



RAYSTAR

RAYSTAR Optronics, Inc.  
曜凌光電股份有限公司



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Raystar Optronics, Inc.

T: +886-4-2565-0761 | F: +886-4-2565-0760  
sales@raystar-optronics.com | www.raystar-optronics.com

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## RFC57BS-AIW-DNG

### SPECIFICATION

#### General Specifications

- Size: 5.7 inch
- Dot Matrix: 320 x 240 dots
- Module dimension: 160.0 x 109.0 x 8.74 mm
- Active area: 115.2 x 86.4 mm
- Dot pitch: 0.36 x 0.36 mm
- LCD type: TFT, Normally White, Transmissive
- View Direction: 12 o'clock
- Gray Scale Inversion Direction: 6 o'clock
- Aspect Ratio: 4:3
- Interface: MCU / SPI
- Gray Scale: 16 Gray scale (4BPP)/ 4 Gray scale (2BPP)/ 2 Gray scale (1BPP)
- TFT Driver IC: ST7511U or Equivalent
- TFT Interface: MCU/SPI
- Backlight Type: LED, Normally White
- PCAP IC: ILI2130 or equivalent
- PCAP Resolution: 16384\*16384
- PCAP Interface: I2C
- PCAP FW Version: 0x07.0x00.0x00.0x00.0xA1.0x01.0x57.0x00
- Touch Panel: With PCAP
- Surface: Glare

\* Mono tone slight changed by temperature and driving voltage.

# Interface

## 1.LCM PIN Definition

| Pin | Symbol       | Function             | Remark |
|-----|--------------|----------------------|--------|
| 1   | GND          | System ground        |        |
| 2   | VDD          | Power Supply : +3.3V |        |
| 3   | NC           | No connect           |        |
| 4   | A0           | Data/Command select  |        |
| 5   | /WR(R/W)     | Write strobe signal  |        |
| 6   | /RD(E)       | Read strobe signal   |        |
| 7   | DB0          | Data bus             |        |
| 8   | DB1          | Data bus             |        |
| 9   | DB2          | Data bus             |        |
| 10  | DB3          | Data bus             |        |
| 11  | DB4          | Data bus             |        |
| 12  | DB5          | Data bus             |        |
| 13  | DB6          | Data bus             |        |
| 14  | DB7          | Data bus             |        |
| 15  | /CS          | Chip select          |        |
| 16  | /RESET(RSTB) | Hardware reset       |        |
| 17  | IF0          | Mode select          | Note1  |
| 18  | IF1          |                      |        |
| 19  | NC           | No connect           |        |
| 20  | NC           | No connect           |        |
| 21  | NC           | No connect           |        |
| 22  | NC           | No connect           |        |

Note1:

| Setting |     | MCU Type                 | Interface Pin Function |    |     |  |        |
|---------|-----|--------------------------|------------------------|----|-----|--|--------|
| IF1     | IF0 |                          | CSB                    | A0 | RWR | ERD                                    | D[7:0] |
| L       | L   | Parallel 8080 series MCU | CSB                    | A0 | /WR | /RD                                    | D[7:0] |
| L       | H   | Parallel 6800 series MCU |                        |    | R/W | E                                      |        |
| H       | H   | Serial 4-Line series MCU |                        | -  | -   | D7=SCL, D0=SDA, D[6:1]<br>are not used |        |
| H       | L   | Serial 3-Line series MCU |                        | -  | -   |  |        |

The un-used pins are marked as “-” and should be connected to “H” by VDDI.

## 2. Backlight Unit Section(CN2)

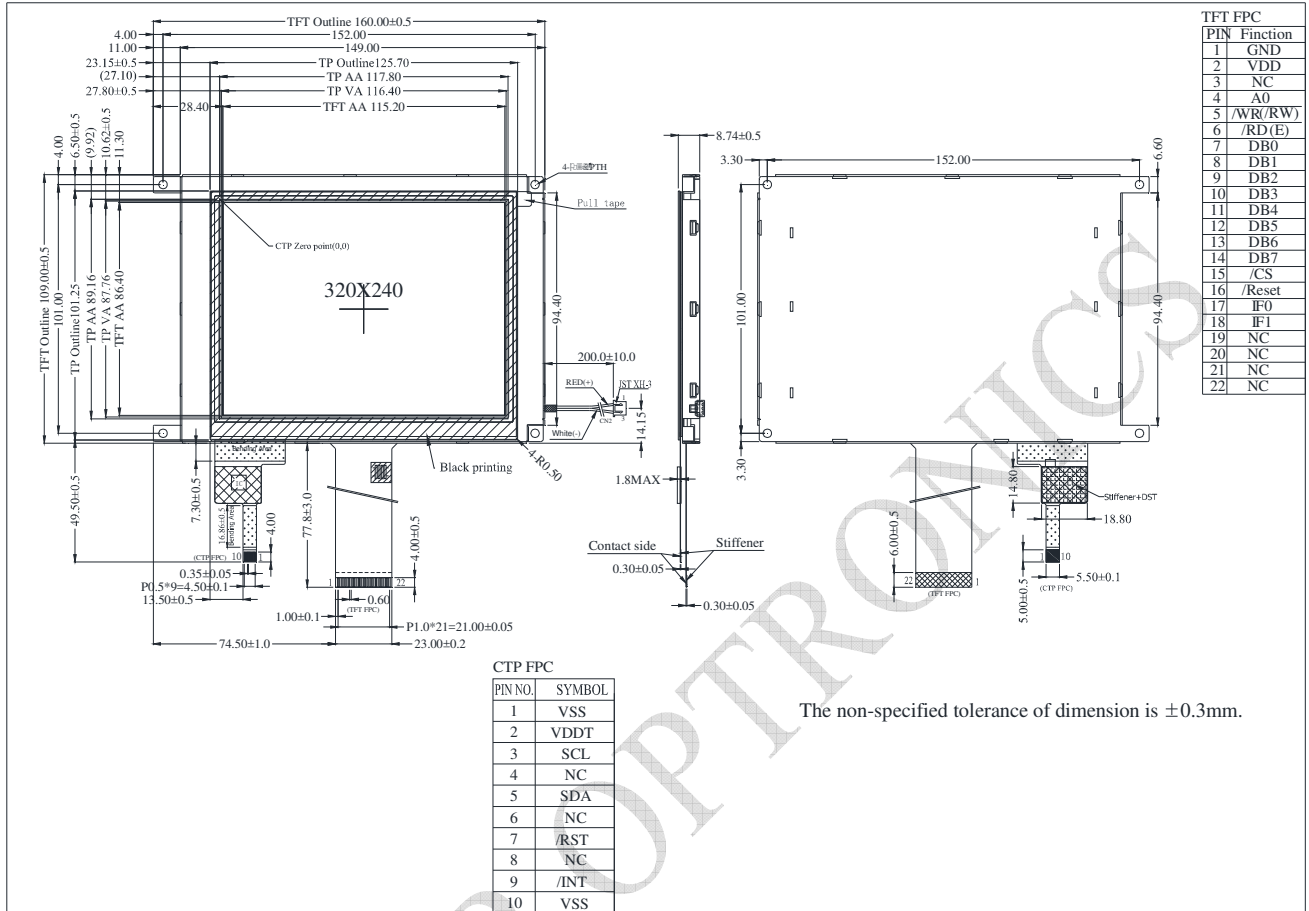
LED Light Bar connector is used for the the integral backlight system. The recommended model is "JST XH-3" manufactured by JST.

| Pin No. | Symbol | I/O | Function                            | Remark |
|---------|--------|-----|-------------------------------------|--------|
| 1       | VLED+  | P   | Power for LED backlight anode (A)   | Red    |
| 3       | VLED-  | P   | Power for LED backlight cathode (K) | White  |

## 3. PCAP PIN Definition

| Pin | Symbol | Function                        | Remark |
|-----|--------|---------------------------------|--------|
| 1   | VSS    | Ground for analog circuit       |        |
| 2   | VDDT   | Power Supply : +3.3V            |        |
| 3   | SCL    | I2C clock input I2C clock input |        |
| 4   | NC     | No connect                      |        |
| 5   | SDA    | I2C data input and output       |        |
| 6   | NC     | No connect                      |        |
| 7   | /RST   | External Reset, Low is active   |        |
| 8   | NC     | No connect                      |        |
| 9   | /INT   | External interrupt to the host  |        |
| 10  | VSS    | Ground for analog circuit       |        |

# Contour Drawing



## Absolute Maximum Ratings

| Item                  | Symbol | Min | Typ | Max | Unit |
|-----------------------|--------|-----|-----|-----|------|
| Operating Temperature | TOP    | -20 | —   | +70 | °C   |
| Storage Temperature   | TST    | -30 | —   | +80 | °C   |

## Electrical Characteristics

Operating conditions:

| Item                   | Symbol           | Condition | Min | Typ | Max | Unit |
|------------------------|------------------|-----------|-----|-----|-----|------|
| Supply Voltage For LCM | VDD              | —         | 3.0 | 3.3 | 3.6 | V    |
| Supply Current For LCM | IDD              | —         | —   | 20  | 30  | mA   |
| Power Consumption      | —                | —         | —   | 66  | 108 | mW   |
| Supply CTP             | VDDT             | —         | 3.0 | 3.3 | 3.6 | V    |
|                        | I <sub>CTP</sub> | —         | —   | 56  | 84  | mA   |

Note1: This value is test for VDD=3.3V only

## LED driving conditions

| Parameter         | Symbol | Min. | Typ.   | Max. | Unit |
|-------------------|--------|------|--------|------|------|
| LED current       |        | -    | 140    | -    | mA   |
| Power Consumption |        | 1120 | -      | 1386 | mW   |
| LED voltage       | VLED+  | 8.0  | 9.0    | 9.9  | V    |
| LED Life Time     |        | -    | 50,000 | -    | Hr   |