

WINSTAR Display

OLED SPECIFICATION

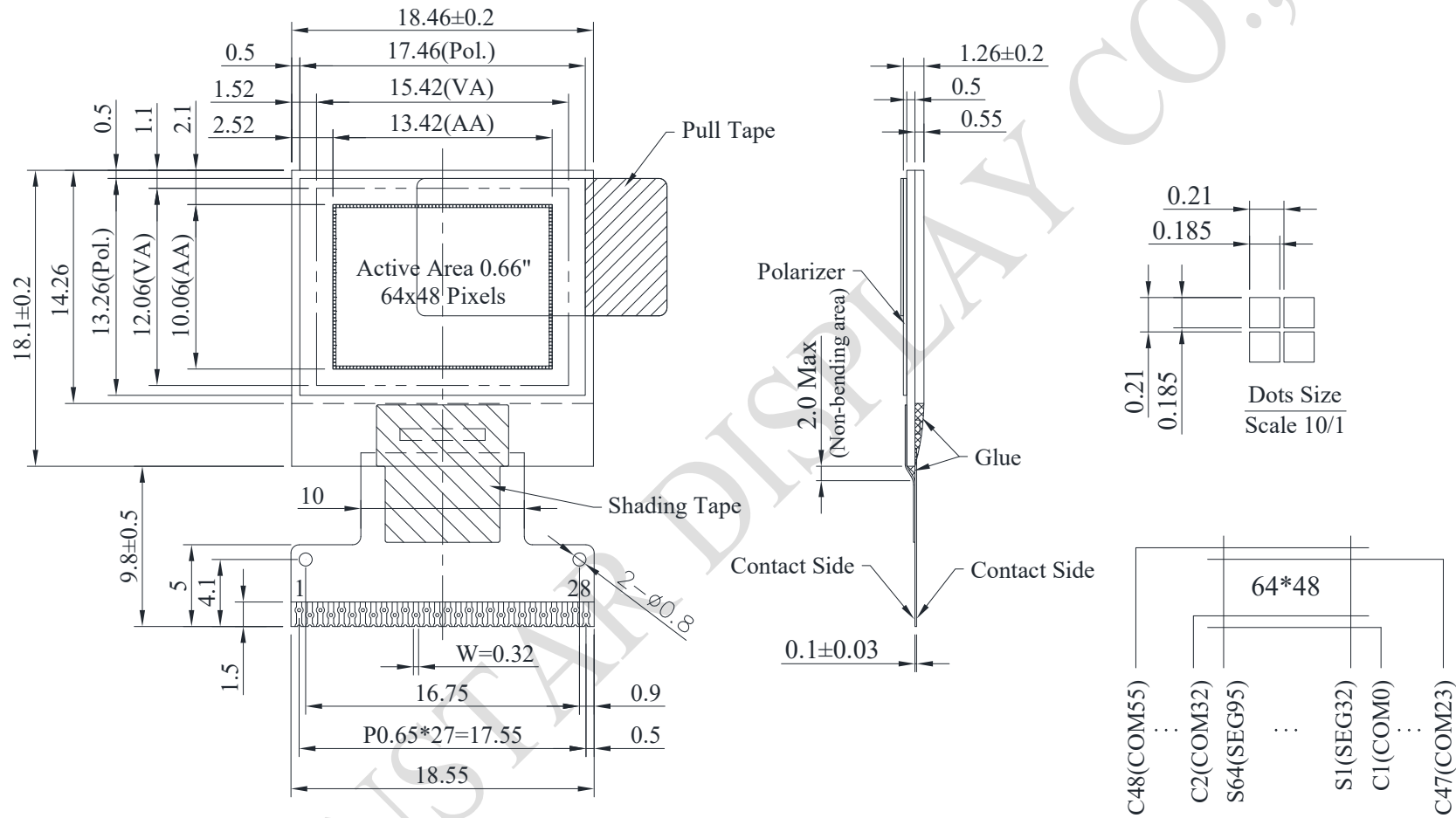
Model No:

WEO006448B

General Specification

Item	Dimension	Unit
Dot Matrix	64 x 48 Dots	—
Module dimension	18.46 × 18.10 × 1.26	mm
Active Area	13.42 × 10.06	mm
Pixel Size	0.185 × 0.185	mm
Pixel Pitch	0.210 × 0.210	mm
Display Mode	Passive Matrix	
Display Color	Monochrome	
Drive Duty	1/48 Duty	
IC	SSD1315	
Interface	6800, 8080, 4-Wire SPI, I2C	
Size	0.66 inch	

Contour Drawing & Block Diagram



PIN	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

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

Interface Pin Function

No.	Symbol	Function															
1	ESD-GND	It should be connected to ground.															
2	C2N	C1P/C1N – Pin for charge pump capacitor; Connect to each other with a capacitor.															
3	C2P																
4	C1P	C2P/C2N – Pin for charge pump capacitor; Connect to each other with a capacitor.															
5	C1N																
6	VBAT	Power supply for charge pump regulator circuit.															
		<table border="1"> <thead> <tr> <th>Status</th> <th>VBAT</th> <th>VDD</th> <th>VCC</th> </tr> </thead> <tbody> <tr> <td>Enable charge pump</td> <td>Connect to external VBAT source</td> <td>Connect to external VDD source</td> <td>A capacitor should be connected between this pin and VSS</td> </tr> <tr> <td>Disable charge pump</td> <td>Keep float</td> <td>Connect to external VDD source</td> <td>Connect to external VCC source</td> </tr> </tbody> </table>	Status	VBAT	VDD	VCC	Enable charge pump	Connect to external VBAT source	Connect to external VDD source	A capacitor should be connected between this pin and VSS	Disable charge pump	Keep float	Connect to external VDD source	Connect to external VCC source			
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		Enable charge pump	Connect to external VBAT source	Connect to external VDD source	A capacitor should be connected between this pin and VSS												
Disable charge pump	Keep float	Connect to external VDD source	Connect to external VCC source														
7	VSS	This is a ground pin.															
8	VDD	Power supply pin for core logic operation.															
9	BS1	These pins are MCU interface selection input. See the following table:															
10	BS2	<table border="1"> <thead> <tr> <th></th> <th>BS1</th> <th>BS2</th> </tr> </thead> <tbody> <tr> <td>I2C</td> <td>1</td> <td>0</td> </tr> <tr> <td>4-wire SPI</td> <td>0</td> <td>0</td> </tr> <tr> <td>8-bit 6800 Parallel</td> <td>0</td> <td>1</td> </tr> <tr> <td>8-bit 8080 Parallel</td> <td>1</td> <td>1</td> </tr> </tbody> </table>		BS1	BS2	I2C	1	0	4-wire SPI	0	0	8-bit 6800 Parallel	0	1	8-bit 8080 Parallel	1	1
			BS1	BS2													
		I2C	1	0													
		4-wire SPI	0	0													
		8-bit 6800 Parallel	0	1													
8-bit 8080 Parallel	1	1															
11	CS#	The chip is enabled for MCU communication only when CS# is pulled LOW (active LOW).															
12	RES#	This pin is reset signal input. When the pin is low, initialization of the chip is executed. Keep this pin HIGH (i.e. connect to VDD) during normal operation.															
13	D/C#	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															
14	R/W#	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. 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.															

15	E/RD#	<p>This pin is MCU interface input.</p> <p>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.</p> <p>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.</p> <p>When serial or I2C interface is selected, this pin must be connected to VSS.</p>
16~23	D0~D7	<p>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.</p>
24	IREF	<p>This is segment output current reference pin.</p> <p>When external IREF is used, a resistor should be connected between this pin and VSS to maintain the IREF current at 30uA.</p> <p>When internal IREF is used, this pin should be kept NC.</p>
25	VCOMH	<p>COM signal deselected voltage level.</p> <p>A capacitor should be connected between this pin and VSS.</p>
26	VCC	<p>Power supply for panel driving voltage. This is also the most positive power voltage supply pin.</p> <p>When charge pump is enabled, a capacitor should be connected between this pin and VSS.</p>
27	VLSS	<p>This is an analog ground pin. It should be connected to VSS externally.</p>
28	ESD GND	<p>It should be connected to ground.</p>

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	VDD	0	4.0	V
Charge Pump Regulator Supply Voltage	VBAT	0	6.0	V
Supply Voltage for Display	VCC	0	18.0	V
Operating Temperature	TOP	-30	+70	°C
Storage Temperature	TSTG	-30	+70	°C

Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage for Logic	VDD	—	1.65	3.0	3.3	V
Supply Voltage for Display (Supplied Externally)	VCC	—	6.0	7.5	8.0	V
Charge Pump Regulator Supply Voltage	VBAT	—	3.0	3.3	4.5	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
Display 50% Pixel on (VCC Supplied Externally)	ICC	VCC=7.5V	—	3	6	mA
Display 50% Pixel on (VCC Generated by Internal DC/DC)	IBAT	—	—	15	30	mA