input: SCLK; D1 will be the serial data input: SDIN and D2 should be kept NC. 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.
16	D1	
17	D2	
18	D3	
19	D4	
20	D5	
21	D6	
22	D7	
23	VCC	Power supply for panel driving voltage. This is also the most positive power voltage supply pin. It is supplied by external high voltage source.
24	VSS	Ground pin.

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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	Note	2.8	3.0	3.3	V
Supply Voltage for Display	VCC	–	14	14.5	15	V
Supply Voltage for Logic	VDD	–	2.4	–	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		VCC =14.5V	–	24	26	mA

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