

**WINSTAR Display**

**OLED SPECIFICATION**

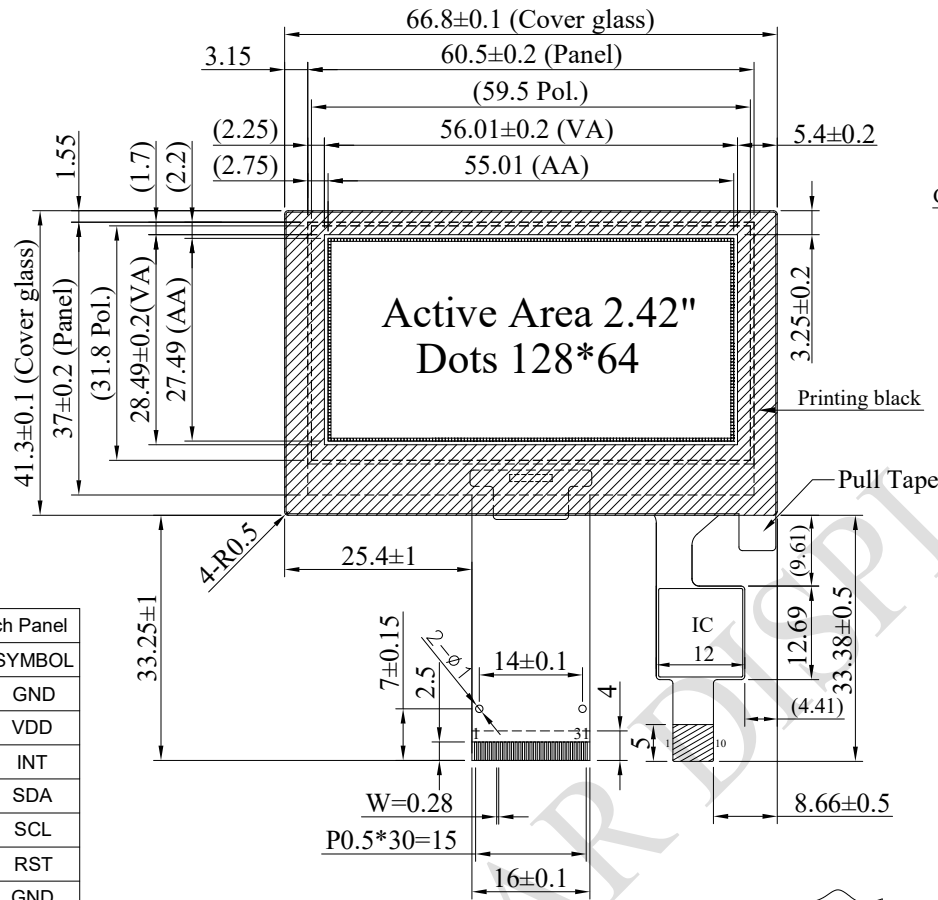
Model No:

***WEO012864G-CTP***

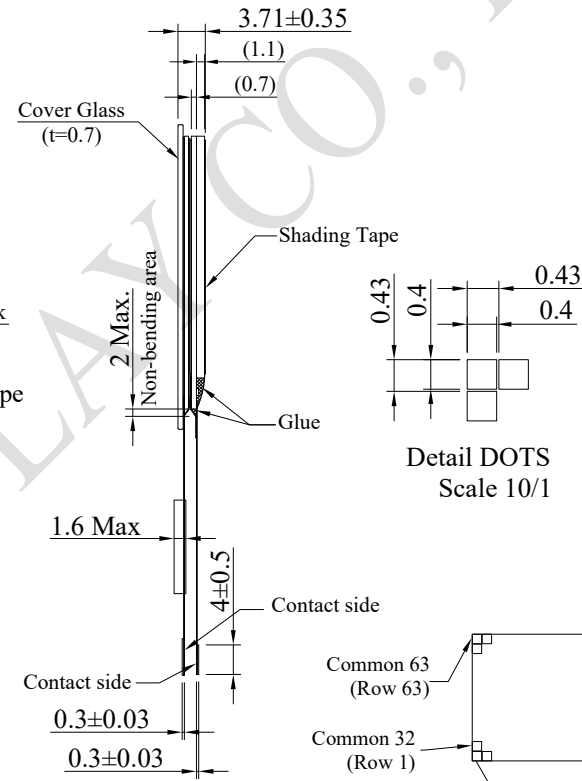
## General Specification

Item	Dimension	Unit
Dot Matrix	128 x 64	—
Module dimension	66.8 × 41.3 × 3.71	mm
Active Area	55.01 × 27.49	mm
Pixel Size	0.40 × 0.40	mm
Pixel Pitch	0.43 × 0.43	mm
Display Mode	Passive Matrix	
Display Color	Monochrome	
Interface	8Bits 68xx 80xx / 4-Wire SPI / I2C	
Drive Duty	1/64 Duty	
OLED IC	SSD1309	
Size	2.42 inch	
CTP IC	GT911	
Detect Point	1	
CTP Interface	I2C	
Surface	Normal Glare	

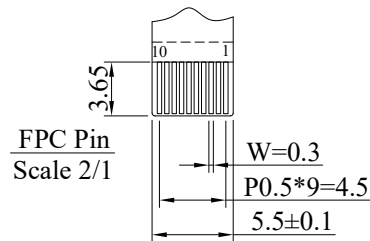
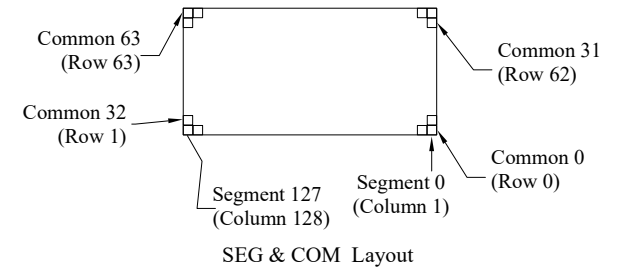
# Contour Drawing & Block Diagram



Touch Panel	
PIN	SYMBOL
1	GND
2	VDD
3	INT
4	SDA
5	SCL
6	RST
7	GND
8	GND
9	GND
10	GND



PIN	SYMBOL	PIN	SYMBOL
1	NC(GND)	17	D/C#
2	VSS	18	R/W#
3	NC	19	E/RD#
4	NC	20	D0
5	NC	21	D1
6	NC	22	D2
7	NC	23	D3
8	NC	24	D4
9	NC	25	D5
10	NC	26	D6
11	VDD	27	D7
12	BS1	28	IREF
13	BS2	29	VCOMH
14	NC	30	VCC
15	CS#	31	NC(GND)
16	RES#		



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

## Interface Pin Function

No.	Symbol	Function															
1	NC(GND)	No connection															
2	VSS	Ground.															
3-10	NC	No connection															
11	VDD	Power supply pin for core logic operation															
12	BS1	MCU bus interface selection pins. Select appropriate logic setting as described in the following table. BS2, BS1 and BS0 are pin select															
13	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 Serial</td> <td>0</td> <td>0</td> </tr> <tr> <td>8-bit 68XX Parallel</td> <td>0</td> <td>1</td> </tr> <tr> <td>8-bit 80XX Parallel</td> <td>1</td> <td>1</td> </tr> </tbody> </table>		BS1	BS2	I2C	1	0	4-wire Serial	0	0	8-bit 68XX Parallel	0	1	8-bit 80XX Parallel	1	1
			BS1	BS2													
		I2C	1	0													
		4-wire Serial	0	0													
8-bit 68XX Parallel	0	1															
8-bit 80XX Parallel	1	1															
Note																	
(1) 0 is connected to VSS																	
(2) 1 is connected to VDD																	
14	NC	No connection															
15	CS#	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).															
16	RES#	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.															
17	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 to a command register. In I2C mode, this pin acts as SA0 for slave address selection.															
18	R/W#	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.															

19	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.</p> <p>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>
20~27	D0~D7	<p>These pins are bi-directional data bus connecting to the MCU data bus.</p> <p>Unused pins are recommended to tie LOW.</p> <p>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.</p> <p>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>
28	IREF	<p>This pin is the segment output current reference pin.</p> <p>IREF is supplied externally.</p>
29	VCOMH	<p>COM signal deselected voltage level.</p> <p>A capacitor should be connected between this pin and VSS.</p>
30	VCC	<p>Power supply for panel driving voltage. This is also the most positive power voltage supply pin.</p>
31	NC(GND)	No connection

#### CTP PIN Definition

No.	Symbol	Function
1	GND	Power ground
2	VDD	Power supply
3	INT	Interrupt signal, active low, asserted to request Host start a new transaction
4	SDA	I2C data signal
5	SCL	I2C clock signal
6	RST	External reset signal, active low
7	GND	Power ground
8	GND	Power ground
9	GND	Power ground
10	GND	Power ground

## Absolute Maximum Ratings

### Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage for Logic	VDD	-0.3	4	V
Supply Voltage for Display	VCC	0	15	V
Operating Temperature	TOP	-20	+70	°C
Storage Temperature	TSTG	-30	+80	°C

### Touch Panel Controller GT911

Parameter	Symbol	Min	Max	Unit
Power Supply Voltage	VDD	2.66	3.47	V

# 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	—	12.5	13.0	13.5	V
High Level Input	VIH	—	0.8×VDD	—	—	V
Low Level Input	VIL	—	—	—	0.2×VDD	V
High Level Output	VOH	—	0.9×VDD	—	—	V
Low Level Output	VOL	—	—	—	0.1×VDD	V
50% Check Board operating Current		VCC =13.0V	—	25	36	mA

## Touch Panel Controller GT911

Item	Symbol	Min	Typ	Max	Unit
Supply Voltage	VDD	2.8	3.0	3.3	V
Input High Volt.	VIH	0.75×VDD		VDD+0.3	V
Input Low Volt.	VIL	-0.3	—	0.25×VDD	V
Output High Volt.	VOH	0.85×VDD	—	—	V
Output Low Volt.	VOL	—	—	0.15×VDD	V