WINSTAR Display

OLED SPECIFICATION

Model No:

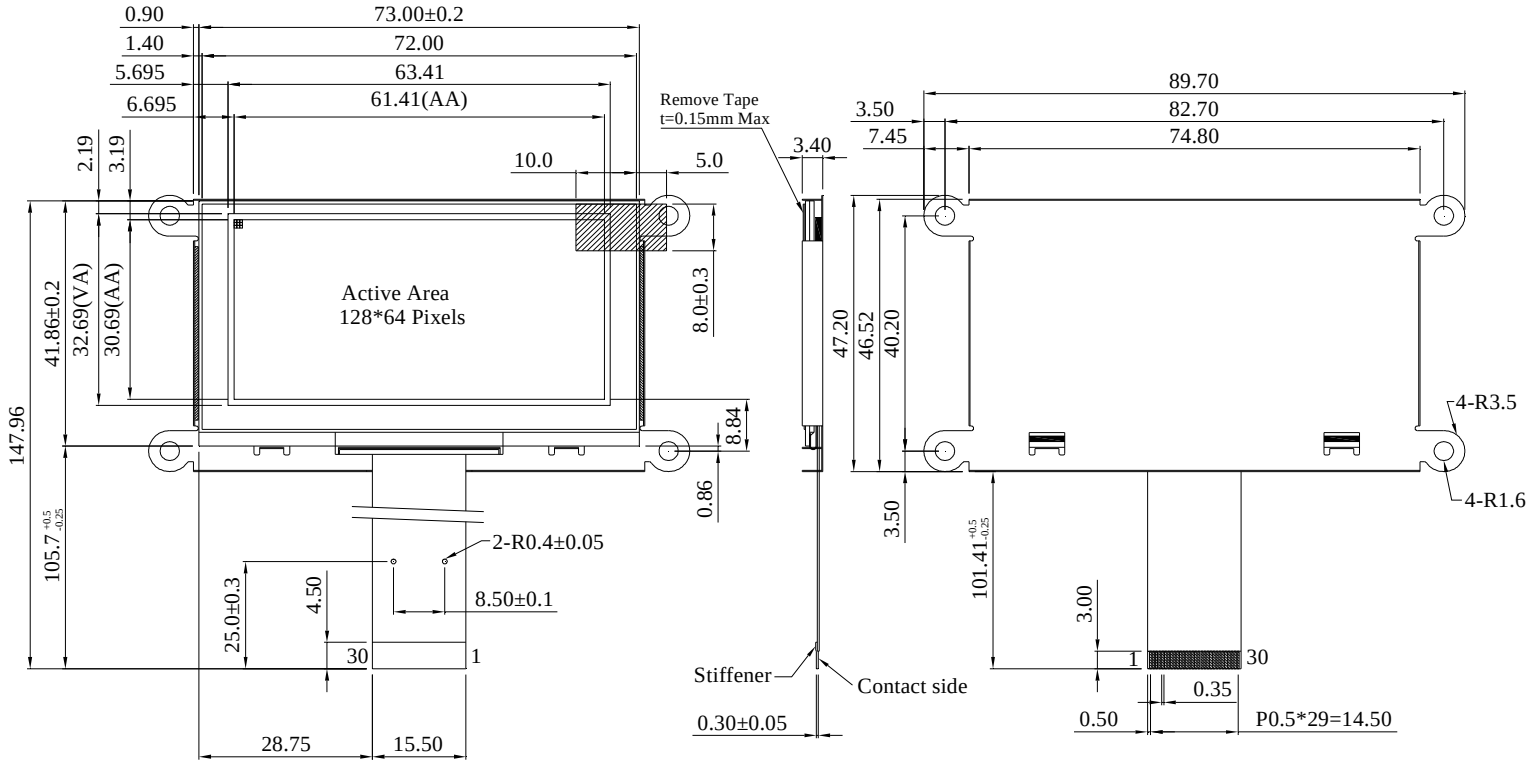
WEX012864L

General Description

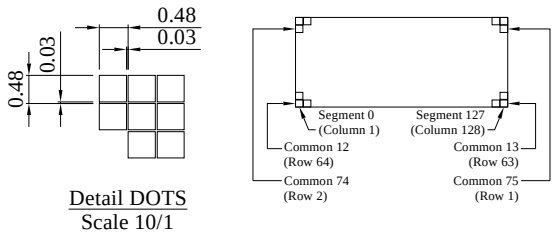
Item	Dimension	Unit
Number of Characters	128 Dots x 64 Dots	—
Module dimension	73.0 × 41.86 × 3.4 (mm)	mm
Active Area	61.41 × 30.69 (mm)	mm
Pixel Pitch	0.48 × 0.48 (mm)	mm
Pixel Size	0.45 × 0.45 (mm)	mm
Weight	20.5	g
Display Mode	Passive Matrix	
Display Color	Monochrome	
Drive Duty	1/64 Duty	

first FC components

Contour Drawing



PIN NO.	SYMBOL
1	NC(GND)
2	VCC
3	VCOMH
4	IREF
5	D7
6	D6
7	D5
8	D4
9	D3
10	D2
11	D1
12	D0
13	E/RD#
14	R/W#
15	D/C#
16	RES#
17	CS#
18	NC
19	BS2
20	BS1
21	VDD
22	NC
23	NC
24	NC
25	NC
26	NC
27	NC
28	NC
29	VSS
30	VSL



Detail DOTS
Scale 10/1

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

Interface Pin Function

No.	Symbol	I/O	Function
1	NC(GND)		Reserved Pin (Supporting Pin) The supporting pin can reduce the influences from stresses on the function pins. This pin must be connected to external ground.
2	VCC	P	Power Supply for OLED Panel This is the most positive voltage supply pin of the chip. It must be supplied externally.
3	VCOMH	P	Voltage Output High Level for COM Signal This pin is the input pin for the voltage output high level for COM signals. It can be supplied externally or internally. When VCOMH is generated internally, a capacitor should be connected between this pin and VSS.
4	IREF	I	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 at 10μA.
5~12	D7~D0	I/O	Host Data Input/Output Bus These pins are 8-bit bi-directional data bus to be connected to the microprocessor's data bus. When serial mode is selected, D1 will be the serial data input SDIN and D0 will be the serial clock input SCLK
13	E/RD#	I	Read/Write Enable or Read This pin is MCU interface input. When interfacing to a 68XX-series microprocessor, this pin will be used as the Enable (E) signal. Read/write operation is initiated when this pin is pulled high and the CS# is pulled low. When connecting to an 80XX-microprocessor, this pin receives the Read (RD#) signal. Data read operation is initiated when this pin is pulled low and CS# is pulled low.
14	R/W#	I	Read/Write Select or Write This pin is MCU interface input. When interfacing to a 68XX-series microprocessor, this pin will be used as Read/Write (R/W#) selection input. Pull this pin to "High" for read mode and pull it to "Low" for write mode. When 80XX 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 CS# is pulled low.
15	D/C#	I	Data/Command Control This pin is Data/Command control pin. When the pin is pulled high, the input at D7~D0 is treated as display data. When the pin is pulled low, the input at D7~D0 will be transferred to the command register. For detail relationship to MCU interface signals, please refer to the

<table>
<tr><td></td><td></td><td></td><td>Timing Characteristics Diagrams.
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.</td></tr>
<tr><td>16</td><td>RES#</td><td>I</td><td>Power Reset for Controller and Driver
This pin is reset signal input. When the pin is low, initialization of the chip is executed.</td></tr>
<tr><td>17</td><td>CS#</td><td>I</td><td>Chip Select
This pin is the chip select input. The chip is enabled for MCU communication only when CS# is pulled low.</td></tr>
<tr><td>18</td><td>NC</td><td></td><td>Reserved Pin
The N.C. pins between function pins are reserved for compatible and flexible design.</td></tr>
<tr><td>19</td><td>BS2</td><td rowspan="2">I</td><td rowspan="2">Communicating Protocol Select
These pins are MCU interface selection input. See the following table:
<table><tr><td></td><td>68XX-parallel</td><td>80XX-parallel</td><td>Serial</td></tr><tr><td>BS1</td><td>0</td><td>1</td><td>0</td></tr><tr><td>BS2</td><td>1</td><td>1</td><td>0</td></tr></table></td></tr>
<tr><td>20</td><td>BS1</td></tr>
<tr><td>21</td><td>Vdd</td><td>P</td><td>Power Supply for Logic Circuit
This is a voltage supply pin. It must be connected to external source.</td></tr>
<tr><td>22</td><td>NC</td><td></td><td rowspan="7">Reserved Pin
The N.C. pins between function pins are reserved for compatible and flexible design.</td></tr>
<tr><td>23</td><td>NC</td><td></td></tr>
<tr><td>24</td><td>NC</td><td></td></tr>
<tr><td>25</td><td>NC</td><td></td></tr>
<tr><td>26</td><td>NC</td><td></td></tr>
<tr><td>27</td><td>NC</td><td></td></tr>
<tr><td>28</td><td>NC</td><td></td></tr>
<tr><td>29</td><td>Vss</td><td>P</td><td>Ground of OLED System
This is a ground pin. It also acts as a reference for the logic pins, the OLED driving voltages, and the analog circuits. It must be connected to external ground.</td></tr>
<tr><td>30</td><td>VSL</td><td>0</td><td>Voltage Output Low Level for SEG Signal
This pin is the output pin for the voltage output low level for SEG signals. A capacitor should be connected between this pin and VSS.</td></tr>
</table>

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	16	V	1,2
Operating Temperature	TOP	-40	80	˚C	—
Storage Temperature	TSTG	-40	80	˚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 7.“Optics & Electrical Characteristics”. If this module is used beyond these conditions, malfunctioning of the module can occur and the reliability of the module may deteriorate.