RAYSTAR

SPECIFICATION

OLED SPECIFICATION

Model No:

RET025664B-CTP

General Specification

The Features is described as follow:

- Module dimension: 89.2 × 29.0 × 3.17 mm
- Active area: 76.778×19.178 mm
- Dot Matrix : 256×64
- Dot Size: 0.278×0.278 mm
- Dot Pitch: 0.300×0.300mm
- Display Mode: Passive Matrix
- Duty: 1/64
- Display Color: Monochrome
- OLED IC: SSD1322 (COF)
- OLED Interface: 6800,8080,SPI
- Size: 3.12 inch

- CTP IC: FT6336U
- Detect Point:1
- CTP Interface: I2C
- Surface: Normal Glare

Interface Pin Function

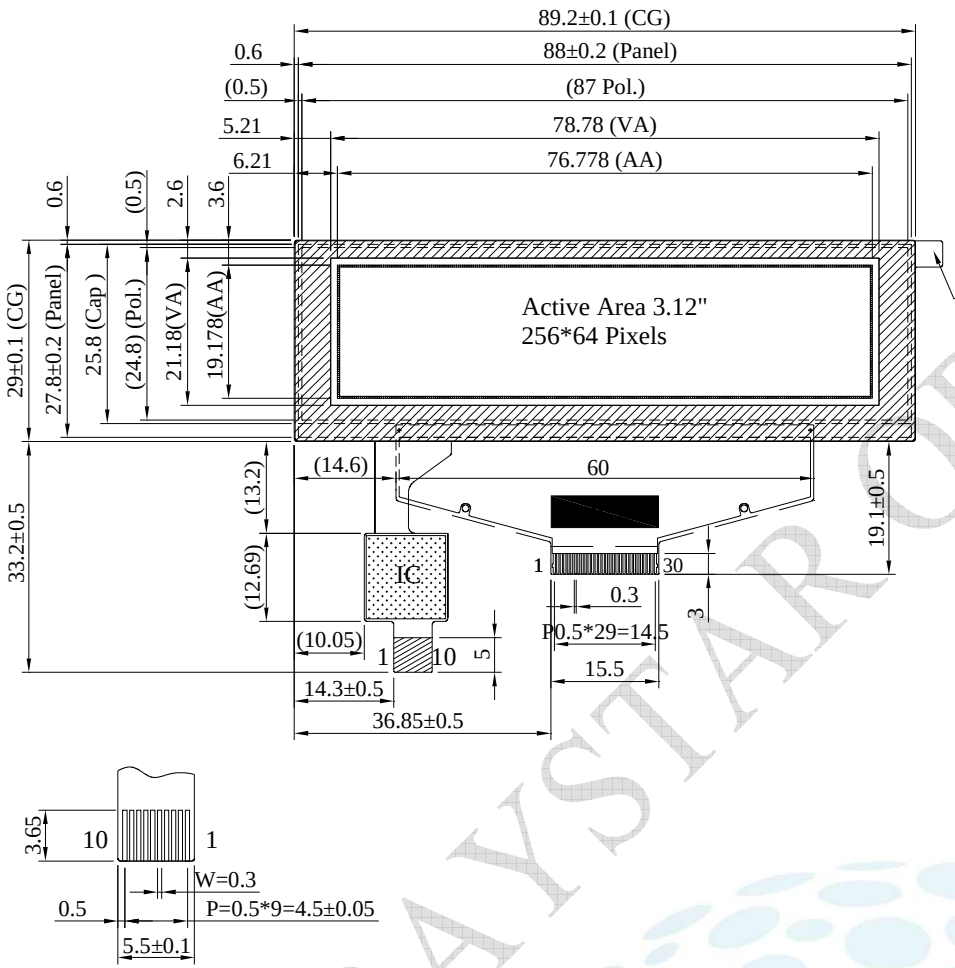
<table>
<tr><th>No.</th><th>Symbol</th><th>Function</th></tr>
<tr><td>1</td><td>N.C.</td><td>Reserved Pin
The N.C. pin between function pins are reserved for compatible and flexible design.</td></tr>
<tr><td>2</td><td>VSS</td><td>Ground.</td></tr>
<tr><td>3</td><td>VCC</td><td>Power supply for panel driving voltage.
This is also the most positive power voltage supply pin.</td></tr>
<tr><td>4</td><td>VCOMH</td><td>COM signal deselected voltage level.
A capacitor should be connected between this pin and VSS.</td></tr>
<tr><td>5</td><td>VLSS</td><td>Analog system ground pin.</td></tr>
<tr><td>6~13</td><td>D7~D0</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.</td></tr>
<tr><td>14</td><td>E/RD#</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>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>16</td><td>BS0</td><td rowspan="2">Communicating Protocol Select
These pins are MCU interface selection input. See the following table:
<table><tr><th>BS[1:0]</th><th>Bus Interface Selection</th></tr><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></table>Note
(1) 0 is connected to VSS
(2) 1 is connected to VDDIO</td></tr>
<tr><td>17</td><td>BS1</td></tr>
</table>

18	**D/C#**	***Data/Command Control*** 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#**	***Data/Command Control*** 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**	***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.
23	**N.C.**	***Reserved Pin*** The N.C. pin between function pins are reserved for compatible and flexible design.
24	**VDDIO**	***Power Supply for I/O Pin*** It should be matched with the MCU interface voltage level.
25	**VDD**	***Power Supply for Core Logic Circuit*** Power supply pin for core logic operation. A capacitor is required to connect between this pin and VSS
26	**VCI**	***Power Supply for Operation*** VCI must always be equal to or higher than VDD and VDDIO.
27	**VSL**	***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.
28	**VLSS**	***Ground of Analog Circuit*** These are the analog ground pins. They should be connected to VSS externally.
29	**VCC**	***Power Supply for OLED Panel*** These are the most positive voltage supply pin of the chip. They must be connected to external source.
30	**N.C.**	***Reserved Pin*** The N.C. pin between function pins are reserved for compatible and flexible design.

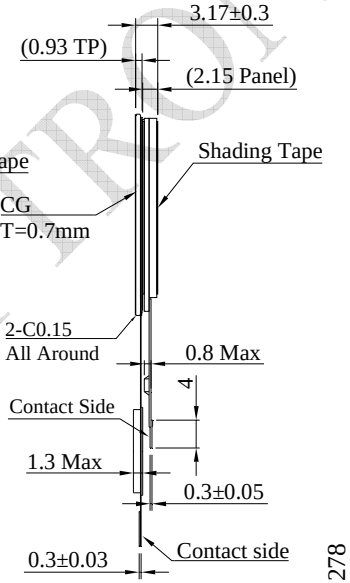
CTP Pin Function

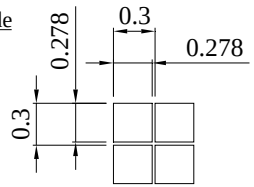
1	**GND**	Ground.
2	**VDD**	Power Supply Voltage of CTP
3	**INT**	External interrupt to the host
4	**SDA**	I2C data input and output
5	**SCL**	I2C clock input
6	**RST**	External Reset, Low is active
7-10	**GND**	Ground.

Contour Drawing & Block Diagram



SCALE 2/1





DOT SIZE
SCALE 20/1

CTP	
PIN	SYMBOL
1	GND
2	VDD
3	INT
4	SDA
5	SCL
6	RST
7	GND
8	GND
9	GND
10	GND

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 ±0.3 mm .

Absolute Maximum Ratings

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage for Operation	VCI	-0.3	4	V
Supply Voltage for Logic	VDD	-0.5	2.75	V
Supply Voltage for I/O Pins	VDDIO	-0.5	VCI	V
Supply Voltage for Display	VCC	-0.5	20	V
Operating Temperature	TOP	-20	+70	°C
Storage Temperature	TSTG	-30	+80	°C

Touch Panel Controller FT6336U

Parameter	Symbol	Min	Max	Unit
Power Supply Voltage	VDD	-0.3	3.6	V

Electrical Characteristics

DC Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage for Operation	VCI	Note	2.8	3.0	3.3	V
Supply Voltage for Display	VCC	—	14	14.5	15	V
Logic supply voltage	VDD	—	2.4	—	2.6	V
Power for I/O pins	VDDIO	—	1.65		VCI	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	—	32	48	mA

Touch Panel Controller FT6336U

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage	VDD		2.8	3.0	3.3	V
Input High Volt.	VIH		0.7xVDD	—	VDD	V
Input Low Volt.	VIL		-0.3	—	0.3xVDD	V
Output High Volt.	VOH	I_{OH} = -0.1mA	0.7xVDD	—	—	V
Output Low Volt.	VOL	I_{OH} = 0.1mA	—	—	0.3xVDD	V