

WINSTAR Display

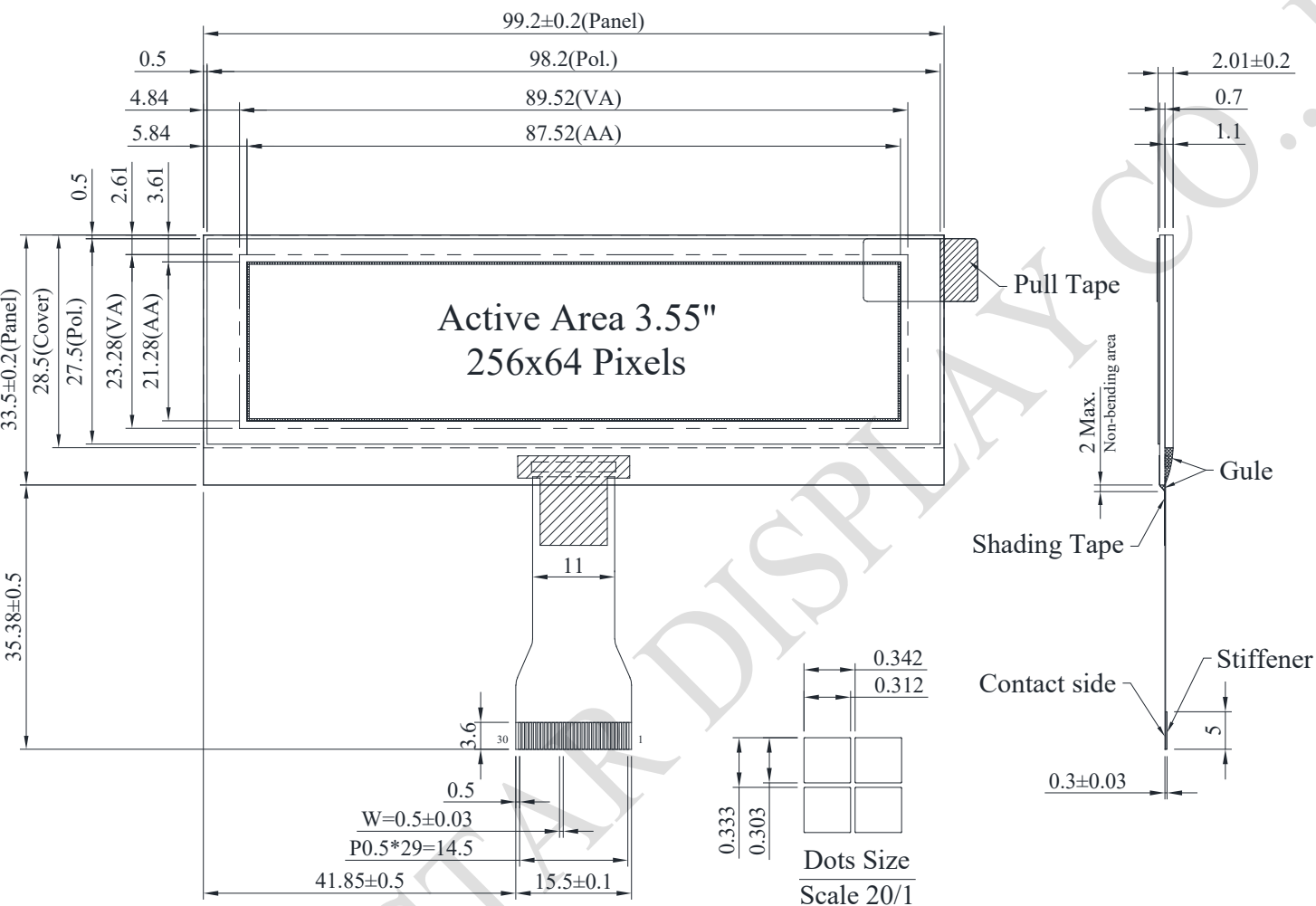
OLED SPECIFICATION

Model No:

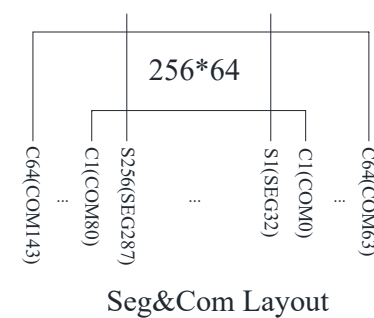
WEO025664E

General Specification

Item	Dimension	Unit
Dot Matrix	256 x 64 Dots	—
Module dimension	99.2 x 33.5 x 2.01	mm
Active Area	87.52 x 21.28	mm
Pixel Size	0.312 x 0.303	mm
Pixel Pitch	0.342 x 0.333	mm
Display Mode	Passive Matrix	
Display Color	Monochrome	
Drive Duty	1/64 Duty	
Gray Scale	4 bits	
IC	SSD1363	
Interface	6800,8080,4-Wire SPI,I2C	
Size	3.55 inch	



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



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

Interface Pin Function

Pin Number	Symbol	Function
1	ESD_GND	ESD Ground pin
2	VSS	Ground pin. It must be connected to external ground.
3	VCC	Power supply for panel driving voltage. This is also the most positive power voltage supply pin. A capacitor should be connected between this pin and VSS.
4	VCOMH	COM signal deselected voltage level. A capacitor should be connected between this pin and VSS.
5	VLSS	Analog system ground pin. It must be connected to external ground.
6	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, D2, D1 should be tied together as the serial data input: SDIN, and D0 will be the serial clock input: SCLK. 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.
7	D6	
8	D5	
9	D4	
10	D3	
11	D2	
12	D1	
13	D0	
14	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.
15	R/W# (WR#)	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.

16	BS1	MCU bus interface selection pins. Select appropriate logic setting as described in the following table. BS2 and BS1 are pin select. <table><tr><td></td><td>8080</td><td>I2C</td><td>6800</td><td>4-wire SPI</td></tr><tr><td>BS1</td><td>1</td><td>1</td><td>0</td><td>0</td></tr><tr><td>BS2</td><td>1</td><td>0</td><td>1</td><td>0</td></tr></table>		8080	I2C	6800	4-wire SPI	BS1	1	1	0	0	BS2	1	0	1	0
	8080	I2C	6800	4-wire SPI													
BS1	1	1	0	0													
BS2	1	0	1	0													
17	BS2	Note: (1) 0 is connected to VSS (2) 1 is connected to VDD															
18	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.															
19	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).															
20	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.															
21	FR	This pin outputs RAM write synchronization signal. Proper timing between MCU data writing and frame display timing can be achieved to prevent tearing effect. It should be kept NC if it is not used.															
22	IREF	This pin is the segment output current reference pin. IREF is supplied externally. A resistor should be connected between this pin and VSS to maintain the current around 10uA. It should be kept floating when internal IREF is chosen by command setting.															
23~24	NC	This is dummy pin. It should be kept NC.															
25	VP	This pin is the segment pre-charge voltage reference pin. A capacitor can be connected between this pin and VSS to improve visual performance. It can also be float per application. No external power supply is allowed to connect to this pin.															
26	VDD	Power supply pin for core logic operation. A capacitor should be connected between this pin and VSS.															
27	VSL	This is segment voltage (output low level) reference pin. This pin has to be connected with resistor and diode to ground (details depends on application).															
28	VLSS	Analog system ground pin. It must be connected to external ground.															
29	VCC	Power supply for panel driving voltage. This is also the most positive power voltage supply pin. A capacitor should be connected between this pin and VSS.															
30	ESD_GND	ESD Ground pin															

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	VDD	-0.3	4.0	V
Supply Voltage	VCC	-0.5	19.0	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
Low voltage power supply, power Supply for I/O pins	VDD	—	1.65	3.0	3.3	V
Operating Voltage	VCC	—	8.0	16.0	16.5	V
High Level Input	VIH	—	0.8×VDD	—	VDD	V
Low Level Input	VIL	—	0	—	0.2×VDD	V
High Level Output	VOH	—	0.9×VDD	—	VDD	V
Low Level Output	VOL	—	0	—	0.1×VDD	V
Display 50% Pixel on	ICC	VCC =16V	—	30	45	mA