WINSTAR Display

OLED SPECIFICATION

Model No:

WEO12864W#AP3A00000-FC

Represented by:

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SPECIFICATION Version: 0

CUSTOMER :
MODULE NO. : WEO12864W#AP3A00000-FC

APPROVED BY: **(FOR CUSTOMER USE ONLY)**	

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RELEASE DATE:			

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□APPROVAL FOR SPECIFICATIONS AND SAMPLE

MODEL NO：

RECORDS OF REVISION			DOC. FIRST ISSUE
VERSION	DATE	REVISED PAGE NO.	SUMMARY
0	2021/07/27		First release

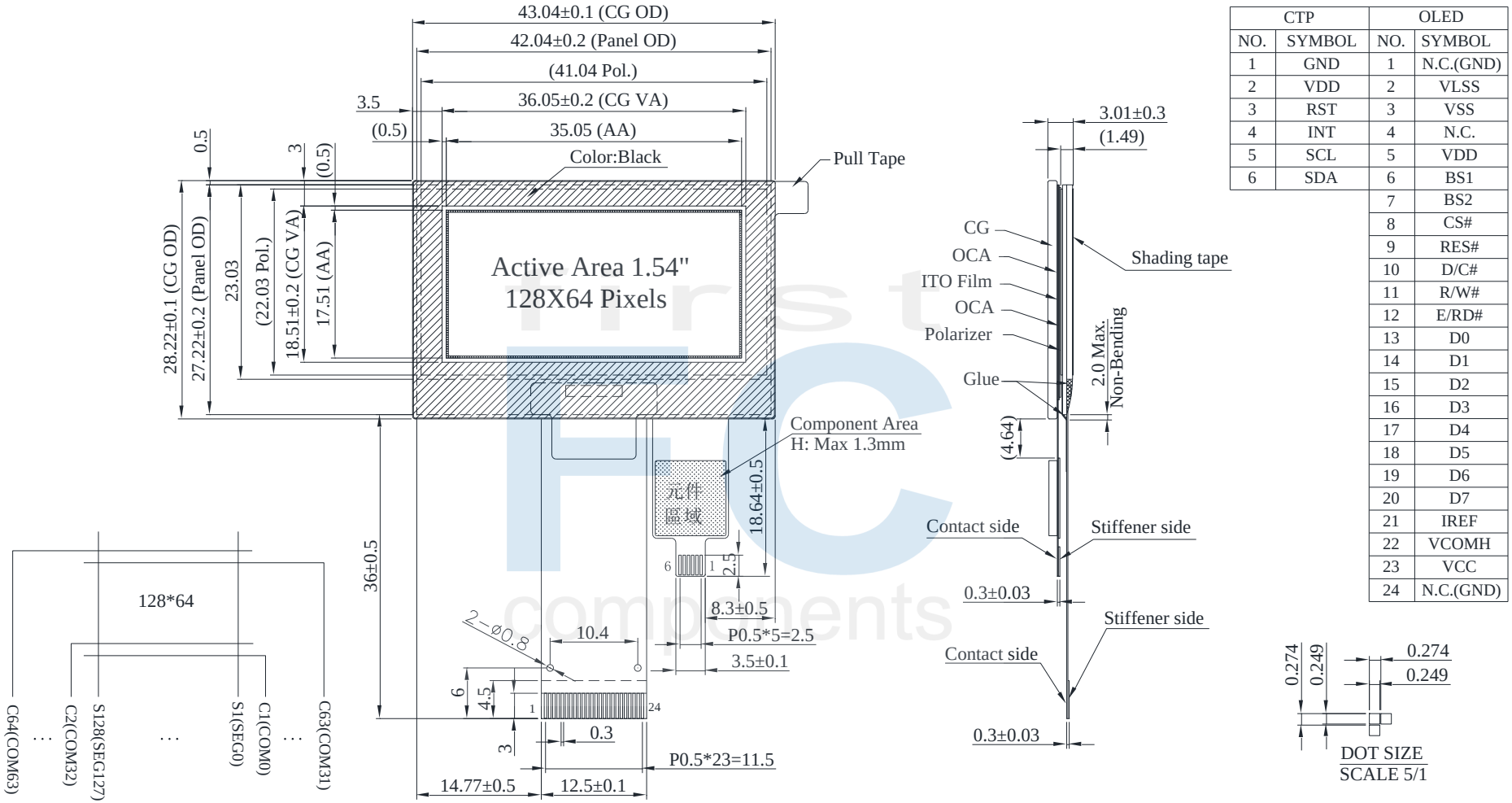
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General Specification

Item	Dimension	Unit
Dot Matrix	128 x 64	—
Module dimension	43.04 × 28.22 × 3.01	mm
Active Area	35.05 × 17.51	mm
Pixel Size	0.249 × 0.249	mm
Pixel Pitch	0.274 × 0.274	mm
Display Mode	Passive Matrix	
Display Color	Monochrome (White)	
Drive Duty	1/64 Duty	
IC	SSD1309	
Interface	6800,8080,4-wire SPI,I2C	
Size	1.54 inch	

CTP IC	FT6336U
Detect Point	1
CTP Interface	I2C
Surface	Normal Glare

Contour Drawing & Block Diagram



CTP		OLED	
NO.	SYMBOL	NO.	SYMBOL
1	GND	1	N.C.(GND)
2	VDD	2	VLSS
3	RST	3	VSS
4	INT	4	N.C.
5	SCL	5	VDD
6	SDA	6	BS1
		7	BS2
		8	CS#
		9	RES#
		10	D/C#
		11	R/W#
		12	E/RD#
		13	D0
		14	D1
		15	D2
		16	D3
		17	D4
		18	D5
		19	D6
		20	D7
		21	IREF
		22	VCOMH
		23	VCC
		24	N.C.(GND)

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

Interface Pin Function

<table>
<tr><th>No.</th><th>Symbol</th><th>Function</th></tr>
<tr><td>1</td><td>NC(GND)</td><td>No connection</td></tr>
<tr><td>2</td><td>VLSS</td><td>This is an analog ground pin</td></tr>
<tr><td>3</td><td>VSS</td><td>Ground.</td></tr>
<tr><td>4</td><td>NC</td><td>No connection</td></tr>
<tr><td>5</td><td>VDD</td><td>Power supply pin for core logic operation</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
<table>
<tr><th></th><th>BS1</th><th>BS2</th></tr>
<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>
</table>
Note
(1) 0 is connected to VSS
(2) 1 is connected to VDD</td></tr>
<tr><td>7</td><td>BS2</td></tr>
<tr><td>8</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>9</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>10</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.</td></tr>
<tr><td>11</td><td>R/W#</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.
When serial or I2C interface is selected, this pin must be connected to VSS.</td></tr>
</table>

12	E/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.
13-20	D0~D7	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.
21	IREF	This pin is the segment output current reference pin. IREF is supplied externally.
22	VCOMH	COM signal deselected voltage level. A capacitor should be connected between this pin and VSS.
23	VCC	Power supply for panel driving voltage. This is also the most positive power voltage supply pin.
24	NC(GND)	No connection

CTP Pin Function

1	**GND**	Ground.
2	**VDD**	Power Supply Voltage of CTP
3	**RST**	External Reset, Low is active
4	**INT**	External interrupt to the host
5	**SCL**	I2C clock input
6	**SDA**	I2C data input and output

Absolute Maximum Ratings

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Supply Voltage for Logic	VDD	-0.3	4	V	1, 2
Supply Voltage for Display	VCC	0	17	V	1, 2
Operating Temperature	TOP	-10	+60	°C	—
Storage Temperature	TSTG	-20	+70	°C	—

Note 1: All the above voltages are on the basis of “VSS = 0V”.
Note 2: When this module is used beyond the above absolute maximum ratings, permanent breakage of the module may occur. Also, for normal operations, it is desirable to use this module under the conditions according to Section 6 ‘’Electrical Characteristics’’. If this module is used beyond these conditions, malfunctioning of the module can occur and the reliability of the module may deteriorate

Touch Panel Controller FT6336U

Parameter	Symbol	Min	Max	Unit	Notes
Power Supply Voltage	VDD	0	3.6	V	1

Note 1: If used beyond the absolute maximum ratings, CTP IC may be permanently damaged. It is strongly recommended that the device be used within the electrical characteristics in normal operations. If exposed to the condition not within the electrical characteristics, it may affect the reliability of the device.

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	–	7.0	12.5	13.0	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 =12.5V	–	15	30	mA

Notes: The VCC (VPP) value can be adjusted according to the demand brightness. When VCC (VPP) is lowered, the brightness decreases or when VCC (VPP) is increased, the brightness increases. The VCC (VPP) value is set within the recommended range. The life time of OLED is directly related to the set brightness, and lower brightness helps to improve the life time.

Touch Panel Controller FT6336U

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage	VDD	–	2.8	3.0	3.3	V
Input High Volt.	VIH	–	0.7×VDD	–	VDD	V
Input Low Volt.	VIL	–	-0.3	–	0.3×VDD	V
Output High Volt.	VOH	–	0.7×VDD	–	–	V
Output Low Volt.	VOL	–	–	–	0.3×VDD	V