RAYSTAR

SPECIFICATION

OLED SPECIFICATION

Model No:

REX012864A-CTP

General Specification

The Features is described as follow:

- Module dimension: 43.04 × 28.22 × 3.01 mm
- Active area: 35.05 × 17.51 mm
- Dot Matrix: 128 × 64
- Pixel Size: 0.249 × 0.249 mm
- Pixel Pitch：0.274 × 0.274 mm
- Duty: 1/64 Duty
- Display Mode: Passive Matrix
- Display Color: Monochrome
- OLED Interface: 6800,8080,4-wire SPI,I2C
- OLED IC: SSD1309
- SIZE: 1.54 inch

- CTP IC: MSG22S
- Detect Point:1
- CTP Interface: I2C
- Surface: Normal Glare

Interface Pin Function

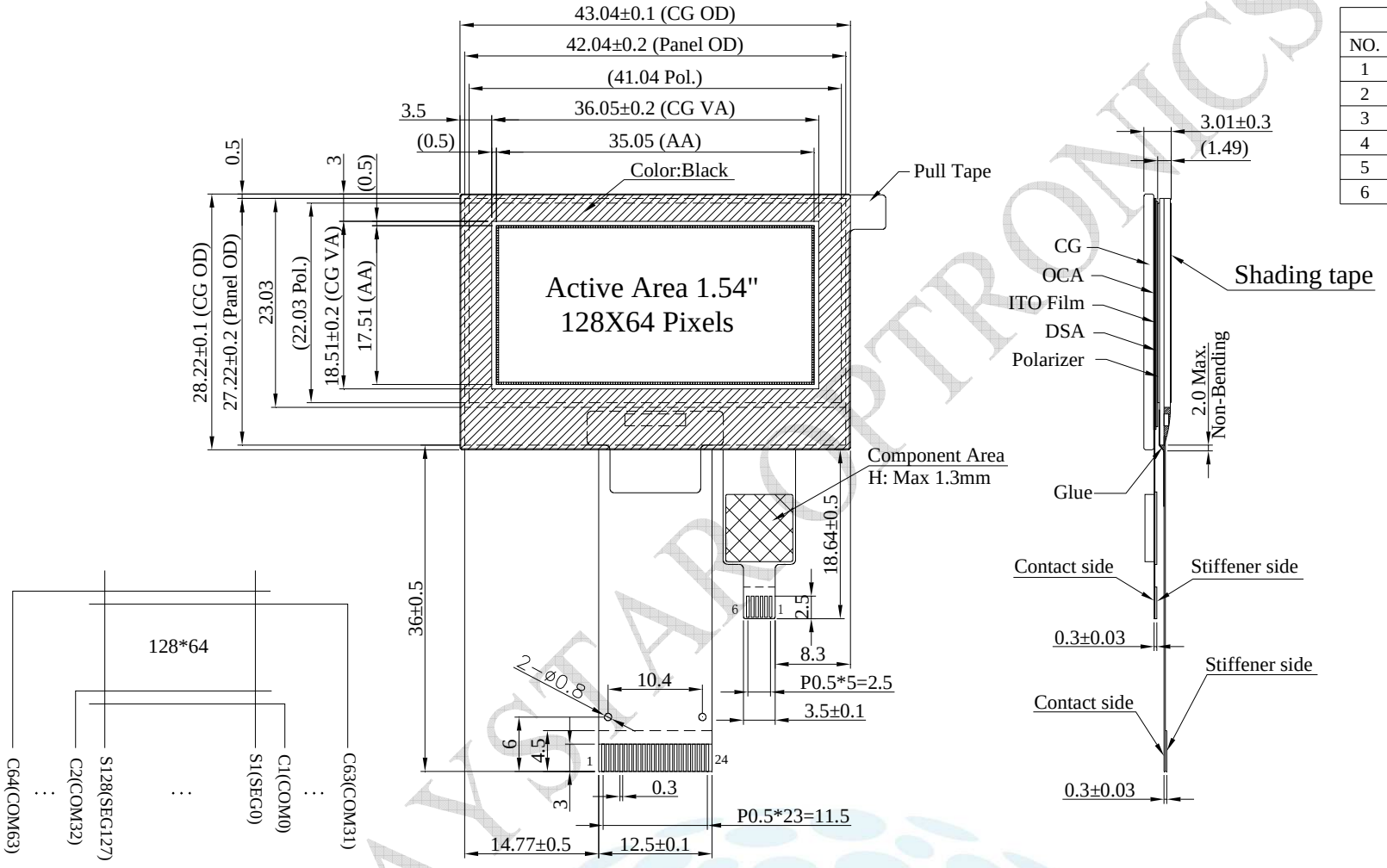
<table>
<tr><th>No.</th><th>Symbol</th><th>Function</th></tr>
<tr><td>1</td><td>NC(GND)</td><td>No connection</td></tr>
<tr><td>2</td><td>VLSS</td><td>This is an analog ground pin</td></tr>
<tr><td>3</td><td>VSS</td><td>Ground.</td></tr>
<tr><td>4</td><td>NC</td><td>No connection</td></tr>
<tr><td>5</td><td>VDD</td><td>Power supply pin for core logic operation</td></tr>
<tr><td>6</td><td>BS1</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>BS1</td><td>BS2</td></tr>
<tr><td>I2C</td><td>1</td><td>0</td></tr>
<tr><td>4-wire Serial</td><td>0</td><td>0</td></tr>
<tr><td>8-bit 68XX Parallel</td><td>0</td><td>1</td></tr>
<tr><td>8-bit 80XX Parallel</td><td>1</td><td>1</td></tr>
</table>
Note
(1) 0 is connected to VSS
(2) 1 is connected to VDD</td></tr>
<tr><td>7</td><td>BS2</td></tr>
<tr><td>8</td><td>CS#</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>9</td><td>RES#</td><td>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.</td></tr>
<tr><td>10</td><td>D/C#</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>
<tr><td>11</td><td>R/W#</td><td>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.</td></tr>
</table>

12	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.
13-20	D0~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, D0 will be the serial clock input: SCLK; D1 will be the serial data input: SDIN and D2 should be kept NC. 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.
21	IREF	This pin is the segment output current reference pin. IREF is supplied externally.
22	VCOMH	COM signal deselected voltage level. A capacitor should be connected between this pin and VSS.
23	VCC	Power supply for panel driving voltage. This is also the most positive power voltage supply pin.
24	NC(GND)	No connection

CTP Pin Function

1	**GND**	Ground.
2	**VDD**	Power Supply Voltage of CTP
3	**RST**	External Reset, Low is active
4	**INT**	External interrupt to the host
5	**SCL**	I2C clock input
6	**SDA**	I2C data input and output

Contour Drawing & Block Diagram



CTP		OLED	
NO.	SYMBOL	NO.	SYMBOL
1	GND	1	N.C.(GND)
2	VDD	2	VLSS
3	RST	3	VSS
4	INT	4	N.C.
5	SCL	5	VDD
6	SDA	6	BS1
		7	BS2
		8	CS#
		9	RES#
		10	D/C#
		11	R/W#
		12	E/RD#
		13	D0
		14	D1
		15	D2
		16	D3
		17	D4
		18	D5
		19	D6
		20	D7
		21	IREF
		22	VCOMH
		23	VCC
		24	N.C.(GND)

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

Absolute Maximum Ratings

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage for Logic	VDD	-0.3	4	V
Supply Voltage for Display	VCC	0	17	V
Operating Temperature	TOP	-10	+60	°C
Storage Temperature	TSTG	-20	+70	°C

Touch Panel Controller MSG22S

Parameter	Symbol	Min	Max	Unit
Power Supply Voltage	VDD	0	3.6	V

Electrical Characteristics

DC Electrical 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	—	12.0	12.5	13.0	V
High Level Input	VIH	—	0.8×VDD	—	—	V
Low Level Input	VIL	—	—	—	0.2×VDD	V
High Level Output	VOH	—	0.9×VDD	—	—	V
Low Level Output	VOL	—	—	—	0.1×VDD	V
50% Check Board operating Current		VCC =12.5V	—	16	45	mA

Touch Panel Controller MSG22S

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage	VDD	—	2.8	3.0	3.3	V
Input High Volt.	VIH	—	1	—	—	V
Input Low Volt.	VIL	—	-	—	0.5	V
Output High Volt.	VOH	—	VDD-0.1	—	—	V
Output Low Volt.	VOL	—	—	—	0.1	V