


SPECIFICATIONS FOR LCD MODULE

CUSTOMER	
MODEL	SCT070021-V20
CUSTOMER APPROVED	

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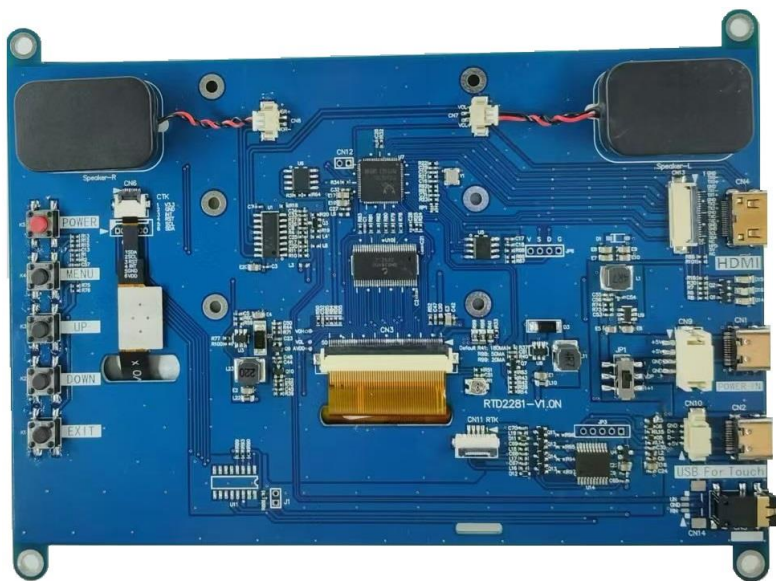
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1. GENERAL DESCRIPTION (整体概述)

RTD2281-V1.0N1 is a 7.0inch LCD display driver board; supports HDMI input; supports analog audio signal input and speaker output; Support 4-wire resistive touch panel or 6-wire capacitive touch panel. (This function can only be selected from two options)

RTD2281-V1.0N1 是一个 7.0 寸 LCD 显示驱动板；支持 HDMI 输入；支持模拟音频信号输入以及扬声器输出；支持 4 线电阻触摸屏或 6 线电容触摸屏（此功能只能二选一）

2. FUNCTION LAYOUT (产品外观图)



(The color of actual item may vary and the image is only for reference.)

实物颜色可能与此图有出入，此图仅供参考

3. FEATURES (产品特征)

Below you will find the detailed features.

MAIN CHIPSET 主芯片	RTD2281CL		
OSD LANGUAGE OSD 语言	Chinese, English, (French, Spanish, Italian, German, Portuguese, Dutch, Korean) (Option) 中文, 英语 (法语, 西班牙语, 德语, 日语)		
VIDEO INPUT 视频输入	PC-RGB	Format	Up to 1920*1080@50HZ
		Color	16bit, 24bit, 32bit
	HDMI	Format	Up to 1920*1080@50HZ
		Operating Speed	155MHz
AUDIO OUTPUT 音频输出	Frequency response	217Hz-20KHz @±3dB (1KHz 0dB reference signal)	
	Output power	2×1.2W (4Ω) THD+N<10%1KHz (Audio Input: 0.5V _{RMS})	
TOUCH	Interface	USB	
	Touch Panel	4-wire resistance touch panel (二选一)	
		6-wire capacitive touch panel (二选一)	
POWER TO PANEL 驱屏电压	3.3V		
Management 电源管理	Standby Power Consumption < 0.2W (Board Only) 待机功耗 < 0.2W (仅主板)		
KEY FUNCTIONS 按键功能	MENU, UP, DOWN, EXIT, POWER 菜单, 增加, 减小, 退出, 电源		

4. INTERFACE DEFINITION (接口定义)

4.1 DC IN CONNECTOR (外接 DC 电源输入) CN1/CN9 (TYPE-C/4PIN2.0 备选)

NO. (管脚)		SYMBOL 板上丝印	DESCRIPTION (描述)
CN1	CN9		
A4, A9, B4, B9	1, 2	5V	+5V DC Power supply (+5V 直流供电)
A1, A12, B1, B12	3, 4	GND	Ground (地)
OTHER		NC	No connection

Note: USB power supply only support Type-A to Type-C

4.2 USB IN CONNECTOR (外接 USB 输入) CN2/CN10 (TYPE-C /4PIN1.25 备选)

此部件备选 This part is optional

此插座为触摸控制的电脑接口 (This socket is a computer interface of touch controlled)

NO. (管脚)		SYMBOL 板上丝印	DESCRIPTION (描述)
CN2	CN10		
A4, A9, B4, B9	1	5V	+5V power from host USB (+5V USB 电源)
A7, B7	2	D-	USB bus signal (USB 总线信号)
A6, B6	3	D+	USB bus signal (USB 总线信号)
A1, A12, B1, B12	4	GND	signal ground (信号地)
OTHER		NC	No connection

4.3 HDMI IN CONNECTOR (HDMI 输入) CN4/CN13 (MINI-HDMI/FPC20PIN-0.5 备选)

NO. 管脚	SYMBOL	DESCRIPTION (描述)
CN4	板上丝印	
1-19	HDMI-19	MINI HDMI standard interface (MINI HDMI 标准接口)

NO. 管脚	SYMBOL	DESCRIPTION (描述)
CN13	板上丝印	
1	GND	Signal ground(信号地)
2	HDMI-DATA2-	HDMI DATA2-(HDMI 数据 2-)
3	HDMI-DATA2+	HDMI DATA2+(HDMI 数据 2+)
4	GND	Signal ground(信号地)
5	HDMI-DATA1-	HDMI DATA1-(HDMI 数据 1-)
6	HDMI-DATA1+	HDMI DATA1+(HDMI 数据 1+)
7	GND	Signal ground(信号地)
8	HDMI-DATA0-	HDMI DATA0-(HDMI 数据 0-)
9	HDMI-DATA0+	HDMI DATA0+(HDMI 数据 0+)
10	GND	Signal ground(信号地)
11	HDMI-CLK+	HDMI CLOCK+(HDMI 时钟+)
12	HDMI-CLK-	HDMI CLOCK-(HDMI 时钟-)
13	CEC	HDMI CEC (HDMI 消费类电子控制)
14	RESERVED	RESERVED (保留)
15	HDMI-SCL	HDMI IIC-SCL (HDMI IIC 时钟)
16	HDMI-SDA	HDMI IIC-SDA (HDMI IIC 数据)
17	GND	Signal ground(信号地)
18	HDMI-5V	HDMI-5V (HDMI 电源)
19	HDMI-HPD	HDMI-HPD (HDMI 热插拔检测)
20	NC	NC(空置)

4.4 SPEAKER INTERFACE (喇叭接口) CN7/CN8 (2PIN1.25)

此部件备选, 来源于 CN5/CN14. This part is optional, Derived from CN5/CN14.

NO. (管脚)		SYMBOL		DESCRIPTION (描述)
CN7	CN8	板上丝印		
1	1	VOL+	VOR+	Positive audio channel out(音频通道输出+)
2	2	VOL-	VOR-	Negative audio channel out(音频通道输出-)

4.5 CAPACITIVE TOUCH PANEL CONNECTOR(电容触摸屏连接器) CN6(FPC6PIN0.5)

此部件备选 This part is optional.

连接 USB 插座至电脑，触摸控制方可有效。Connect USB interface to computer, touch control can be effective.

NO. (管脚)		SYMBOL	DESCRIPTION (描述)
CN6	CN15	板上丝印	
1		V3.3	+3.3V power output (电容触摸屏+3.3V 电源)
2		GND	signal ground(信号地)
3		INT	Capacitive touch panel INT(电容触摸屏 INT)
4		RST	Capacitive touch panel SDA(电容触摸屏 RST)
5		SCL	Capacitive touch panel SDA(电容触摸屏 SCL)
6		SDA	Capacitive touch panel SDA(电容触摸屏 SDA)

4.6 RESISTANCE TOUCH PANEL CONNECTOR (电阻触摸屏连接器) CN11(FPC4PIN1.0)

此部件备选 This part is optional

NO. (管脚)		SYMBOL	DESCRIPTION (描述)
CN11		板上丝印	
1		Y+	Connect to 4 Wire touch panel Y+(4 线电阻触摸屏+)
2		X+	Connect to 4 Wire touch panel X+(4 线电阻触摸屏+)
3		Y-	Connect to 4 Wire touch panel Y-(4 线电阻触摸屏-)
4		X-	Connect to 4 Wire touch panel X-(4 线电阻触摸屏-)

4.7 KEY (按键) K1, K2, K3, K4, K5 (SMD4J6*6)

此部件备选 This part is optional

NO. 管脚	SYMBOL 板上丝印	DESCRIPTION 描述
K1	EXIT	EXIT Key (退出键)
K2	DOWN	DOWN Key (DOWN 键)
K3	UP	UP Key (UP 键)
K4	MENU	MENU Key (菜单键)
K5	POWER	POWER Key (关机键)

4.8 LCD PANEL INTERFACE (液晶屏接口) CN3(FPC-50PIN-0.5)

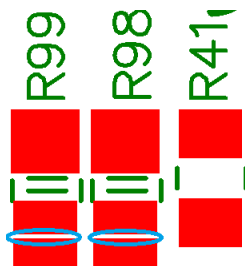
NO. 管脚	SYMBOL 板上丝印	I/O	Function
1	LED+	P	LED backlight Anode (LED 背光阳极)
2	LED+	P	LED backlight Anode (LED 背光阳极)
3	LED-	P	LED backlight Cathode (LED 背光阴极)
4	LED-	P	LED backlight Cathode (LED 背光阴极)
5	GND	P	Ground (地)
6	VCOM	I	Common voltage (VCOM 电源)
7	DVDD	P	Power for panel (屏电压)
8	MODE	I	DE/SYNC mode select (DE/HV 模式选择)
9	DE	I	Data Input Enable (数据使能)
10	VS	I	Vertical Sync Input (垂直同步)
11	HS	I	Horizontal Sync Input (水平同步)
12	B7	I	Blue data/MSB (蓝色信号/高位)
13	B6	I	Blue data (蓝色信号)
14	B5	I	Blue data (蓝色信号)
15	B4	I	Blue data (蓝色信号)
16	B3	I	Blue data (蓝色信号)
17	B2	I	Blue data (蓝色信号)
18	B1	I	Blue data (蓝色信号)
19	B0	I	Blue data (蓝色信号/低位)
20	G7	I	Green data/MSB (绿色信号/高位)
21	G6	I	Green data (绿色信号)
22	G5	I	Green data (绿色信号)
23	G4	I	Green data (绿色信号)
24	G3	I	Green data (绿色信号)
25	G2	I	Green data (绿色信号)
26	G1	I	Green data (绿色信号)
27	G0	I	Green data (绿色信号/低位)
28	R7	I	Red data/MSB (红色信号/高位)
29	R6	I	Red data (红色信号)
30	R5	I	Red data (红色信号)
31	R4	I	Red data (红色信号)
32	R3	I	Red data (红色信号)
33	R2	I	Red data (红色信号)
34	R1	I	Red data (红色信号)
35	R0	I	Red data (红色信号/低位)

36	GND	P	Ground (地)
37	DCLK	I	Sample clock (点时钟)
38	GND	P	Ground (地)
39	L/R	I	Left /right selection (左/右)
40	U/D	I	Up/down selection (上/下)
41	VGH	P	Gale ON Voltage (VGH 电源)
42	VGL	p	Gate OFF Voltage (VGL 电源)
43	AVDD	P	Power for Analog circuit (AVDD 电源)
44	RESET	I	Global reset pin (复位)
45	NC	-	No connection (保留)
46	VCOM	I	Common voltage (VCOM 电源)
47	DITHB	I	Dithering function (抖动功能)
48	GND	P	Ground (地)
49	NC	-	No connection (保留)
50	NC	-	No connection (保留)

备注：1、Customers can customize or change the backlight current themselves:

客户可以定制，也可自行更改背光电流：

resistor 限流电阻	Backlight current 背光电流	DESCRIPTION (描述)
R41 (Default)	180MA	Default Backlight current (缺省背光电流)
R98	50MA	Increase Backlight current (增加背光电流)
R99	20MA	Increase Backlight current (增加背光电流)



The short connection point of the current limiting resistor marked by the blue ellipse in the above figure is defaulted to be disconnected; After short circuiting with solder, this resistor becomes effective, and on the basis of the default current, an additional supply is added Corresponding backlight current.

上图蓝色椭圆标注处为限流电阻的短连点，缺省为断开；使用焊锡短连后，此电阻生效，在缺省电流的基础上，增加提供对应的背光电流。

4.9 PC AUDIO INTERFACE (音频接口) CN5/CN14 (PJ342-6P/3PIN1.25 备选)

此部件备选 This part is optional

NO. 管脚		SYMBOL	DESCRIPTION (描述)
CN14	CN5	板上丝印	
1	3	PC-RIN	Right vocal tract (右声道输入)
2	2	GND	Ground (地)
3	4	PC-LIN	Left vocal tract (左声道输入)
	1, 5, 6	NC	No connection (保留)

6. OPERATION REQUIREMENT (操作要求)

- | | |
|---|------------------------------------|
| (1) Do not pressed and distorted. | 请勿挤压和弯曲。 |
| (2) Keep away from static and water. | 远离静电和水。 |
| (3) Relative humidity : $\leq 80\%$ | 相对湿度: $\leq 80\%$ |
| (4) Storage temperature: $-20\sim+60^{\circ}\text{C}$ | 储藏温度: $-20\sim+60^{\circ}\text{C}$ |
| (5) Operation temperature: $-20\sim+60^{\circ}\text{C}$ | 使用温度: $-20\sim+60^{\circ}\text{C}$ |