

# WINSTAR Display

## OLED SPECIFICATION

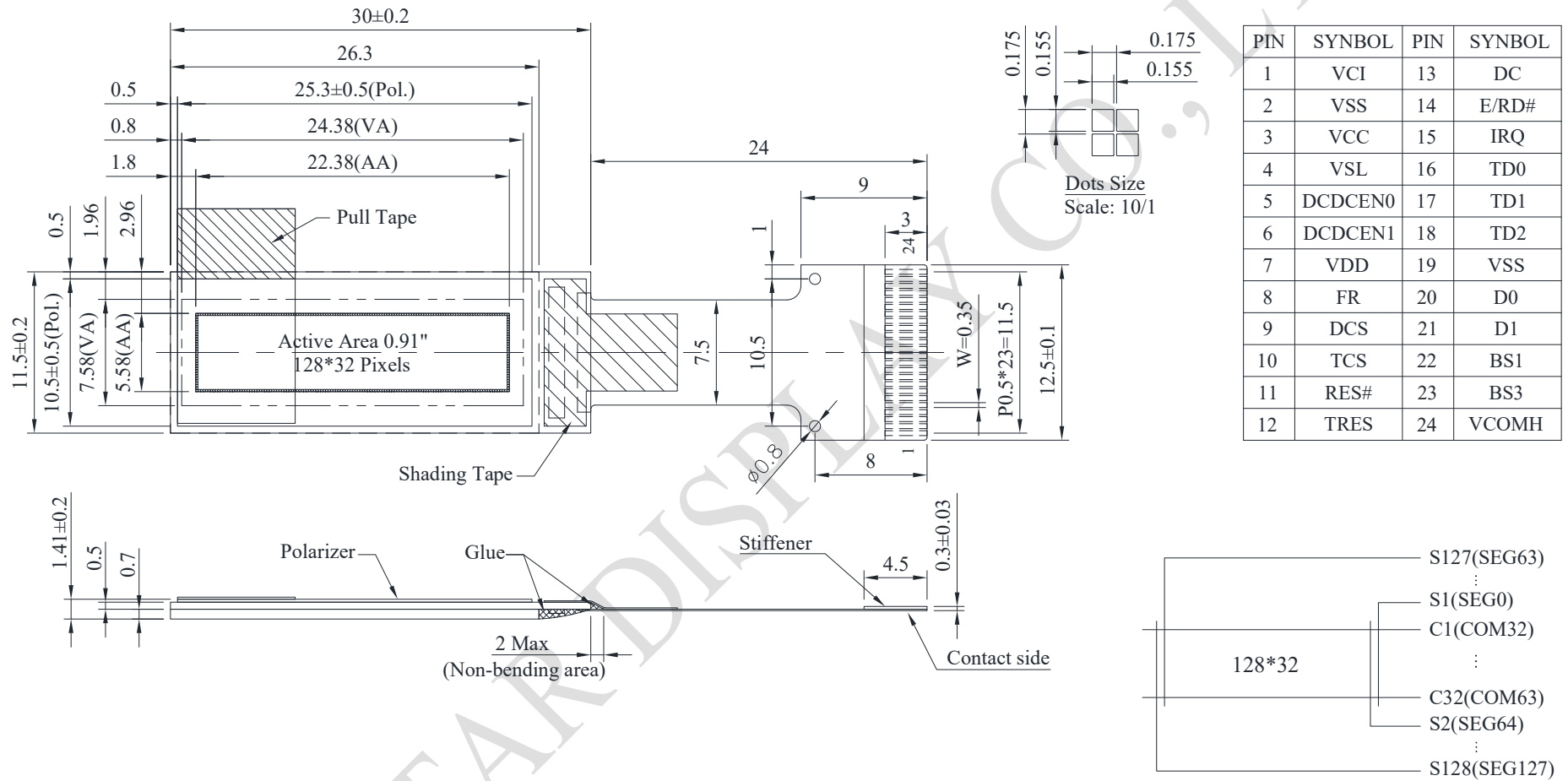
Model No:

**WEO012832M-CTP**

### General Specification

Item	Dimension	Unit
Dot Matrix	128 × 32 Dots	—
Module dimension	30.0 × 11.5 × 1.41	mm
Active Area	22.38 × 5.58	mm
Pixel Size	0.155 × 0.155	mm
Pixel Pitch	0.175 × 0.175	mm
Display Mode	Passive Matrix	
Display Color	Monochrome	
Drive Duty	1/32 Duty	
IC	SSD7317	
OLED Interface	4-wire SPI,I2C	
CTP Interface	SPI,I2C	
Gesture	4-key and 1-D slide	
Size	0.91 inch	

# Contour Drawing & Block Diagram



The non-specified tolerance of dimension is  $\pm 0.3$  mm .

## Interface Pin Function

No.	Symbol	Function																				
1	VCI	Power supply pin for touch analog driving. VCI must be greater than or equal to VDD.																				
2	VSS	Ground pin.																				
3	VCC	Power Supply for Display. Most positive voltage. Connect to external source.																				
4	VSL	This is segment voltage (output low level) reference pin. When external VSL is not used, connect externally to VSS. When external VSL is used, connect with resistor and diode to ground																				
5	DCDCEN0	Enable output pin for external DCDC circuit. NC if not used																				
6	DCDCEN1	Enable input pin for external DCDC circuit. Tie low if not used.																				
7	VDD	Power supply pin for core logic operation.																				
8	FR	This pin outputs RAM write synchronization signal. It should be kept NC if it is not used.																				
9	DCS	This pin is the chip select input connecting to the MCU for display interface.																				
10	TCS	This pin is the chip select input connecting to the MCU for touch.																				
11	RES#	This pin is the reset signal input for display interface.																				
12	TRES	This pin is the reset signal input for touch.																				
13	DC	This pin is Data/Command control pin for display interface. In I2C mode, this pin acts as SA0 for slave address selection.																				
14	E/RD#	In I2C mode, this pin acts as SA1 for slave address selection.																				
15	IRQ	Interrupt signal for touch reporting.																				
16	TD0	Serial Data Input/Output and clock for Touch In SPI mode TD2 serves as SDOOUT, TD1 serves as SDIN, and TD0 serves as the serial clock SCLK.																				
17	TD1	In I2C mode TD2 and TD1 should be tied together and serve as SDA and TD0 is the serial clock SCL. External pull up resistors.																				
18	TD2																					
19	VSS	Ground pin.																				
20	D0	The serial clock input for display interface.																				
21	D1	The serial data input for display interface.																				
22	BS1	<table border="1"> <thead> <tr> <th>BS1</th> <th>BS3</th> <th>Display Interface</th> <th>Touch Interface</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>4 -SPI</td> <td>SPI</td> </tr> <tr> <td>0</td> <td>1</td> <td>4-SPI</td> <td>I2C</td> </tr> <tr> <td>1</td> <td>0</td> <td>I2C</td> <td>SPI</td> </tr> <tr> <td>1</td> <td>1</td> <td>I2C</td> <td>I2C</td> </tr> </tbody> </table>	BS1	BS3	Display Interface	Touch Interface	0	0	4 -SPI	SPI	0	1	4-SPI	I2C	1	0	I2C	SPI	1	1	I2C	I2C
BS1	BS3	Display Interface	Touch Interface																			
0	0	4 -SPI	SPI																			
0	1	4-SPI	I2C																			
1	0	I2C	SPI																			
1	1	I2C	I2C																			
23	BS3																					
24	VCOMH	COM signal deselected voltage level. A capacitor should be connected between this pin and VSS.																				

## Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage for Logic	VDD	0	4.0	V
Supply Voltage for Logic	VCI	0	4.0	V
Supply Voltage for Display	VCC	0	19	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	—	1.65	3.3	3.5	V
Touch controller Supply Voltage	VCI	—	3.0	—	3.5	V
Supply Voltage for Display	VCC	—	8.0	8.5	9.0	V
Input High Volt.	VIH	—	0.8×VDD	—	—	V
Input Low Volt.	VIL	—	—	—	0.2×VDD	V
Output High Volt.	VOH	—	0.9×VDD	—	—	V
Output Low Volt.	VOL	—	—	—	0.1×VDD	V
Display 50% Pixel on	ICC	VCC =8.5V	—	4	8	mA