WINSTAR Display

OLED SPECIFICATION

Model No:

WEO012832K

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General Specification

Item	Dimension	Unit
Dot Matrix	128 x 32	Dots
Module dimension	59.0× 18.86 × 1.41	mm
Active Area	50.535×10.695	mm
Pixel Size	0.370 × 0.310	mm
Pixel Pitch	0.395 × 0.335	mm
Display Mode	Passive Matrix	
Display Color	Monochrome	
Interface	8Bits 6800 8000 / SPI / I2C	
Drive Duty	1/32 Duty	
IC	SSD1315	
Size	2.0 inch	

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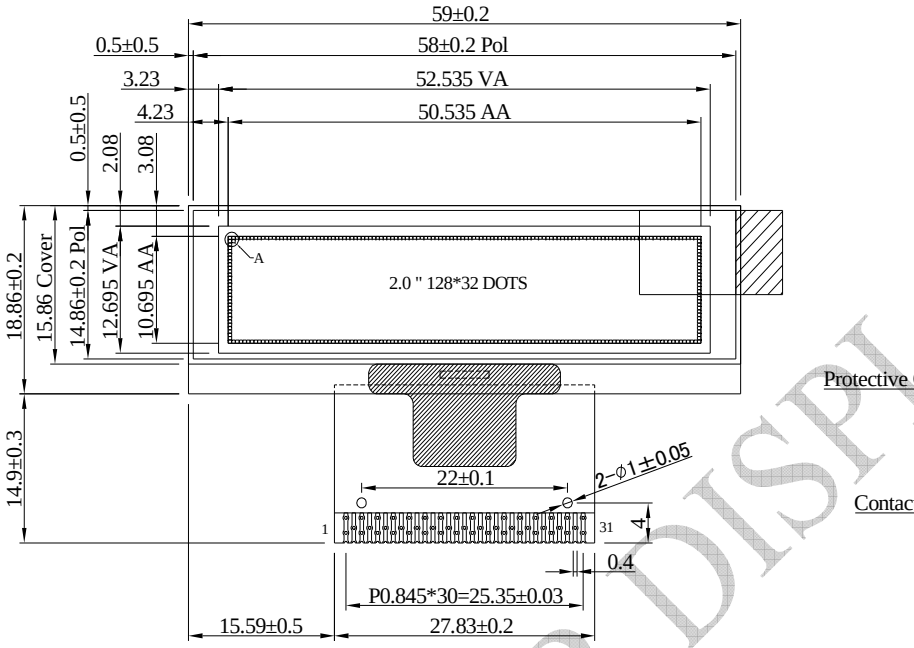
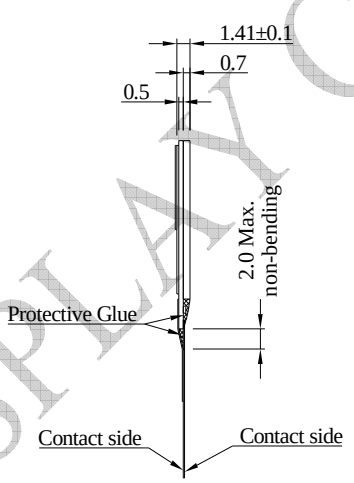
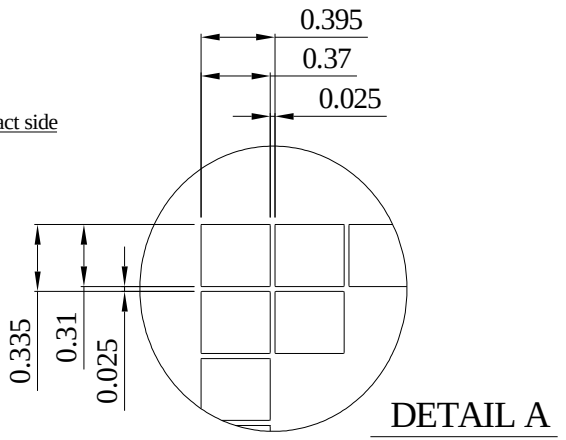
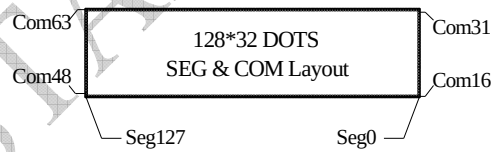
3. Contour Drawing & Block Diagram







DETAIL A
SCALE 20/1



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

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

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Interface Pin Function

No.	Symbol	Function
1	NC	No connection
2	VCC	Power supply for panel driving voltage. This is also the most positive power voltage supply pin. When charge pump is enabled, a capacitor should be connected between this pin and VSS.
3	VCOMH	COM signal deselected voltage level. A capacitor should be connected between this pin and VSS.
4.	IREF	This is segment output current reference pin. When external IREF is used, a resistor should be connected between this pin and VSS to maintain the IREF current at 30uA.
5	D7	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. 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.
6	D6	
7	D5	
8	D4	
9	D3	
10	D2	
11	D1	
12	D0	
13	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.
14	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 VDD) 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.
15	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.
16	RES#	This pin is reset signal input. When the pin is pulled LOW, initialization of the chip is executed. Keep this pin HIGH (i.e. connect to VDD) during normal operation.
17	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).

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<table>
<tr><td>18</td><td>NC</td><td>No connection</td></tr>
<tr><td>19</td><td>BS2</td><td rowspan="2">MCU bus interface selection pins. Select appropriate logic setting as described in the following table. BS2, BS1 are pin select
<table><tr><td>BS[2:1]</td><td>Interface</td></tr><tr><td>00</td><td>4 line SPI</td></tr><tr><td>01</td><td>I2C</td></tr><tr><td>11</td><td>8-bit 8080 parallel</td></tr><tr><td>10</td><td>8-bit 6800 parallel</td></tr></table>Note
(1) 0 is connected to VSS
(2) 1 is connected to VDD</td></tr>
<tr><td>20</td><td>BS1</td></tr>
<tr><td>21</td><td>VDD</td><td>Power supply pin for core logic operation.
This is a voltage supply pin. It must be connected to external source.</td></tr>
<tr><td>22</td><td>NC</td><td rowspan="8">No connection</td></tr>
<tr><td>23</td><td>NC</td></tr>
<tr><td>24</td><td>NC</td></tr>
<tr><td>25</td><td>NC</td></tr>
<tr><td>26</td><td>NC</td></tr>
<tr><td>27</td><td>NC</td></tr>
<tr><td>28</td><td>NC</td></tr>
<tr><td>29</td><td>NC</td></tr>
<tr><td>30</td><td>VSS</td><td>Ground pin. It must be connected to external ground.</td></tr>
<tr><td>31</td><td>NC</td><td>No connection</td></tr>
</table>

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Absolute Maximum Ratings

Unless otherwise specified, VSS= 0V (Ta = 25°C)

Parameter	Symbol	Min	Typ.	Max	Unit
Supply Voltage for Logic	VDD	-0.3	-	4	V
Supply Voltage for Display	VCC	0	-	18	V
Operating Temperature	TOP	-40	-	+80	°C
Storage Temperature	TSTG	-40	-	+85	°C

Electrical Characteristics

DC Electrical Characteristics

Unless otherwise specified, VSS = 0V , VDD = 2.8 - 3.3V (Ta = 25°C)

Items		Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Logic	VDD	2.8	3.0	3.3	V
	Operating	VCC	7.5	8.0	8.5	V
Input Voltage	High Voltage	V_{IH}	0.8 x V_{DD}	-	VDD	V
	Low Voltage	V_{IL}	0	-	0.2 x VDD	V
Output Voltage	High Voltage	V_{OH}	0.9x V_{DD}	-	VDD	V
	Low Voltage	V_{OL}	0	-	0.1 x VDDIO	V

Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
ICC	VCC Supply Current	-	11	22	mA	VDD=3V , VCC=8.0, Display 50% ON

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