# TFT DISPLAY SPECIFICATION




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# SPECIFICATION

## MODULE NO.: WF35-320240XP#0P7-FC

# General Specifications

| Item | Dimension | Unit |
|---|---|---|
| Size | 3.5 | inch |
| Dot Matrix | 320 x RGB x 240(TFT) | dots |
| Module dimension | 93.5 x 66.44 x 9.26 | mm |
| Active area | 70.08 x 52.56 | mm |
| Pixel pitch | 0.219 x 0.219 | mm |
| LCD type | TFT, normally black, Transmissive | |
| Viewing Angle | 80/80/80/80 | |
| Aspect Ratio | 4:3 | |
| Controller IC | SSD1963 | |
| TFT Interface | Digital 8080 family MPU 8bit/16bit | |
| Backlight Type | LED, Normally White | |
| PCAP Driver IC | ILI2130 or equivalent | |
| PCAP Interface | I2C | |
| PCAP FW Version | 0x07.0x00.0x00.0x00.0x00.0x35.0x5A.0x01 | |
| PCAP Resolution | 16384 * 16384 | |
| Touch Panel | Projected Capacitive Touch Panel (PACP) | |
| Surface | Glare | |

*Color tone slight changed by temperature and driving voltage.

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# Absolute Maximum Ratings

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

# Electrical Characteristics

**1. Operating conditions: (CON2.Pin1=GND, Pin2=VDD)**

| Item | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Supply Voltage For LCM | VDD | 3.0 | 3.1 | 3.3 | V |
| Supply Current For LCM | IDD | - | 176 | 265 | mA |

**2. Backlight driving conditions (CON2.Pin33,34=VLED-, Pin35,36=VLED+)**

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Operation Current For LED Driver | VLED=3.3V | - | 150 | 225 | mA |
| Power Consumption | VLED=3.3V | - | 495 | 742.5 | mW |
| Supply Voltage For LED Driver | VLED+ | 3.3 | - | 5 | V |
| LED Life Time | | 50,000 | - | - | Hr |

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# Interface

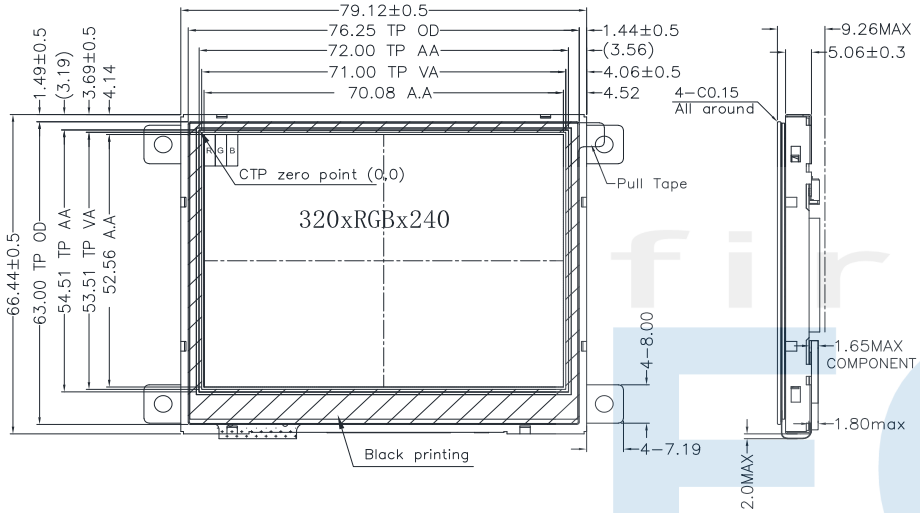
**1. LCM PIN Definition (CON2)**

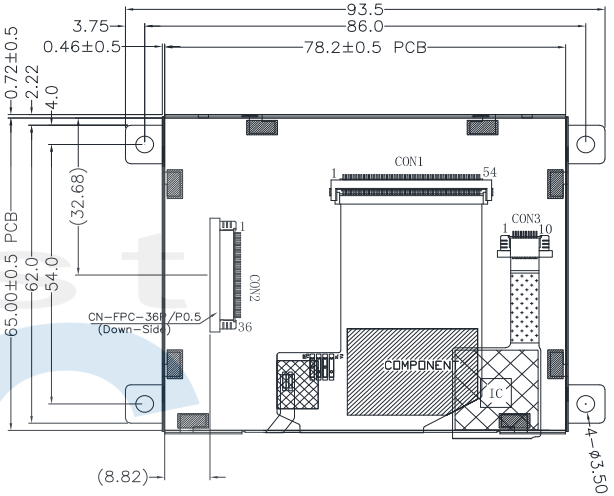
| Pin | Symbol | Function |
|---|---|---|
| 1 | GND | System ground pin of the IC.Connect to system ground. |
| 2 | VDD | Power Supply : +3.3V |
| 3 | BL_E | Backlight control signal , H: On \ L: Off |
| 4 | D/C | Data/Command select |
| 5 | WR | Write strobe signal |
| 6 | RD | Read strobe signal |
| 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) |
| 16 | DB9 | Data bus (When select 8bits Mode, this pin is NC) |
| 17 | DB10 | Data bus (When select 8bits Mode, this pin is NC) |
| 18 | DB11 | Data bus (When select 8bits Mode, this pin is NC) |
| 19 | DB12 | Data bus (When select 8bits Mode, this pin is NC) |
| 20 | DB13 | Data bus (When select 8bits Mode, this pin is NC) |
| 21 | DB14 | Data bus (When select 8bits Mode, this pin is NC) |
| 22 | DB15 | Data bus (When select 8bits Mode, this pin is NC) |
| 23 | NC | No connect |
| 24 | CTP_INT | CTP_External interrupt to the host |
| 25 | CS | Chip select |
| 26 | RESET | Hardware reset |
| 27-28 | NC | No connect |
| 29 | CTP_SCL | CTP_I2C clock input |
| 30 | CTP_SDA | CTP_I2C data input and output |
| 31 | CTP_RST | CTP_External Reset, Low is active |

| | | |
|---|---|---|
| 32 | NC | No connect |
| 33-34 | VLED- | VLED- for B/L LED inverter (GND) |
| 35-36 | VLED+ | VLED+ for B/L LED inverter (+3.3V) |

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# Contour Drawing




CON2

| PIN NO. | SYMBOL |
|---|---|
| 1 | GND |
| 2 | VDD |
| 3 | BL_E |
| 4 | D/C |
| 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 | NC |
| 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 ±0.3mm.

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