

OLED DISPLAY SPECIFICATION



RAYSTAR

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RET025664D

General Specification

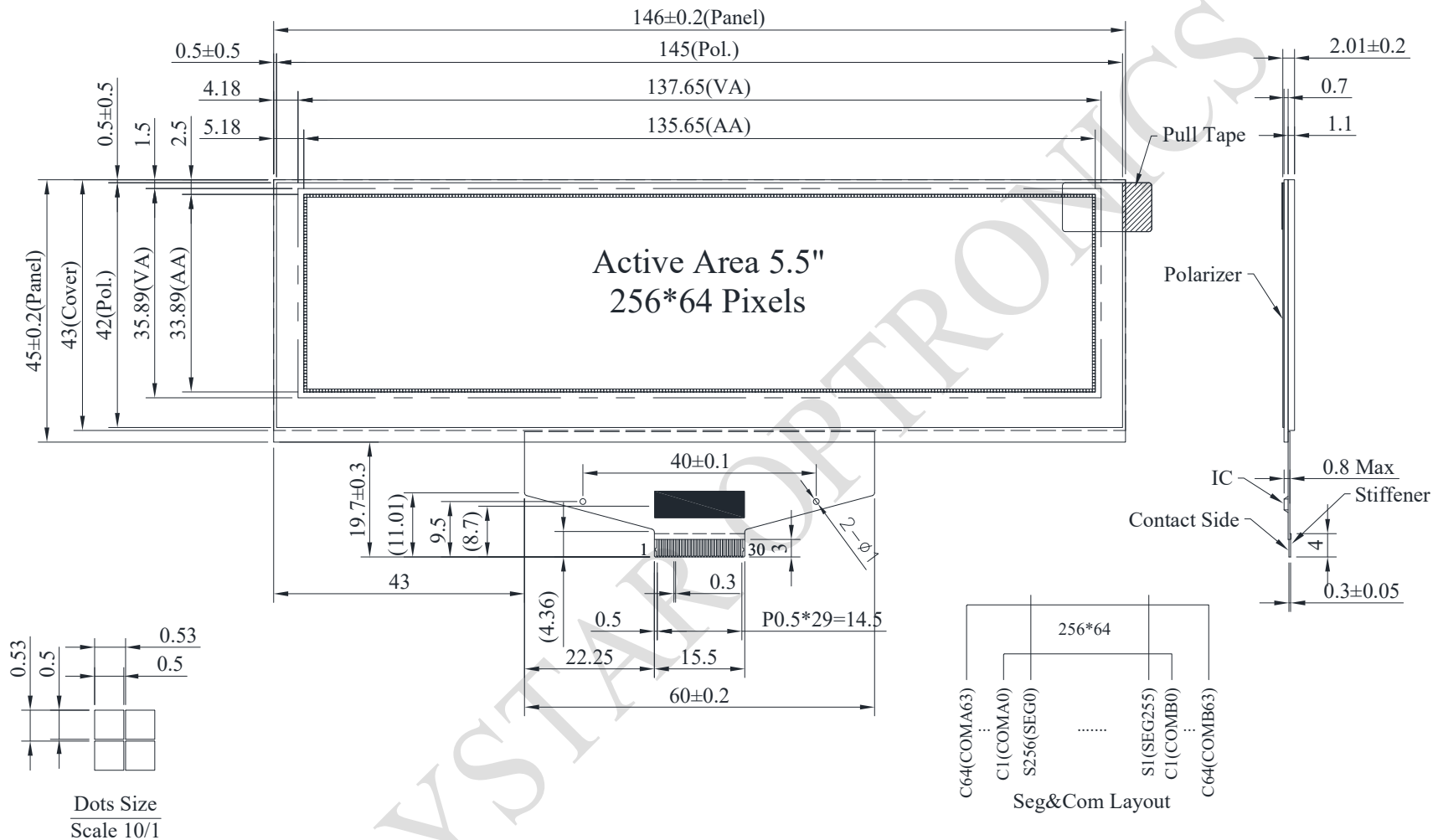
- Module dimension: 146.0 x 45.0 x 2.01 mm
- Active area: 135.65 x 33.89 mm
- Dot Matrix: 256 x 64 Dots
- Pixel Size: 0.5 x 0.5 mm
- Pixel Pitch: 0.53 x 0.53 mm
- Display Mode: Passive Matrix
- Duty: 1/64 Duty
- Gray Scale: 4 bits
- Display Color: Monochrome
- IC: SSD1322
- Interface: 6800, 8080, SPI
- Size: 5.5 inch

Interface Pin Function

No.	Symbol	Function										
1	N.C.	The N.C. pin between function pins are reserved for compatible and flexible design.										
2	VSS	Ground.										
3	VCC	Power supply for panel driving voltage. This is also the most positive power voltage supply pin.										
4	VCOMH	COM signal deselected voltage level. A capacitor should be connected between this pin and VSS.										
5	VLSS	Analog system ground pin.										
6~13	D7~D0	These pins are bi-directional data bus connecting to the MCU data bus. Unused pins are recommended to tie LOW. (Except for D2 pin in SPI mode)										
14	E/RD#	This pin is MCU interface input. 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 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 E(RD#) must be connected to VSS.										
15	R/W#	This pin 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 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 R/W (WR#) must be connected to VSS.										
16	BS0	MCU bus interface selection pins. Select appropriate logic setting as described in the following table.										
17	BS1	<table border="1"> <thead> <tr> <th>BS[1:0]</th> <th>Bus Interface Selection</th> </tr> </thead> <tbody> <tr> <td>00</td> <td>4 line SPI</td> </tr> <tr> <td>01</td> <td>3 line SPI</td> </tr> <tr> <td>10</td> <td>8-bit 8080 parallel</td> </tr> <tr> <td>11</td> <td>8-bit 6800 parallel</td> </tr> </tbody> </table> <p>Note (1) 0 is connected to VSS (2) 1 is connected to VDDIO</p>	BS[1:0]	Bus Interface Selection	00	4 line SPI	01	3 line SPI	10	8-bit 8080 parallel	11	8-bit 6800 parallel
BS[1:0]	Bus Interface Selection											
00	4 line SPI											
01	3 line SPI											
10	8-bit 8080 parallel											
11	8-bit 6800 parallel											

18	D/C#	This pin is Data/Command control pin connecting to the MCU. When the pin is pulled HIGH, the content at D[7:0] will be interpreted as data. When the pin is pulled LOW, the content at D[7:0] will be interpreted as command.
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.
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 is No Connection pins. Nothing should be connected to this pin. This pin should be left open individually.
22	IREF	This pin is the segment output current reference pin. A resistor should be connected between this pin and VSS to maintain the current around 10uA.
23	N.C.	The N.C. pin between function pins are reserved for compatible and flexible design.
24	VDDIO	Power supply for interface logic level. It should be matched with the MCU interface voltage level.
25	VDD	Power supply pin for core logic operation. A capacitor is required to connect between this pin and VSS.
26	VCI	Low voltage power supply. VCI must always be equal to or higher than VDD and VDDIO.
27	VSL	This is segment voltage reference pin. When external VSL is used, connect with resistor and diode to ground.
28	VLSS	Analog system ground pin.
29	VCC	Power supply for panel driving voltage. This is also the most positive power voltage supply pin.
30	N.C.	The N.C. pin between function pins are reserved for compatible and flexible design.

Contour Drawing



PIN	SYMBOL
1	NC(GND)
2	VSS
3	VCC
4	VCOMH
5	VLSS
6	D7
7	D6
8	D5
9	D4
10	D3
11	D2
12	D1
13	D0
14	E/RD#
15	R/W#
16	BS0
17	BS1
18	DC#
19	CS#
20	RES#
21	FR
22	IREF
23	NC
24	VDDIO
25	VDD
26	VCI
27	VSL
28	VLSS
29	VCC
30	NC(GND)

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

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage for Logic	VDD	-0.5	2.75	V
Low voltage power supply	VCI	-0.3	4.0	V
Power supply for I/O pins	VDDIO	-0.5	VCI	V
Supply Voltage for Display	VCC	-0.5	21.0	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	—	2.4	2.5	2.6	V
Power Supply for I/O pins	VDDIO	—	1.65	3.0	VCI	V
Low voltage power supply	VCI	—	2.4	3.0	3.5	V
Supply Voltage for Display	VCC	—	10.0	18.0	18.5	V
High Level Input	VIH	—	$0.8 \times VDDIO$	—	VDDIO	V
Low Level Input	VIL	—	0	—	$0.2 \times VDDIO$	V
High Level Output	VOH	—	$0.9 \times VDDIO$	—	VDDIO	V
Low Level Output	VOL	—	0	—	$0.1 \times VDDIO$	V
Display 30% Pixel on	ICC	VCC = 18V	—	40	60	mA