



SINOTELECTRONICS
Touch the World

Multi-Purpose LCD Monitor
Control Board Specification
Model: BTP-LC-RTD2556QV4.0

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RECORD OF REVISIONS (修改记录)			
REVISION NO. (修订号)	PAGE (页码)	Modify content (修改内容)	DATE (日期)
A1	ALL	First edition	2019.09.26
A2	P5	Modify interface description	2020.05.26
A3	P11	Update picture	2020.08.17
A4	P12	Update Structure diagram	2021.04.08



1.GENERAL DESCRIPTION (整体概述)

RTD2556QV4.0-C LCD driver board with TYPE-C interface, can support the highest resolution 2560×1600@60Hz, can drive EDP interface panel .

(RTD2556QV4.0-C 具有 TYPE-C 接口的液晶显示器驱动板卡,可支持最高分辨率 2560×1600@60Hz,能驱动 EDP 接口液晶面板。)

RTD2556QV4.0-C can support MINI HDMI, TYPE-C, PD power input.

(RTD2556QV4.0-C 支持 MINI HDMI 、 TYPE-C 、 PD 电源输入。)

(Type-C signal interface (two-way interface, which can supply power to the mainboard, and charge the device in reverse) Type-C signal interface supports data transmission, forward and opposite connection, external charging and image display . Mobile terminal devices that support all almighty Type-C interfaces, such as Huawei mobile phone (Mate10/Mate10 Pro/P20/P20 Pro/Mate20), hammer phone (R1 / nut 2pro), Apple Macbook, Huawei matebook and other Type-C interface laptop computers and support touch screen (phone and laptops) This input Type-C signal, can be controlled by screen touch operation).

Type-C power supply interface, supporting PD standard fast charging protocol, can be adapted to PD power supply to Type-C signal interface connected to the almighty Type-C device for fast charging function.)

(Type-C 信号接口 (双向接口, 可给主板供电, 也可反向给设备充电) Type-C 信号接口它能支持数据传输, 正反插, 对外充电和图像显示功能。支持所有全能型 Type-C 接口的移动终端设备, 如华为手机 (Mate10/Mate10 Pro/P20/P20 Pro/Mate20), 锤子手机 (R1/坚果 2pro) , 苹果 Macbook, 华为 matebook 等 Type-C 接口的笔记本且支持触摸屏 (手机与笔记本输入 Type-C 信号, 可通过屏幕触摸操作控制) 。

Type-C 供电接口, 支持 PD 标准快充协议, 可适配 PD 电源给 Type-C 信号接口所接全能型的 Type-C 设备进行快充功能。)



Note: The specification of the board includes the description of all functions. Therefore, our clients can select the functions which they require to produce the board. But the specification can be introduced universally.

(注：上面描述为板卡全功能规格，客户可以根据需要选择性的生产。此规格书具有通用性。)

2.PRODUCTS FEATURES (产品特性)

DETAILED FEATURE (详细特性)

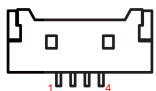
MARKET AREA (市场区域)	Worldwide (全球)	
OSD LANGUAGE (菜单语言)	(Chinese, English, French, Spanish, Portuguese, Russian, Arabic) (Option) (汉语, 英语, 法语, 西班牙语, 葡萄牙语, 俄语, 阿拉伯语)	
CHIPSET (芯片)	RTD2556-CG	
PANEL (屏)	Panel type (屏类型)	EDP Panel
	Interface (接口)	30 PIN/0.5 or 40PIN/0.5 EDP INTERFACE
	Resolution (分辨率)	2560×1600@60Hz 及以下
POWER (功率)	DC Input Requirement (直流输入要求)	PD 电源: 5V/9V/12V/15V/20V
	To Panel (驱屏电压)	3.3V



	Management (电源管理)	Low power consumable mode: standby \leq 0.25W (待机功耗)
	AUDIO OUTPUT (音频输出)	2*1.5W@ 4 Ω
Terminal(input)	HDMI Input	1×MINI HDMI terminal (1 个 MINI HDMI 端子)
	TYPE-C	1×TYPE-C terminal (1 个 TYPE-C 端子)
	PD 电源	1×PD power terminal (1 个 PD 电源端子)
Terminal (output)	To Panel	EDP 30PIN or 40PIN
	Speaker Out	1×SPEAKER INTERFACE (1 个喇叭接口)

3.INTERFACE DEFINITION (接口定义)

CN9 (4PIN/1.25mm) USB interface (USB 接口)



NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	5V	+5V DC power supply (+5V 直流供电)
2	DM	USB Data- (USB 数据-)
3	DP	USB Data+ (USB 数据+)
4	GND	Ground (地)



CN2(30PIN/0.5)EDP INTERFACE (EDP 接口)

NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	NC	No Connection
2	GND	Ground (地)
3	Lanel1_N	Complement Signal Link Lane 1
4	Lanel1_P	True Signal Link Lane 1
5	GND	Ground (地)
6	Lane0_N	Complement Signal Link Lane 0
7	Lane0_P	True Signal Link Lane 0
8	GND	Ground (地)
9	AUX_CH_P	True Signal Auxiliary Ch
10	AUX_CH_N	Complement Signal Auxiliary Ch
11	GND	Ground (地)
12	LCD_VCC	LCD logic and driver power
13	LCD_VCC	LCD logic and driver power
14	NC	No Connection
15	GND	Ground (地)



16	GND	Ground (地)
17	HPD	HPD signal pin
18	GND	Ground (地)
19	GND	Ground (地)
20	GND	Ground (地)
21	GND	Ground (地)
22	EN	Backlight On/Off
23	ADJ	Backlight adjust for dimming
24	NC	No Connection
25	NC	No Connection
26	BL_PWR	Backlight power
27	BL_PWR	Backlight power
28	BL_PWR	Backlight power
29	BL_PWR	Backlight power
30	NC	No Connection

CN3(40PIN/0.5)EDP INTERFACE (EDP 接口)

NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)



1	NC	No Connection
2	GND	Ground (地)
3	Lane1_N	Complement Signal Link Lane 1
4	Lane1_P	True Signal Link Lane 1
5	GND	Ground (地)
6	Lane0_N	Complement Signal Link Lane 0
7	Lane0_P	True Signal Link Lane 0
8	GND	Ground (地)
9	AUX_CH_P	True Signal Auxiliary Ch
10	AUX_CH_N	Complement Signal Auxiliary Ch
11	GND	Ground (地)
12	LCD_VCC	LCD logic and driver power
13	LCD_VCC	LCD logic and driver power
14	NC	No Connection
15	GND	Ground (地)
16	GND	Ground (地)
17	HPD	HPD signal pin
18	GND	Ground (地)

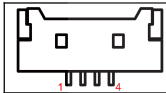


19	GND	Ground (地)
20	GND	Ground (地)
21	GND	Ground (地)
22	EN	Backlight On/Off
23	ADJ	Backlight adjust for dimming
24	NC	No Connection
25	NC	No Connection
26	BL_PWR	Backlight power
27	BL_PWR	Backlight power
28	BL_PWR	Backlight power
29	BL_PWR	Backlight power
30	NC	No Connection
31	TP_D-	USB Data- for Touch
32	TP-D+	USB Data+ for Touch
33	GND	Ground (地)
34	VTSP	Touch panel power supply
35	VTSP	Touch panel power supply
36	TP_EN	TP Enable



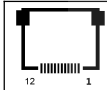
37	TP_CLK	IIC Clock for Touch
38	TP_DATA	IIC Data for Touch
39	INT	Interrupt for Touch
40	RST	Reset for Touch

ACN3 (4PIN/1.25mm) SPEAKER INTERFACE (喇叭接口)



NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	RP	Positive Right audio channel out (右声道音频输出正极)
2	RN	Negative Right audio channel out (右声道音频输出负极)
3	LN	Negative Left audio channel out (左声道音频输出负极)
4	LP	Positive Left audio channel out (左声道音频输出正极)

CN8 (12PIN/0.5MM) KEY & IR BOARD INTERFACE (按键和遥控接口)



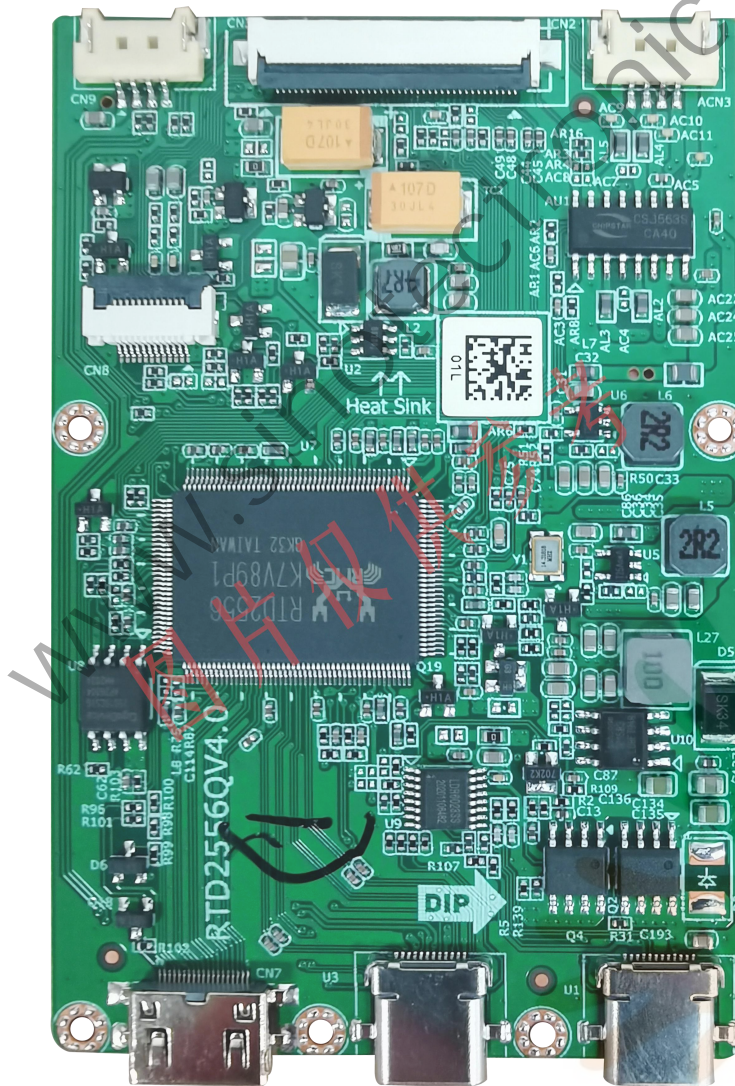
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	GND	Ground (地)
2	L	Earphone left Channel (左声道)
3	R	Earphone Right Channel (右声道)
4	HP-DET	Earphone Plug Detect (耳机插入检测)
5	GND	Ground (地)
6	UP	UP key (上键)
7	ENTER	ENTER key (确认键)



8	DOWN	DOWN key (下键)
9	LED-R	Green led (绿色指示器)
10	LED-G	Red led (红色指示器)
11	GND	Ground (地)
12	ON/OFF	Power on/off (开关机按键)

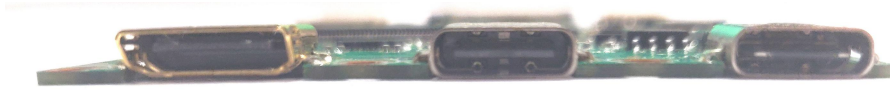
4. TERMINAL AND STRUCTURE DIAGRAM (端子与结构图)

All of pictures below are only for reference. Please take the actual objects as a standard. (以下图片仅供参考, 请以实物为准)





Config 1: Front View Of RTD2556QV4.0-C (正视图)



①

②

③

1

2

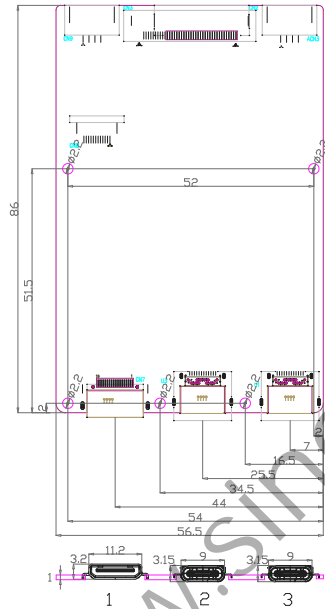
3

MINI HDMI

TYPE-C

PD 电源

CAD DIMENSIONS (CAD 尺寸)



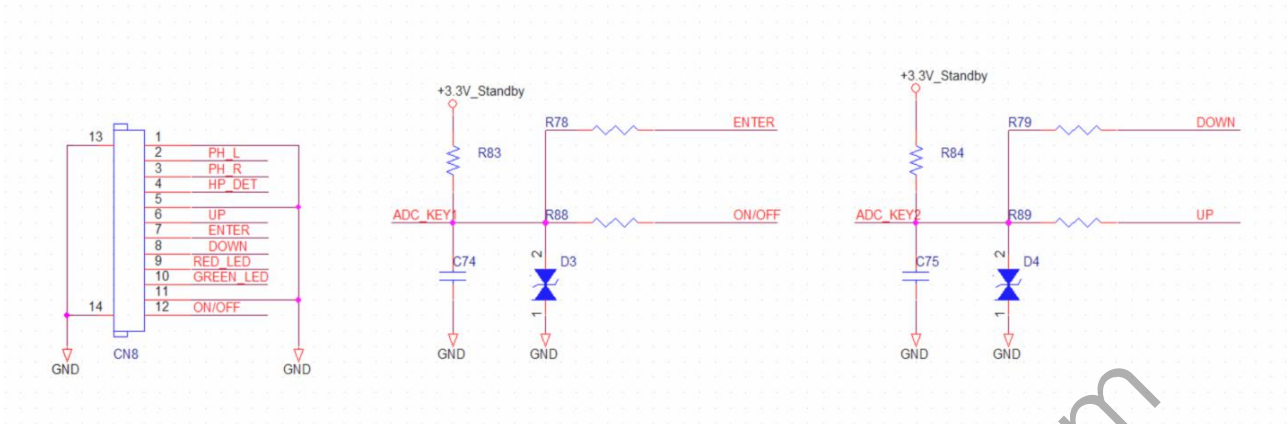
端口说明	配置
1	mini_HDMI_IN
2	TYPE-C (信号)
3	PD (电源)

NOTE:1. 公板开模请以红色孔位为准
NOTE:1. The public mold opening, please take the red hole position as the standard.
NOTE:2. 除特殊说明区域, 顶层器件和底层总高度限制在-3.6mm以内。

PCB Tolerance	
PCB size	±0.15mm
PCB thickness	≤1.0mm ±0.1mm >1.0 ±10%
Connector Tolerance (Unless Othwise Stated)	
	±0.5mm



5. KEY & IR BOARD SYSTEM SCHEMATIC (按键和遥控系统原理图)



6. INTERNATIONAL STANDARDS (国际标准)

Safety (安全)

The power supply shall compliance with following Criterion:

(电源安全性满足下列标准)

- ◆ UL60950/UL60065
- ◆ EN60950/EN60065
- ◆ GB4943-2011/GB8898-2011
- ◆ IEC60950/IEC60065

Isolation (隔离)

- ◆ HI-POT (耐压测试)

Input to Output: 3000Vac 50Hz 1minute \leq 10mA

- ◆ Isolation Resistance (隔离电阻)

Input to Output: DC 500V 50M Ω min (at room temperature)

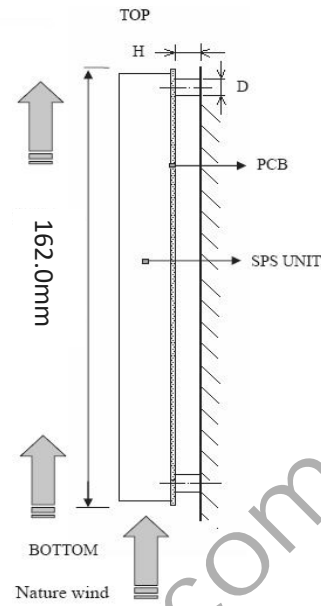


7.MOUNT PRECAUTIONS (装配注意事项)

D	$\leq 5.5\text{mm}$
H	$\geq 7.0\text{mm}$

Note:

- ◆ Mount the TV board to the mounting board using M3 screw. The maximum value of the tightening torque is 0.4N/M. The insertion depth of the screw should be less 5.5 mm.
- ◆ If $H \leq 7.0\text{mm}$.Add Mylar under PCB bottom.



8.ENVIRONMENTAL REQUIREMENT & NOTICE (环境要求和注意事项)

- ◆ Do not pressed and distorted. (禁止挤压和弯曲)
- ◆ Keep away from static and water. (远离静电和水)
- ◆ Relative humidity : 10% ~ 90%. (相对湿度: 10% ~ 90%)
- ◆ Storage humidity : 5% ~ 95%. (储存湿度: 5% ~ 95%)
- ◆ Storage temperature: -10~ +60°C. (储存温度: -10~ +60°C)
- ◆ Operation temperature: 0~ +40°C. (操作温度: 0~ +40°C)
- ◆ Cooling Method: Ventilation cooling. (冷却方式: 通风)
- ◆ The production shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on it. (该产品不能遭到水滴或水溅, 而且设备上不能放置诸如花瓶一类装满液体的物品)
- ◆ Please use it under the condition of good aeration. (该产品使用时需有良好通风)