

**WINSTAR Display**

**OLED SPECIFICATION**

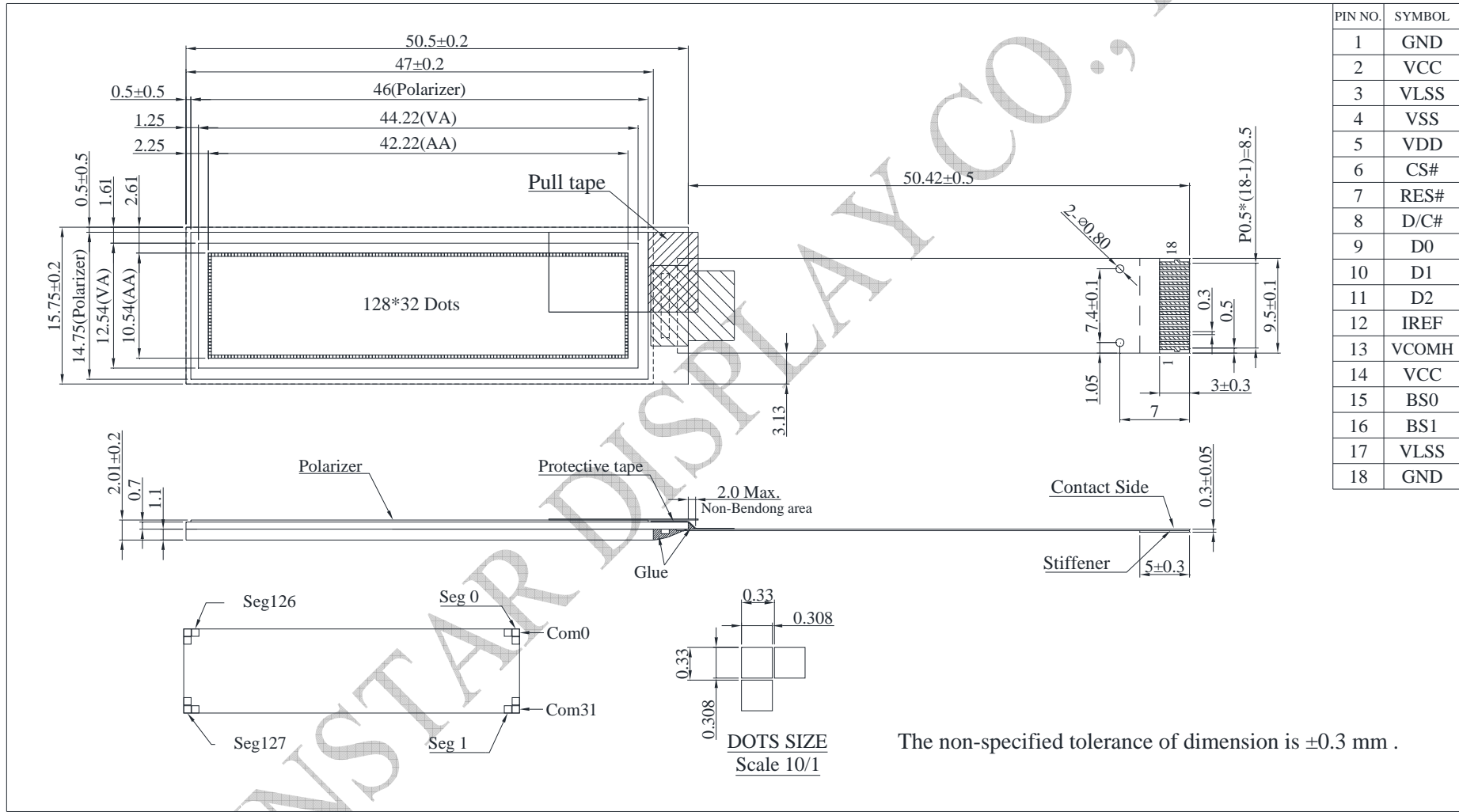
Model No:

**WEO012832G**

## General Specification

Item	Dimension	Unit
Dot Matrix	128 x 32 Dots	—
Module dimension	50.50 x 15.75 x 2.01	mm
Active Area	42.22 x 10.54	mm
Pixel Size	0.308 x 0.308	mm
Pixel Pitch	0.33 x 0.33	mm
Display Mode	Passive Matrix	
Display Color	Monochrome	
Drive Duty	1/32 Duty	
IC	SSD1307ZD	
Interface	SPI,I2C	
Size	1.71 inch	

# Contour Drawing & Block Diagram



## Interface Pin Function

No.	Symbol	Function
1	N.C. (GND)	Reserved Pin (Supporting Pin) The supporting pins can reduce the influences from stresses on the function pins. These pins must be connected to external ground.
2	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.
3	VLSS	Ground of Analog Circuit This is an analog ground pin. It should be connected to VSS externally.
4	VSS	Ground of Logic Circuit This is a ground pin. It acts as a reference for the logic pins. It must be connected to external ground.
5	VDD	Power Supply for Logic This is a voltage supply pin. It must be connected to external source.
6	CS#	Chip Select This pin is the chip select input. The chip is enabled for MCU communication only when CS# is pulled low.
7	RES#	Power Reset for Controller and Driver This pin is reset signal input. When the pin is low, initialization of the chip is executed.
8	D/C#	Data/Command Control When the pin is pulled high and serial interface mode is selected, the data at SDIN is treated as data. When it is pulled low, the data at SDIN will be transferred to the command register. In I2C mode, this pin acts as SA0 for slave address selection.
9~11	D0~D2	Host Data Input/Output 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.

12	IREF	Current Reference for Brightness Adjustment This pin is segment current reference pin. A resistor should be connected between this pin and VSS. Set the current lower than 12.5 $\mu$ A.												
13	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.												
14	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.												
15,16	BS0 BS1	Communicating Protocol Select These pins are MCU interface selection input. See the following table: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>BS0</th> <th>BS1</th> </tr> </thead> <tbody> <tr> <td>I2C</td> <td>0</td> <td>1</td> </tr> <tr> <td>3-wire SPI</td> <td>1</td> <td>0</td> </tr> <tr> <td>4-wire SPI</td> <td>0</td> <td>0</td> </tr> </tbody> </table>		BS0	BS1	I2C	0	1	3-wire SPI	1	0	4-wire SPI	0	0
	BS0	BS1												
I2C	0	1												
3-wire SPI	1	0												
4-wire SPI	0	0												
17	VLSS	Ground of Analog Circuit This is an analog ground pin. It should be connected to VSS externally.												
18	N.C. (GND)	Reserved Pin (Supporting Pin) The supporting pins can reduce the influences from stresses on the function pins. These pins must be connected to external ground.												

## Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage for Logic	VDD	-0.3	4.0	V
Supply Voltage for Display	VCC	0	16.0	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	VCC	—	11.5	12.0	12.5	V
High Level Input	VIH	—	0.8×VDD	—	—	V
Low Level Input	VIL	—	0	—	0.2×VDD	V
High Level Output	VOH	—	0.9×VDD	—	—	V
Low Level Output	VOL	—	—	—	0.1×VDD	V
Operating Current for VCC (Full ON)	ICC	VCC=12.0V	—	14.5	19.0	mA