



RAYSTAR

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## RFE43FQ-EIW-DBG

### SPECIFICATION

#### General Specifications

- Size: 4.3 inch
- Dot Matrix: 480 x RGB x 272(TFT) dots
- Module dimension: 106.7 x 83.98 x 8.6 mm
- Active area: 95.04 x 53.856 mm
- Dot pitch: 0.066 x 0.198 mm
- LCD type: TFT, Normally White, Transmissive
- View Direction: 12 o'clock
- Gray Scale Inversion Direction: 6 o'clock
- Aspect Ratio: 16:9
- Backlight Type: LED, Normally White
- Controller IC: SSD1963
- TFT Interface: Digital 8080 family MPU 8bit/16bit
- PCAP FW Version: 0x07.0x00.0x00.0x00.0x01.0x0C.0x11.0x43
- PCAP IC: ILI2130 or Equivalent
- PCAP Resolution: 16384\*16384
- PCAP Interface: I2C
- Touch Panel: With PCAP
- Surface: Glare

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

# Interface

## 1. LCM PIN Definition (CON3)

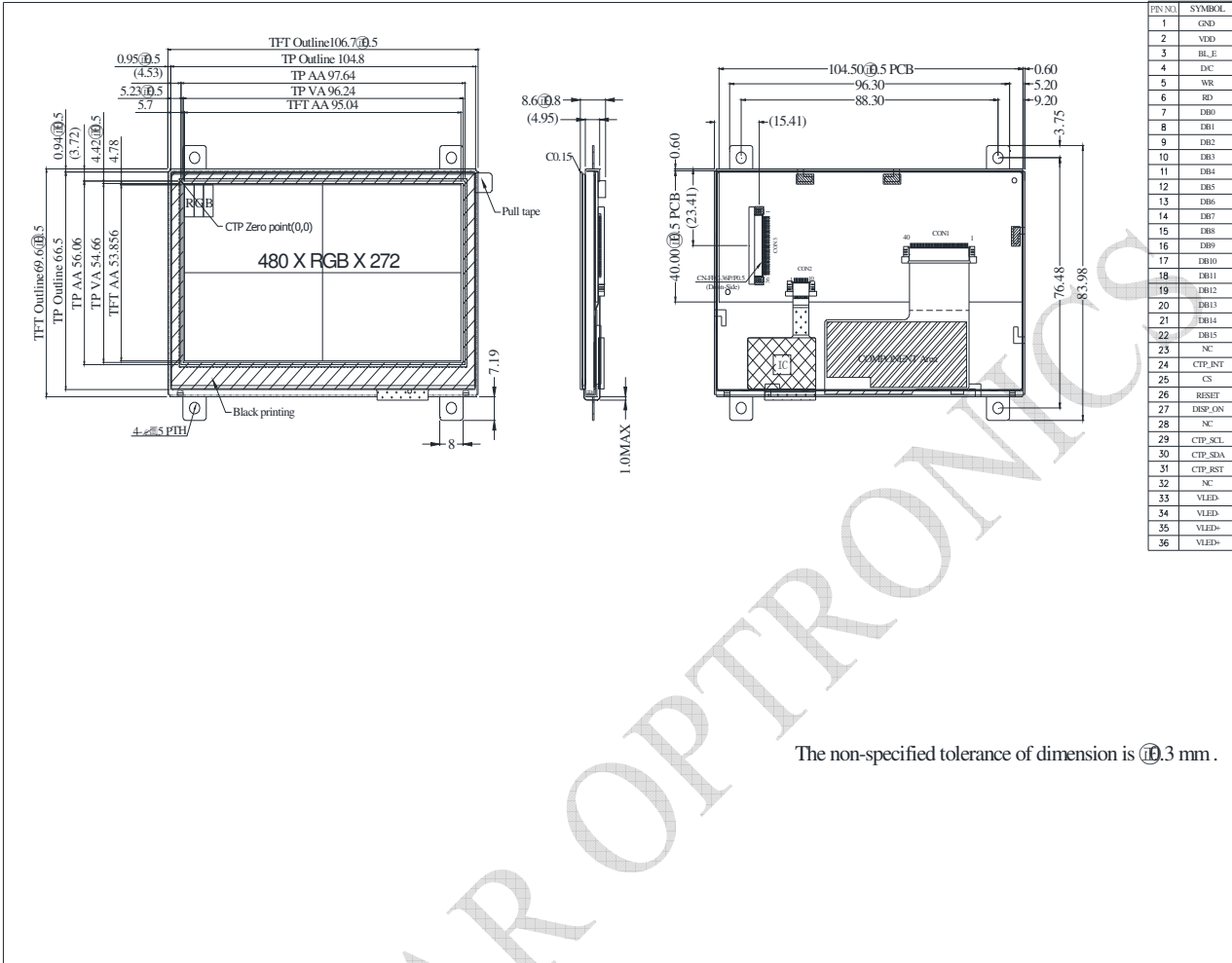
| Pin | Symbol  | Function  | Remark |
|-----|---------|---|--------|
| 1   | GND     | System round pin of the IC. Connect to system ground. |        |
| 2   | VDD     | Power Supply : +3.3V                                  |        |
| 3   | BL_E    | Backlight control signal , H: On \ L: Off             |        |
| 4   | D/C     | Data/Command select                                   |        |
| 5   | WR      | Write strobe signal                                   |        |
| 6   | RD      | 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  | DB8     | Data bus (When select 8bits mode, this pin is NC)     | Note1  |
| 16  | DB9     | Data bus (When select 8bits mode, this pin is NC)     | Note1  |
| 17  | DB10    | Data bus (When select 8bits mode, this pin is NC)     | Note1  |
| 18  | DB11    | Data bus (When select 8bits mode, this pin is NC)     | Note1  |
| 19  | DB12    | Data bus (When select 8bits mode, this pin is NC)     | Note1  |
| 20  | DB13    | Data bus (When select 8bits mode, this pin is NC)     | Note1  |
| 21  | DB14    | Data bus (When select 8bits mode, this pin is NC)     | Note1  |
| 22  | DB15    | Data bus (When select 8bits mode, this pin is NC)     | Note1  |
| 23  | NC      | No connection   |        |
| 24  | CTP_INT | External interrupt to the host                        |        |
| 25  | CS      | Chip select   |        |
| 26  | RESET   | Hardware reset  |        |
| 27  | DISP ON | Display control H: On \ L:Off                         |        |
| 28  | NC      | No connection   |        |
| 29  | CTP_SCL | Active low I2C clock input                            |        |
| 30  | CTP_SDA | Data input I2C data input and output                  |        |

|    |         |                                    |  |
|----|---------|------------------------------------|--|
| 31 | CTP_RST | External Reset, Low is active      |  |
| 32 | NC      | No connection                      |  |
| 33 | VLED-   | VLED- for B/L LED inverter (GND)   |  |
| 34 | VLED-   | VLED- for B/L LED inverter (GND)   |  |
| 35 | VLED+   | VLED+ for B/L LED inverter (+3.3V) |  |
| 36 | VLED+   | VLED+ for B/L LED inverter (+3.3V) |  |

Note1: When select 8bit mode, DB0~DB7 be used, DB8~DB15 no connect  
When select 16bit mode, DB0~DB15 be used

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# Contour Drawing



| PN(N) | SYMBOL  |
|-------|---------|
| 1     | GND     |
| 2     | VDD     |
| 3     | BL_E    |
| 4     | DC      |
| 5     | WR      |
| 6     | RD      |
| 7     | DB0     |
| 8     | DB1     |
| 9     | DB2     |
| 10    | DB3     |
| 11    | DB4     |
| 12    | DB5     |
| 13    | DB6     |
| 14    | DB7     |
| 15    | DB8     |
| 16    | DB9     |
| 17    | DB10    |
| 18    | DB11    |
| 19    | DB12    |
| 20    | DB13    |
| 21    | DB14    |
| 22    | DB15    |
| 23    | NC      |
| 24    | CTP_INT |
| 25    | CS      |
| 26    | RESET   |
| 27    | DSP_ON  |
| 28    | NC      |
| 29    | CTP_SCL |
| 30    | CTP_SDA |
| 31    | CTP_RST |
| 32    | NC      |
| 33    | VLED+   |
| 34    | VLED-   |
| 35    | VLED+   |
| 36    | VLED-   |

The non-specified tolerance of dimension is  $\pm 0.3$  mm.

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## Absolute Maximum Ratings

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

## Electrical Characteristics

### 1. Operating conditions: (CON3.Pin1=GND, Pin2=VDD)

| Item                   | Symbol | Condition | Min | Typ | Max | Unit |
|------------------------|--------|-----------|-----|-----|-----|------|
| Supply Voltage For LCM | VDD    | —         | 3.0 | 3.1 | 3.3 | V    |
| Supply Current For LCM | IDD    | —         | —   | 210 | 350 | mA   |

### 2. Backlight driving conditions (CON3.Pin33,34=VLED-, Pin35,36=VLED+)

| Parameter                        | Symbol     | Min. | Typ.   | Max. | Unit |
|----------------------------------|------------|------|--------|------|------|
| Operation Current For LED Driver | VLED+=3.3V | 270  | -      | 405  | mA   |
| Power Consumption                | VLED+=3.3V | 891  | -      | 1337 | mW   |
| Supply Voltage For LED Driver    | VLED+      | 3.3  | -      | 5    | V    |
| LED Life Time                    |            | -    | 50,000 | -    | Hr   |