TFT DISPLAY SPECIFICATION

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RFF70VD3-1IW-DHS

General Specifications

- Size: 7-inch
- Dot Matrix: 800 x RGB x 480 (TFT) dots
- Module Dimension: 165.0 (W) x 100.0 (H) x 26.4 (D) mm
- Active Area: 154.08 x 85.92 mm
- Pixel Pitch: 0.1926 x 0.179 mm
- LCD Type: TFT, Normally White, Transmissive
- View Direction: 12 o'clock
- Gray Scale Inversion Direction: 6 o'clock
- Aspect Ratio: 16:9
- Controller IC: TFP401
- Backlight Type: LED, Normally White
- TFT Interface: HDMI (only for DVI)
- RTP Interface: USB
- Touch Panel: Resistive Touch Screen, RTP
- Surface: Glare

*Color tone slight changed by temperature and driving voltage.

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Interface

LCM PIN Definition (CON6)

Pin No.	Symbol	Function
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	GPIO18	Raspberry Pi:GPIO18 (Backlight Enable)
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

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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

LCM PIN Definition (CON5)

Pin No.	Symbol	Function
1	3.3V	TFT Module Power limit can only output 3.3V,100mA
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	GPIO18	Raspberry Pi:GPIO18 (Backlight Enable)
13	GPIO27	Raspberry Pi:GPIO27
14	GND	Raspberry Pi:GND
15	GPIO22	Raspberry Pi:GPIO22

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16	GPIO23	Raspberry Pi:GPIO23
17	3.3V	TFT Module Power limit can only output 3.3V,100mA
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

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HDMI Connector (Only DVI Signal)

Pin No.	Symbol	I/O	Function
1	Rx2+	I	Channel-2 positive receiver input; low-voltage signal differential- input pair.
2	GND	P	Ground
3	Rx2-	I	Channel-2 negative receiver input; low-voltage signal differential- input pair.
4	Rx1+	I	Channel-1 positive receiver input; low-voltage signal differential- input pair.
5	GND	P	Ground
6	Rx1-	I	Channel-1 negative receiver input; low-voltage signal differential- input pair.
7	Rx0+	I	Channel-0 positive receiver input; low-voltage signal differential- input pair.
8	GND	P	Ground
9	Rx0-	I	Channel-0 negative receiver input; low-voltage signal differential- input pair.
10	RxC+	I	Clock positive receiver input; low-voltage signal differential- input pair.
11	GND	P	Ground
12	RxC-	I	Clock negative receiver input; low-voltage signal differential- input pair.
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

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USB

Pin No.	Symbol	I/O	Function
1	5V	P	Power Supply
2	D-	I/O	USB Data -
3	D+	I/O	USB Data +
4	NC	-	No connection
5	GND	P	Ground

POWER JACK

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

∗ Display need to use power jack to power on due to HDMI port not able to fulfill the supply current

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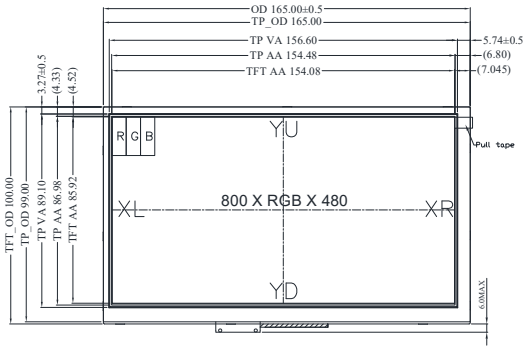
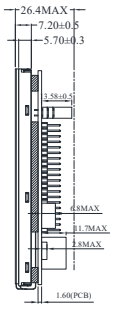
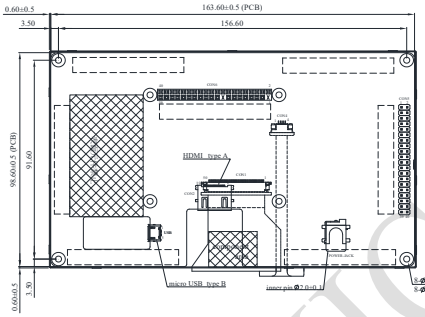
Contour Drawing







HDMI Connector
(Only DVI Signal)

PIN NO.	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

USB

PIN NO.	SYMBOL
1	5V
2	D-
3	D+
4	NC
5	GND

POWER JACK

PIN NO.	SYMBOL
1	5V
2	GND
3	NC

2 (GND) — 1 (5V)

CON6

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	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

CON5

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	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

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

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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

Operating Conditions

Item	Symbol	Min	Typ	Max	Unit
Supply Voltage For LCM	VDD	4.9	5	5.1	V
Supply Current For LCM	IDD	—	850	1,300	mA
LED Life Time	—	50,000	—	—	Hr

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