RAYSTAR

SPECIFICATION

OLED SPECIFICATION

Model No:

REX009632B

General Specification

The Features is described as follow:

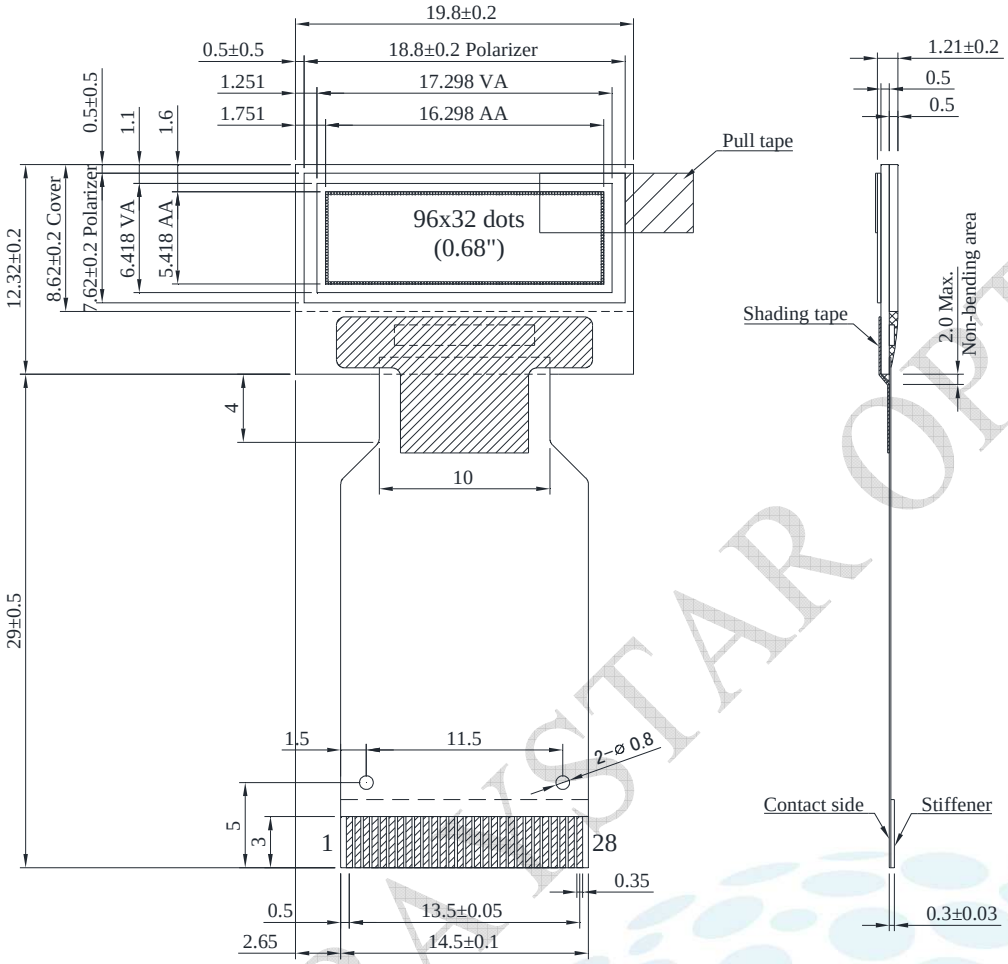
- Module dimension: 19.80 x 12.32 x 1.21 mm
- Active area: 16.298 x 5.418 mm
- Dot Matrix: 96 x 32
- Dot size: 0.148 x 0.148 mm
- Dot pitch: 0.17 x 0.17 mm
- Display Mode: Passive Matrix
- Duty: 1/32 Duty
- Display Color: OLED, Monochrome
- Controller IC: SSD1305
- Interface: 6800,8080,SPI,I2C
- Size: 0.68 inch

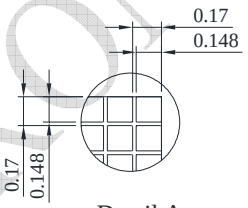
Interface Pin Function

<table>
<tr><th>Pin</th><th>Symbol</th><th>I/O</th><th>Function</th></tr>
<tr><td>1</td><td>VSS</td><td>-</td><td>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.</td></tr>
<tr><td>2</td><td>GDR</td><td>-</td><td>Reserved pin, not connected.</td></tr>
<tr><td>3</td><td>VDDB</td><td>P</td><td>Reserved pin, not connected.</td></tr>
<tr><td>4</td><td>FB</td><td>-</td><td>Reserved pin, not connected.</td></tr>
<tr><td>5</td><td>NC</td><td>-</td><td>Not connected.</td></tr>
<tr><td>6</td><td>VBREF</td><td>-</td><td>Reserved pin, not connected.</td></tr>
<tr><td>7</td><td>NC</td><td>-</td><td>Not connected.</td></tr>
<tr><td>8</td><td>NC</td><td>-</td><td>Not connected.</td></tr>
<tr><td>9</td><td>VDD</td><td>P</td><td>Power supply pin for core logic operation.</td></tr>
<tr><td>10</td><td>BS1</td><td>I</td><td rowspan="2">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>4-line SPI</td><td>I2C</td><td>8-bits 8080</td><td>8-bits 6800</td></tr><tr><td>BS1</td><td>0</td><td>1</td><td>1</td><td>0</td></tr><tr><td>BS2</td><td>0</td><td>0</td><td>1</td><td>1</td></tr></table></td></tr>
<tr><td>11</td><td>BS2</td><td>I</td></tr>
<tr><td>12</td><td>NC</td><td>-</td><td>Not connected.</td></tr>
<tr><td>13</td><td>CS#</td><td>I</td><td>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).</td></tr>
<tr><td>14</td><td>RES#</td><td>I</td><td>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.</td></tr>
<tr><td>15</td><td>D/C#</td><td>I</td><td>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.</td></tr>
</table>

16	WR#	I	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#	I	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.
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	-	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.
27	VCOMH	-	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.

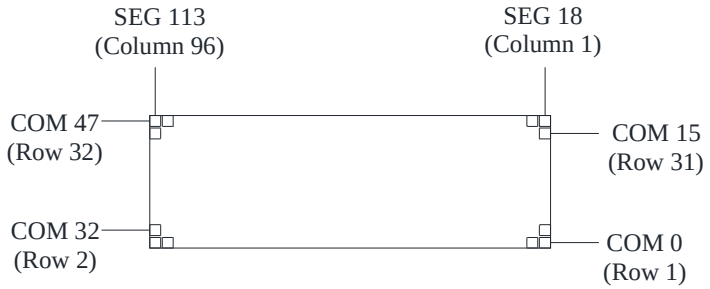
Contour Drawing & Block Diagram





Detail A
SCALE 1:10

PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	VSS	15	D/C#
2	GDR	16	WR#
3	VDDB	17	E/RD#
4	FB	18	D0
5	NC	19	D1
6	VBREF	20	D2
7	NC	21	D3
8	NC	22	D4
9	VDD	23	D5
10	BS1	24	D6
11	BS2	25	D7
12	NC	26	IREF
13	CS#	27	VCOMH
14	RES#	28	VCC



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

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage for Logic	VDD	-0.3	4	V
Supply Voltage for Display	VCC	0	18	V
Operating Temperature	TOP	-40	+70	°C
Storage Temperature	TSTG	-40	+85	°C

Electrical Characteristics

DC Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage for Logic	VDD	—	2.8	3.0	3.3	V
Supply Voltage for Display	VCC	—	11.5	12	12.5	V
High Level Input	VIH	—	0.8×VDD	—	VDD	V
Low Level Input	VIL	—	0	—	0.2×VDD	V
High Level Output	VOH	Iout = 100uA	0.9×VDD	—	VDD	V
Low Level Output	VOL	Iout = 100uA	0	—	0.1×VDD	V