WINSTAR Display

OLED SPECIFICATION

Model No:

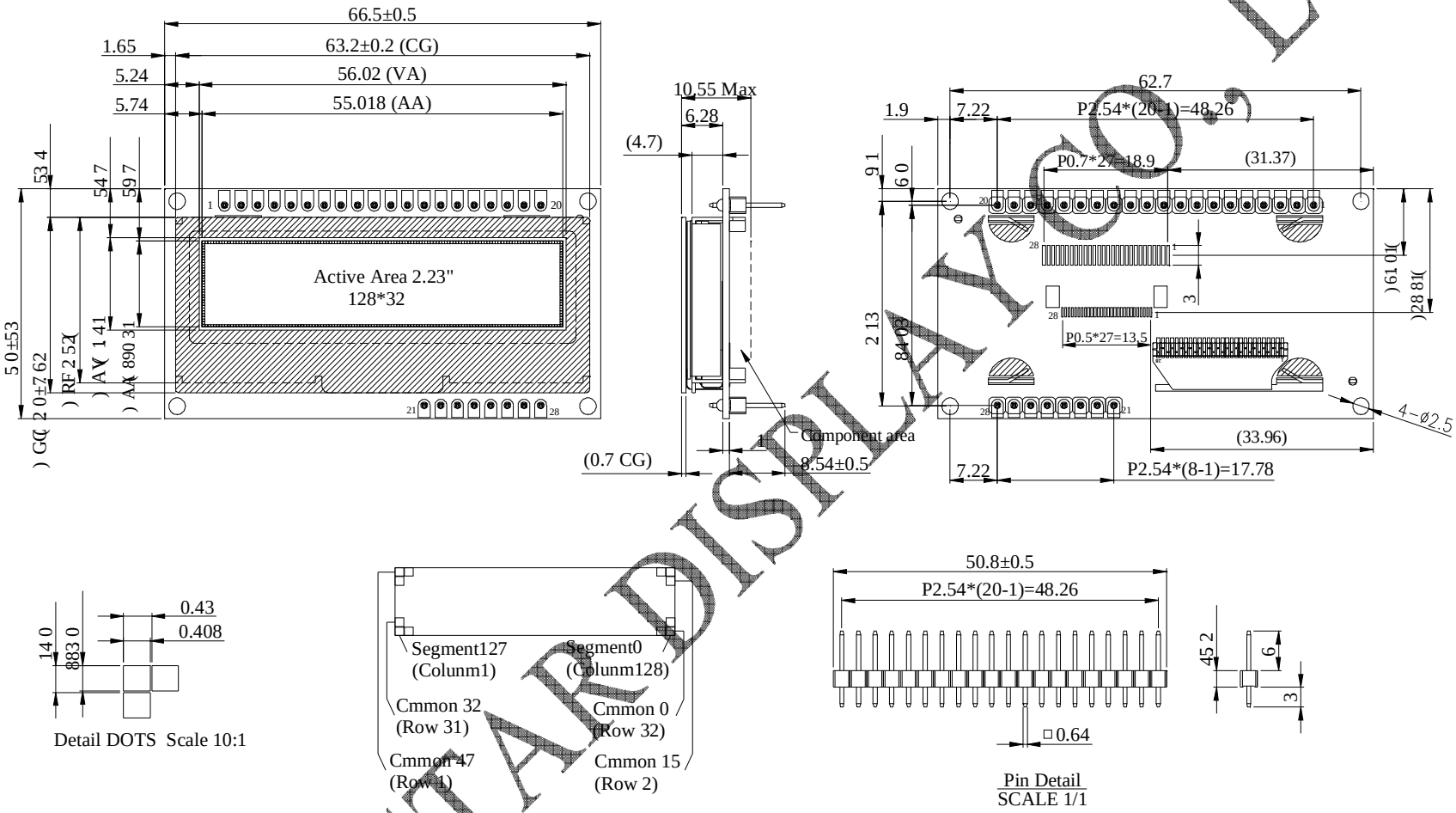
WEP12832W#A0D-FC

General Specification

Item	Dimension	Unit
Dot Matrix	128 x 32 Dots	—
Module dimension	66.5 x 35.0 x 10.55(Max)	mm
Active Area	55.018 x 13.098	mm
Pixel Size	0.408 x 0.388	mm
Pixel Pitch	0.43 x 0.41	mm
Display Mode	Passive Matrix	
Display Color	Monochrome	
Drive Duty	1/32 Duty	
IC	SSD1305Z	
OLED Interface	6800, 8080, SPI, I2C	
CTP Interface	I2C	
Size	2.23 inch	

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Contour Drawing & Block Diagram



PIN	SYMBOL
1	VSS
2	VDD
3	V0
4	D/C#
5	R/W#
6	E/RD#
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	CS#
16	RES#
17	BS1
18	BS2
19	NC
20	FG
21	TP_SCK
22	TP_SDA
23	TP_INT
24	TP_RST
25	TP_VDD
26	VSS
27	BSW
28	MSW

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

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Interface Pin Function

No.	Symbol	Function
1	VSS	Ground.
2	VDD	Power supply pin for core logic operation.
3	V0	Power supply for panel driving voltage. This is also the most positive power voltage supply pin.
4	D/C#	This is Data/Command control pin. When it is pulled HIGH (i.e. connect to VDDIO), the data at D[7:0] is treated as data. When it is pulled LOW, the data at D[7:0] will be transferred to the command register. In I2C mode, this pin acts as SA0 for slave address selection.
5	R/W#	This is read / write control input pin connecting to the MCU interface. When interfacing to a 6800-series microprocessor, this pin will be used as Read/Write (R/W#) selection input. Read mode will be carried out when this pin is pulled HIGH (i.e. connect to VDDIO) 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 interface is selected, this pin must be connected to VSS.
6	E/RD#	When interfacing to a 6800-series microprocessor, this pin will be used as the Enable (E) signal. Read/write operation is initiated when this pin is pulled HIGH (i.e. connect to VDDIO) and the chip is selected. When connecting to an 8080-microprocessor, this pin receives the Read (RD#) signal. Read operation is initiated when this pin is pulled LOW and the chip is selected. When serial interface is selected, this pin must be connected to VSS.
7~14	DB0~DB7	These are 8-bit bi-directional data bus to be connected to the microprocessor's data bus. 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 left opened. 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.
15	CS#	This pin is the chip select input. (active LOW)
16	RES#	This pin is reset signal input. When the pin is LOW, initialization of the chip is executed. Keep this pin HIGH (i.e. connect to VDDIO) during normal operation.

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<table>
<tr><td>17,18</td><td>BS2,BS1</td><td>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><td>I2C</td></tr>
<tr><td>BS1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr>
<tr><td>BS2</td><td>1</td><td>1</td><td>0</td><td>0</td></tr>
</table></td></tr>
<tr><td>19</td><td>N.C.</td><td>No connection.</td></tr>
<tr><td>20</td><td>FG(GND)</td><td>Ground.</td></tr>
<tr><td>21</td><td>TP_SCK</td><td>I2C Clock</td></tr>
<tr><td>22</td><td>TP_SDA</td><td>I2C Data</td></tr>
<tr><td>23</td><td>TP_INT</td><td>Interrupt Output
This pin is used as the dedicated interrupt output signal.</td></tr>
<tr><td>24</td><td>TP_RST</td><td>Hardware Reset
This pin is to reset hardware for this chip.</td></tr>
<tr><td>25</td><td>TP_VDD</td><td>Power supply pin for only touch panel (3.3V).</td></tr>
<tr><td>26</td><td>VSS</td><td>Ground.</td></tr>
<tr><td>27</td><td>BSW</td><td>Control the Piezoelectric Buzzer.</td></tr>
<tr><td>28</td><td>MSW</td><td>Control the BLDC Vibration Motor.</td></tr>
</table>

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Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage for Logic	VDD	-0.3	4.0	V
Supply Voltage for Display	V0	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	—	3.2	3.3	3.5	V
Supply Voltage for Display	V0	—	12.0	12.5	13.0	V
Input High Volt.	VIH	—	0.8×VDD	—	VDD	V
Input Low Volt.	VIL	—	0	—	0.2×VDD	V
Output High Volt.	VOH	IOUT = 100uA, 3.3MHz	0.9×VDD	—	VDD	V
Output Low Volt.	VOL	IOUT = 100uA, 3.3MHz	0	—	0.1×VDD	V
Operating Current for VDD	IDD	V0 =12.5V	-	90	120	mA
Supply Voltage for Buzzer	BSW	VDD=5.0V 1/2 square	0.8×VDD	—	VDD	V
Supply Voltage for Vibration Motor	MSW	—	2.7	—	3.3	V

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