OLED DISPLAY SPECIFICATION

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RET025664A

General Specification

- Module dimension: 84.0×25.8×2.15 mm
- Active area: 69.098×17.258 mm
- Dot Matrix: 256× 64
- Pixel size: 0.248×0.248 mm
- Pixel pitch: 0.27×0.27 mm
- Duty: 1/64 Duty
- Display Mode: Passive Matrix
- Display Color: Monochrome
- IC: SSD1322 COF
- Interface: 6800, 8080, SPI
- Size: 2.8 inch

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Interface Pin Function

Pin No.	Symbol	I/O	Function
Power Supply			
26	**VCI**	P	***Power Supply for Operation*** This is a voltage supply pin. It must be connected to external source & always be equal to or higher than VDD & VDDIO.
25	**VDD**	P	***Power Supply for Core Logic Circuit*** This is a voltage supply pin. It can be supplied externally (within the range of 2.4~2.6V) or regulated internally from VCI. A capacitor should be connected between this pin & VSS under all circumstances.
24	**VDDIO**	P	***Power Supply for I/O Pin*** This pin is a power supply pin of I/O buffer. It should be connected to VDD or external source. All I/O signal should have VIH reference to VDDIO. When I/O signal pins (BS0~BS1, D0~D7, control signals…) pull high, they should be connected to VDDIO.
2	**VSS**	P	***Ground of Logic Circuit*** This is a ground pin. It also acts as a reference for the logic pins. It must be connected to external ground.
3,29	**VCC**	P	***Power Supply for OLED Panel*** These are the most positive voltage supply pin of the chip. They must be connected to external source.
5,28	**VLSS**	P	***Ground of Analog Circuit*** These are the analog ground pins. They should be connected to VSS externally.
Driver			
22	**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 lower than 10uA.
4	**VCOMH**	P	***Voltage Output High Level for COM Signal*** This pin is the input pin for the voltage output high level for COM signals. A tantalum capacitor should be connected between this pin and VSS.
27	**VSL**	P	***Voltage Output Low Level for SEG Signal*** This is segment voltage reference pin. When external VSL is not used, this pin should be left open. When external VSL is used, this pin should connect with resistor and diode to ground.
Testing Pads			
21	**FR**	O	***Frame Frequency Triggering Signal*** This pin will send out a signal that could be used to identify the driver status. Nothing should be connected to this pin. It should be left open individually.

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<table>
<tr><td>16</td><td>BS0</td><td>I</td><td rowspan="2">Communicating Protocol Select
These pins are MCU interface selection input. See the following table:
<table><tr><td></td><td>BS0</td><td>BS1</td></tr><tr><td>3-wire SPI</td><td>1</td><td>0</td></tr><tr><td>4-wire SPI</td><td>0</td><td>0</td></tr><tr><td>8-bit 68XX Parallel</td><td>1</td><td>1</td></tr><tr><td>8-bit 80XX Parallel</td><td>0</td><td>1</td></tr></table></td></tr>
<tr><td>17</td><td>BS1</td><td>I</td></tr>
<tr><td>20</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>19</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>D/C#</td><td>I</td><td>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 Timing Characteristics Diagrams.</td></tr>
<tr><td>14</td><td>E/RD#</td><td>I</td><td>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.
When serial mode is selected, this pin must be connected to VSS.</td></tr>
<tr><td>15</td><td>R/W#</td><td>I</td><td>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.
When serial mode is selected, this pin must be connected to VSS.</td></tr>
<tr><td>6~13</td><td>D7~D0</td><td>I/O</td><td>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.
Unused pins must be connected to VSS except for D2 in serial mode</td></tr>
<tr><td colspan="4">Reserve</td></tr>
<tr><td>23</td><td>N.C.</td><td>-</td><td>Reserved Pin
The N.C. pin between function pins are reserved for compatible</td></tr>
</table>

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			and flexible design.
1,30	**N.C. (GND)**	-	***Reserved Pin*** (Supporting Pin) The supporting pins can reduce the influences from stresses on the function pins. These pins must be connected to external ground.

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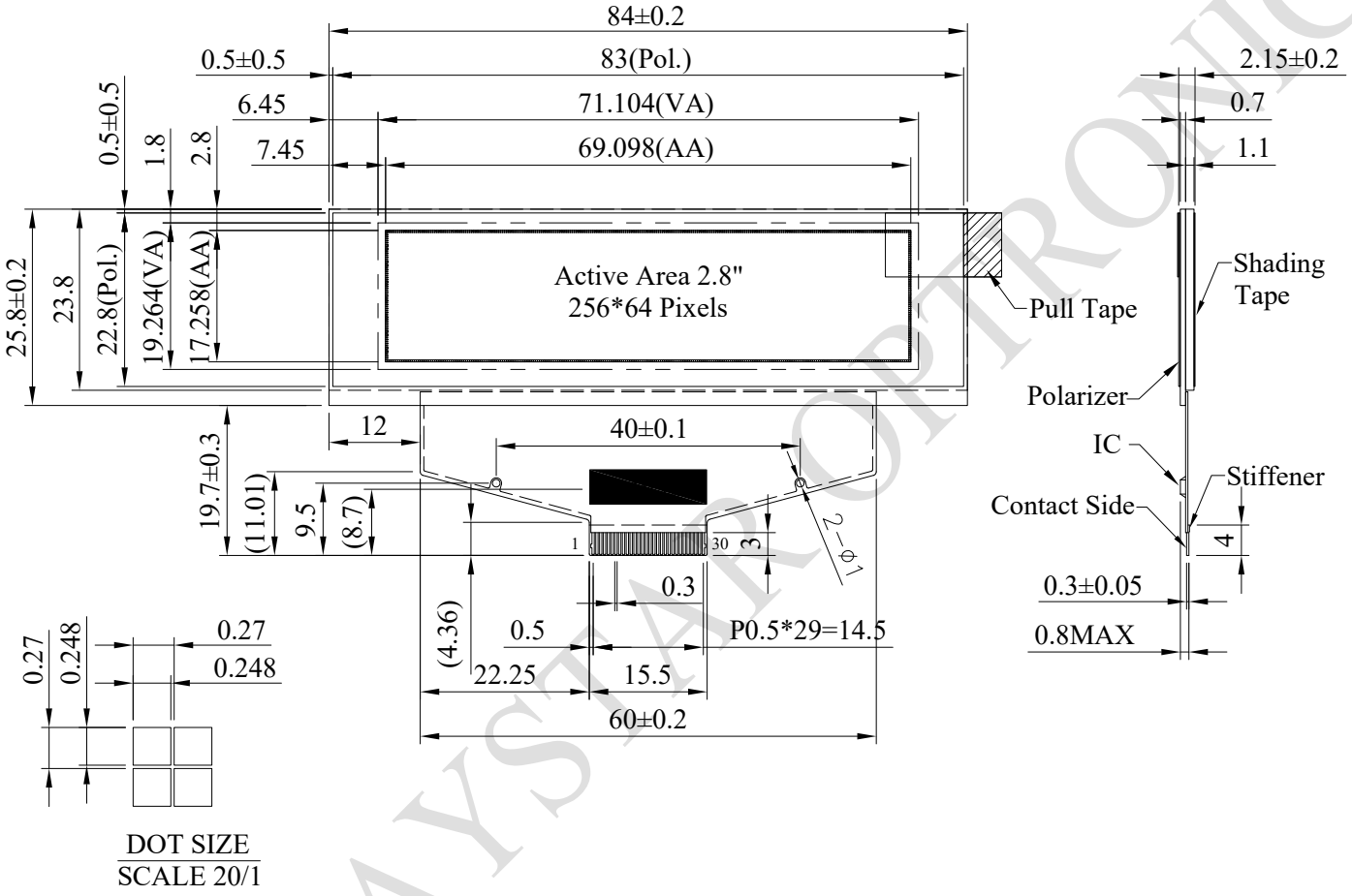
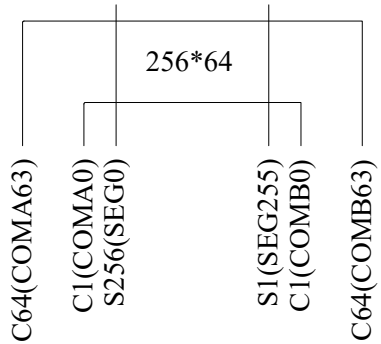
Counter Drawing



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



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

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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	20.0	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	VCI	—	2.8	3.0	3.3	V
Supply Voltage for Display	VCC	—	14	14.5	15	V
High Level Input	VIH	—	0.8×VDDIO	—	VDDIO	V
Low Level Input	VIL	—	0	—	0.2×VDDIO	V
High Level Output	VOH	—	0.9×VDDIO	—	VDDIO	V
Low Level Output	VOL	—	0	—	0.1×VDDIO	V
50% Check Board operating Current		VCC =14.5V	—	30	32	mA

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