

OLED DISPLAY SPECIFICATION



RAYSTAR

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REX012864AC

General Specification

The Features is described as follow:

- Module Dimension: 26.70 x 19.26 x 1.26 mm
- Active Area: 21.74 x 10.86 mm
- Dot Matrix: 128 x 64
- Pixel Size: 0.15 x 0.15 mm
- Pixel Pitch: 0.17 x 0.17 mm
- Duty: 1/64 Duty
- Display Mode: Passive Matrix
- Display Color: Monochrome
- IC: SSD1315
- Interface: 6800,8080,SPI,I2C
- Size: 0.96-inch

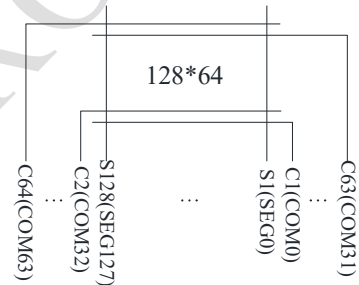
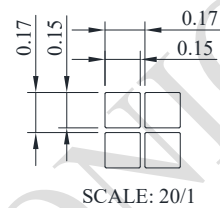
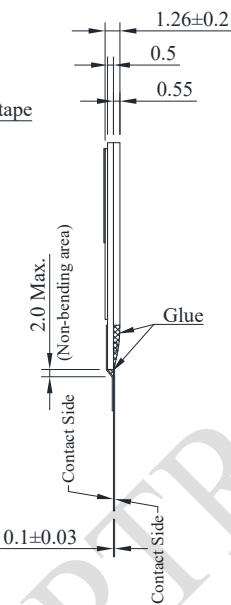
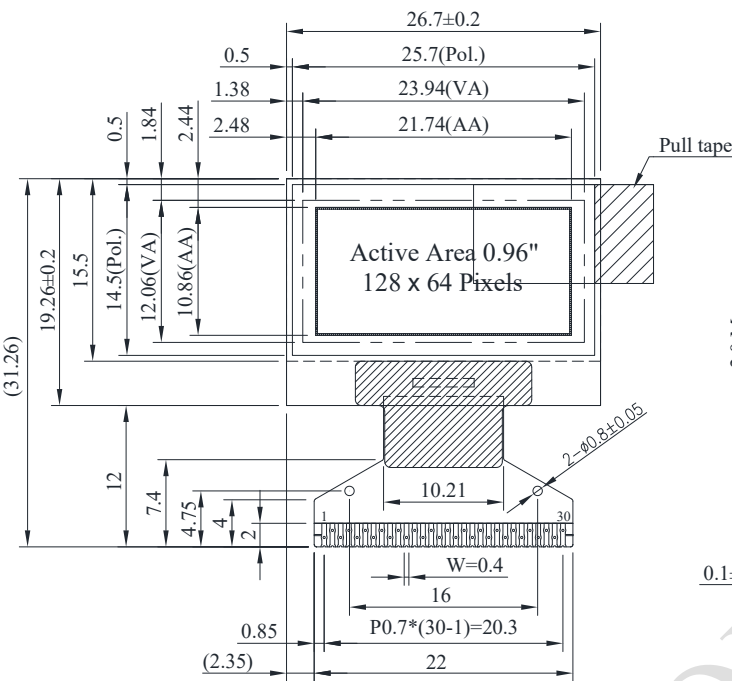
Interface Pin Function

Pin No.	Symbol	Function																								
1	N.C. (GND)	The supporting pins can reduce the influences from stresses on the function pins. These pins must be connected to external ground.																								
2	C2N	C1P/C1N – Pin for charge pump capacitor; Connect to each other with a capacitor.																								
3	C2P																									
4	C1P																									
5	C1N	C2P/C2N – Pin for charge pump capacitor; Connect to each other with a capacitor.																								
6	VBAT	This is the power supply pin for the internal buffer of the DC/DC voltage converter. It must be connected to external source when the converter is used. It should be float when the converter is not used.																								
7	NC	NC																								
8	VSS	Ground pin. It must be connected to external ground.																								
9	VDD	Power supply pin for core logic operation.																								
10	BS0	These pins are MCU interface selection input. See the following table:																								
11	BS1	<table><tr><td></td><td>BS0</td><td>BS1</td><td>BS2</td></tr><tr><td>I2C</td><td>0</td><td>1</td><td>0</td></tr><tr><td>3-wire SPI</td><td>1</td><td>0</td><td>0</td></tr><tr><td>4-wire SPI</td><td>0</td><td>0</td><td>0</td></tr><tr><td>8-bit 68XX Parallel</td><td>0</td><td>0</td><td>1</td></tr><tr><td>8-bit 80XX Parallel</td><td>0</td><td>1</td><td>1</td></tr></table>		BS0	BS1	BS2	I2C	0	1	0	3-wire SPI	1	0	0	4-wire SPI	0	0	0	8-bit 68XX Parallel	0	0	1	8-bit 80XX Parallel	0	1	1
	BS0		BS1	BS2																						
I2C	0		1	0																						
3-wire SPI	1		0	0																						
4-wire SPI	0		0	0																						
8-bit 68XX Parallel	0	0	1																							
8-bit 80XX Parallel	0	1	1																							
12	BS2																									
13	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).																								
14	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 VDD) during normal operation.																								
15	D/C#	This is Data/Command control pin. When it is pulled HIGH (i.e. connect to VDD), 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.																								

		When 3-wire serial interface is selected, this pin must be connected to VSS. For detail relationship to MCU interface signals, please refer to the Timing Characteristics Diagrams of IC SPEC.
16	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.
17	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 VDD) and the chip is selected. When connecting to an 8080-series 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 or I2C interface is selected, this pin must be connected to VSS.
18~25	D0~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.
26	IREF	When external IREF is used, a resistor should be connected between this pin and VSS to maintain the IREF current at a maximum of 30uA.

27	VCOMH	The pin for COM signal deselected voltage level. A capacitor should be connected between this pin and VSS.
28	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.
29	VLSS	This is an analog ground pin. It should be connected to VSS externally.
30	NC (GND)	The supporting pins can reduce the influences from stresses on the function pins. These pins must be connected to external ground.

Contour Drawing



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

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage for Logic	VDD	0	4.0	V
Charge Pump Regulator Supply Voltage	VBAT	0	6.0	V
Supply Voltage for Display	VCC	0	18.0	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	—	1.65	3.0	3.3	V
Charge Pump Regulator Supply Voltage	VBAT	—	3.0	3.5	4.5	V
Supply Voltage for Display	VCC	—	7.5	12.0	12.5	V
Charge Pump Output Voltage for Display (Generated by Internal DC/DC)	Charge Pump VCC	—	7.0	7.5	—	V
Input High Volt	VIH	—	$0.8 \times VDD$	—	VDD	V
Input Low Volt	VIL	—	0	—	$0.2 \times VDD$	V
Output High Volt	VOH	—	$0.9 \times VDD$	—	VDD	V
Output Low Volt	VOL	—	0	—	$0.1 \times VDD$	V
Operating Current for VCC (Display 50% Pixel on) (VCC Supplied Externally)	ICC	VCC=12V	—	10	20	mA
Display 50% Pixel on (VCC Generated by Internal DC/DC)	IBAT	—	—	15	30	mA