# TFT DISPLAY SPECIFICATION


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# RFK101VL-1YH-LHG

# SPECIFICATION

## General Specifications

- Screen Diagonal: 10.1 inch
- Number of Pixels: 1280 x 3(R GB) x 800 dots
- Module dimension: 257.96 x 168.6 x 28.66 mm
- Active area: 216.96 (H) x 135.6(V) mm
- Pixel pitch: 0.1695 × 0.1695 mm
- Display Mode: Normally Black , Transmissive
- Viewing Angle: 80/80/80/80
- Pixel Arrangement: R.G.B. Vertical Stripe
- Backlight Type: LED, Normally White
- Aspect Ratio: 16:10
- Electrical Interface (Logic): HDMI(only for DVI)
- PCAP IC: GT928 or Equivalent
- PCAP FW Version: 80
- PCAP Interface: USB
- Touch Panel: With PCAP
- Surface: Glare

*Color tone slight changed by temperature and driving voltage.

# Interface

## 1. CON6

| Pin No. | Symbol | Function | Remark |
|---|---|---|---|
| 1 | 3.3V | TFT Module Power limit can only output 3.3V,100mA | Note1 |
| 2 | 5V | Raspberry Pi:Power 5V | |
| 3 | GPIO02 | Raspberry Pi:GPIO02 | |
| 4 | 5V | Raspberry Pi:Power 5V | |
| 5 | GPIO03 | Raspberry Pi:GPIO03 | |
| 6 | GND | Raspberry Pi:GND | |
| 7 | GPIO04 | Raspberry Pi:GPIO04 | |
| 8 | GPIO14 | Raspberry Pi:GPIO14 | |
| 9 | GND | Raspberry Pi:GND | |
| 10 | GPIO15 | Raspberry Pi:GPIO15 | |
| 11 | GPIO17 | Raspberry Pi:GPIO17 | |
| 12 | BL-PWM (GPIO18) | Backlight Enable (Raspberry Pi:GPIO18) | |
| 13 | GPIO27 | Raspberry Pi:GPIO27 | |
| 14 | GND | Raspberry Pi:GND | |
| 15 | GPIO22 | Raspberry Pi:GPIO22 | |
| 16 | GPIO23 | Raspberry Pi:GPIO23 | |
| 17 | 3.3V | TFT Module Power limit can only output 3.3V,100mA | Note1 |
| 18 | GPIO24 | Raspberry Pi:GPIO24 | |
| 19 | GPIO10 | Raspberry Pi:GPIO10 | |
| 20 | GND | Raspberry Pi:GND | |
| 21 | GPIO09 | Raspberry Pi:GPIO09 | |
| 22 | GPIO25 | Raspberry Pi:GPIO25 | |
| 23 | GPIO11 | Raspberry Pi:GPIO11 | |
| 24 | GPIO08 | Raspberry Pi:GPIO08 | |
| 25 | GND | Raspberry Pi:GND | |
| 26 | GPIO07 | Raspberry Pi:GPIO07 | |
| 27 | ID_SD | Raspberry Pi:ID_SD | |
| 28 | ID_SC | Raspberry Pi:ID_SC | |
| 29 | GPIO05 | Raspberry Pi:GPIO05 | |
| 30 | GND | Raspberry Pi:GND | |

| | | | |
|---|---|---|---|
| 31 | GPIO06 | Raspberry Pi:GPIO06 | |
| 32 | GPIO12 | Raspberry Pi:GPIO12 | |
| 33 | GPIO13 | Raspberry Pi:GPIO13 | |
| 34 | GND | Raspberry Pi:GND | |
| 35 | GPIO19 | Raspberry Pi:GPIO19 | |
| 36 | GPIO16 | Raspberry Pi:GPIO16 | |
| 37 | GPIO26 | Raspberry Pi:GPIO26 | |
| 38 | GPIO20 | Raspberry Pi:GPIO20 | |
| 39 | GND | Raspberry Pi:GND | |
| 40 | GPIO21 | Raspberry Pi:GPIO21 | |

Note1: The 3.3V supply current is limited; please pay special attention to use

**2. CON5**

| Pin No. | Symbol | Function | Remark |
|---|---|---|---|
| 1 | NC | No connection | |
| 2 | 5V | Raspberry Pi:Power 5V | |
| 3 | GPIO02 | Raspberry Pi:GPIO02 | |
| 4 | 5V | Raspberry Pi:Power 5V | |
| 5 | GPIO03 | Raspberry Pi:GPIO03 | |
| 6 | GND | Raspberry Pi:GND | |
| 7 | GPIO04 | Raspberry Pi:GPIO04 | |
| 8 | GPIO14 | Raspberry Pi:GPIO14 | |
| 9 | GND | Raspberry Pi:GND | |
| 10 | GPIO15 | Raspberry Pi:GPIO15 | |
| 11 | GPIO17 | Raspberry Pi:GPIO17 | |
| 12 | BL-PWM (GPIO18) | Backlight Enable (Raspberry Pi:GPIO18) | |
| 13 | GPIO27 | Raspberry Pi:GPIO27 | |
| 14 | GND | Raspberry Pi:GND | |
| 15 | GPIO22 | Raspberry Pi:GPIO22 | |
| 16 | GPIO23 | Raspberry Pi:GPIO23 | |
| 17 | NC | No connection | |
| 18 | GPIO24 | Raspberry Pi:GPIO24 | |
| 19 | GPIO10 | Raspberry Pi:GPIO10 | |

| | | | |
|---|---|---|---|
| 20 | GND | Raspberry Pi:GND | |
| 21 | GPIO09 | Raspberry Pi:GPIO09 | |
| 22 | GPIO25 | Raspberry Pi:GPIO25 | |
| 23 | GPIO11 | Raspberry Pi:GPIO11 | |
| 24 | GPIO08 | Raspberry Pi:GPIO08 | |
| 25 | GND | Raspberry Pi:GND | |
| 26 | GPIO07 | Raspberry Pi:GPIO07 | |
| 27 | ID_SD | Raspberry Pi:ID_SD | |
| 28 | ID_SC | Raspberry Pi:ID_SC | |
| 29 | GPIO05 | Raspberry Pi:GPIO05 | |
| 30 | GND | Raspberry Pi:GND | |
| 31 | GPIO06 | Raspberry Pi:GPIO06 | |
| 32 | GPIO12 | Raspberry Pi:GPIO12 | |
| 33 | GPIO13 | Raspberry Pi:GPIO13 | |
| 34 | GND | Raspberry Pi:GND | |
| 35 | GPIO19 | Raspberry Pi:GPIO19 | |
| 36 | GPIO16 | Raspberry Pi:GPIO16 | |
| 37 | GPIO26 | Raspberry Pi:GPIO26 | |
| 38 | GPIO20 | Raspberry Pi:GPIO20 | |
| 39 | GND | Raspberry Pi:GND | |
| 40 | GPIO21 | Raspberry Pi:GPIO21 | |

### 3. PCAP USB PIN Definition

| Pin | Symbol | Function | Remark |
|---|---|---|---|
| 1 | 5V | Power Supply (5V) | |
| 2 | D- | Data line - | |
| 3 | D+ | Data line + | |
| 4 | NC | No connection | |
| 5 | GND | Power Ground | |

**4. HDMI**

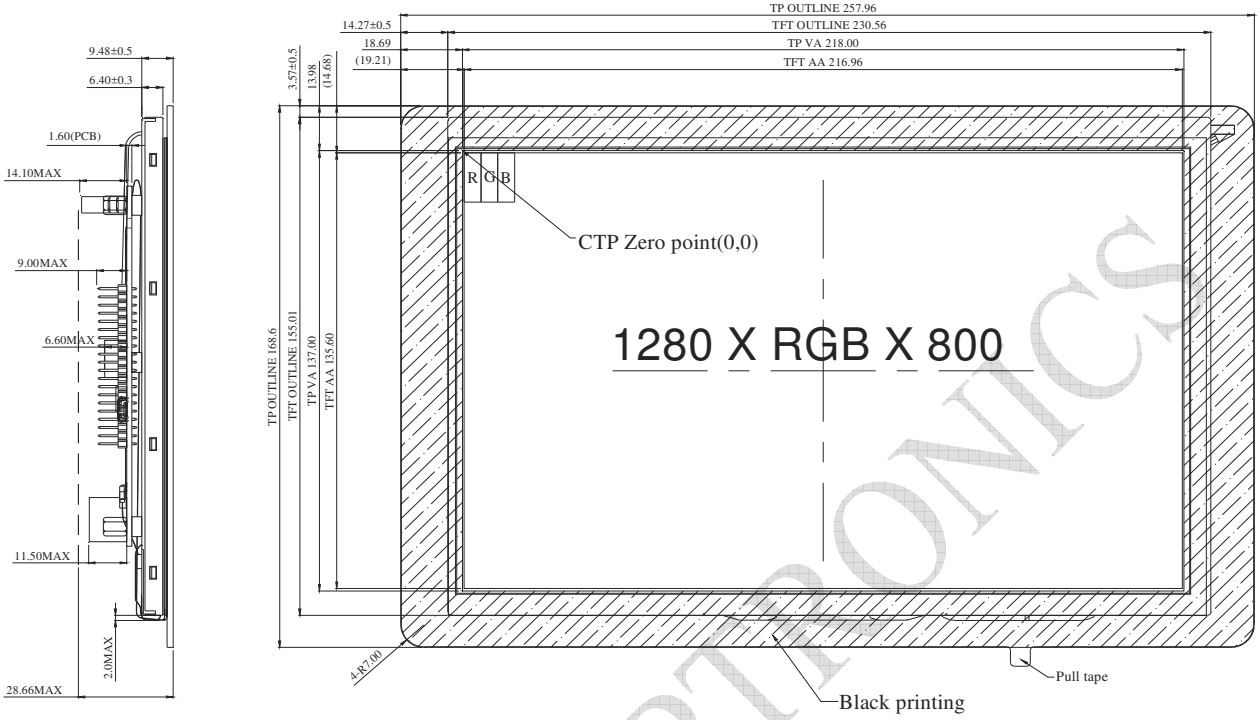
| Pin No. | Symbol | I/O | Function | Remark |
|---|---|---|---|---|
| 1 | Rx2+ | I | +LVDS Differential Data Input | |
| 2 | GND | P | Ground | |
| 3 | Rx2- | I | -LVDS Differential Data Input | |
| 4 | Rx1+ | I | +LVDS Differential Data Input | |
| 5 | GND | P | Ground | |
| 6 | Rx1- | I | -LVDS Differential Data Input | |
| 7 | Rx0+ | I | +LVDS Differential Data Input | |
| 8 | GND | P | Ground | |
| 9 | Rx0- | I | -LVDS Differential Data Input | |
| 10 | RxC+ | I | +LVDS Differential Clock Input | |
| 11 | GND | P | Ground | |
| 12 | RxC- | I | -LVDS Differential Clock Input | |
| 13-14 | NC | - | No connection | |
| 15 | SCL | I/O | DDC(Data Display Channel) Clock | |
| 16 | SDA | I/O | DDC(Data Display Channel) Data | |
| 17 | GND | P | Ground | |
| 18 | 5V | P | Power Supply | |
| 19 | Detect | I/O | Hot plug detect | |

I: input, O: output, P: Power

**5. POWER-JACK**

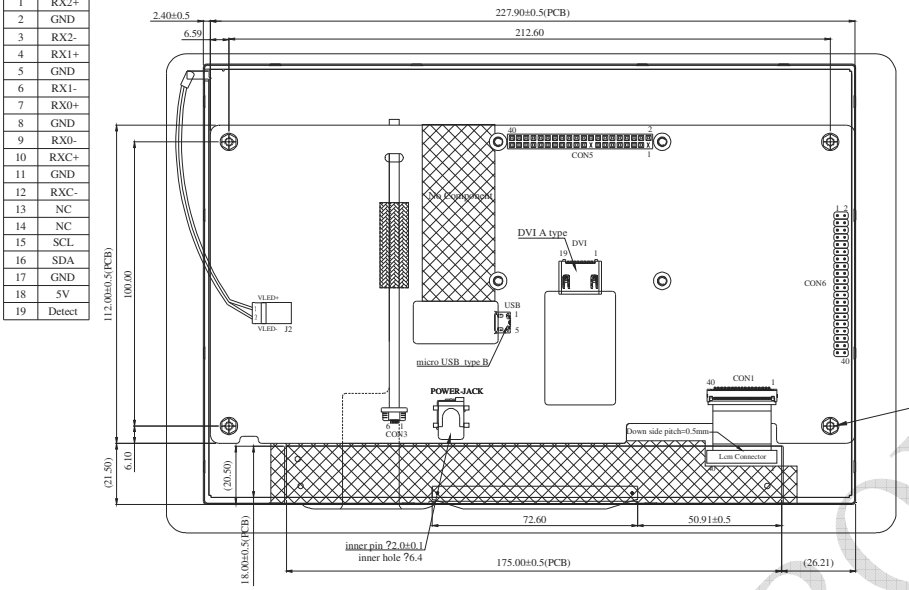
| Pin No. | Symbol | I/O | Function | Remark |
|---|---|---|---|---|
| 1 | 5V | P | Power Supply (5V) | |
| 2 | GND | P | Ground | |
| 3 | NC | - | No connection | |

# Contour Drawing



DVI

| Pin | Symbol |
|---|---|
| 1 | RX2+ |
| 2 | GND |
| 3 | RX2- |
| 4 | RX1+ |
| 5 | GND |
| 6 | RX1- |
| 7 | RX0+ |
| 8 | GND |
| 9 | RX0- |
| 10 | RXC+ |
| 11 | GND |
| 12 | RXC- |
| 13 | NC |
| 14 | NC |
| 15 | SCL |
| 16 | SDA |
| 17 | GND |
| 18 | 5V |
| 19 | Detect |




CON5

| Pin | Symbol | Pin | Symbol |
|---|---|---|---|
| 1 | NC | 21 | GPIO09 |
| 2 | 5V | 22 | GPIO25 |
| 3 | GPIO02 | 23 | GPIO11 |
| 4 | 5V | 24 | GPIO08 |
| 5 | GPIO03 | 25 | GND |
| 6 | GND | 26 | GPIO07 |
| 7 | GPIO04 | 27 | ID_SD |
| 8 | GPIO14 | 28 | ID_SC |
| 9 | GND | 29 | GPIO05 |
| 10 | GPIO15 | 30 | GND |
| 11 | GPIO17 | 31 | GPIO06 |
| 12 | BL-PWM (GPIO18) | 32 | GPIO12 |
| 13 | GPIO27 | 33 | GPIO13 |
| 14 | GND | 34 | GND |
| 15 | GPIO22 | 35 | GPIO19 |
| 16 | GPIO23 | 36 | GPIO16 |
| 17 | NC | 37 | GPIO26 |
| 18 | GPIO24 | 38 | GPIO20 |
| 19 | GPIO10 | 39 | GND |
| 20 | GND | 40 | GPIO21 |

CON6

| Pin | Symbol | Pin | Symbol |
|---|---|---|---|
| 1 | 3.3V | 21 | GPIO09 |
| 2 | 5V | 22 | GPIO25 |
| 3 | GPIO02 | 23 | GPIO11 |
| 4 | 5V | 24 | GPIO08 |
| 5 | GPIO03 | 25 | GND |
| 6 | GND | 26 | GPIO07 |
| 7 | GPIO04 | 27 | ID_SD |
| 8 | GPIO14 | 28 | ID_SC |
| 9 | GND | 29 | GPIO05 |
| 10 | GPIO15 | 30 | GND |
| 11 | GPIO17 | 31 | GPIO06 |
| 12 | BL-PWM (GPIO18) | 32 | GPIO12 |
| 13 | GPIO27 | 33 | GPIO13 |
| 14 | GND | 34 | GND |
| 15 | GPIO22 | 35 | GPIO19 |
| 16 | GPIO23 | 36 | GPIO16 |
| 17 | 3.3V | 37 | GPIO26 |
| 18 | GPIO24 | 38 | GPIO20 |
| 19 | GPIO10 | 39 | GND |
| 20 | GND | 40 | GPIO21 |

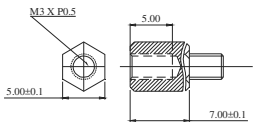
POWER JACK

| Pin | Symbol |
|---|---|
| 1 | 5V |
| 2 | GND |
| 3 | NC |

2 (GND) — 1 (5V)

USB

| Pin | Symbol |
|---|---|
| 1 | 5V |
| 2 | D- |
| 3 | D+ |
| 4 | NC |
| 5 | GND |




Hex Standoffs
SCALE:3/1

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

# Absolute Maximum Ratings

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

# Electrical Characteristics

**Operating conditions:**

| Item | Symbol | Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Supply Voltage For LCM | VDD | - | 4.9 | 5 | 5.1 | V |
| Supply Current For LCM | IDD | - | - | 1.7 | 2.6 | A |
| LED life time | - | - | 50000 | - | - | Hr |