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SPECIFICATION

产品规格书

产品型号: BTP-LC-RTD2513V1.0-N01

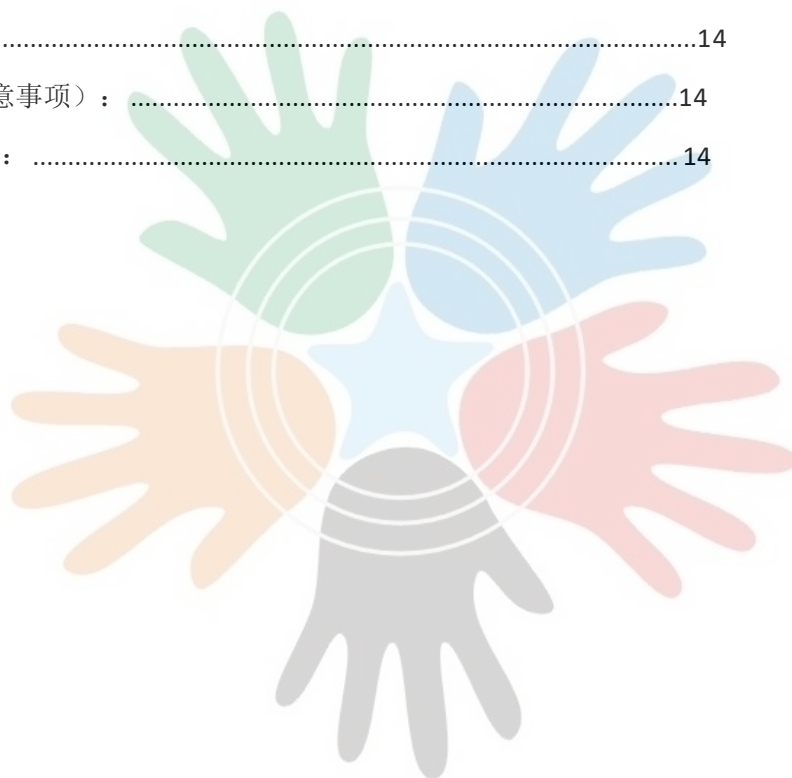
Please send the original back to us after you have approved and signed .

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Approved by customer		
Comments 确认意见	Approved by 批准签字	Company's seal 盖章
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Revision History

VERSION	DESCRIPTION	DATE
V1.0	First issued 首次发行	2026.03.25

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1.General Description(概述)

RTD2513V1.0-N01 is a multi-purpose LCD monitor .

This motherboard is suitable for LVDS (low voltage differential signal) interface LCD panels, and the resolution is up to 1920X1080. can support DC,HDMI, input and Earphone output.

RTD2513V1.0-N01 是一个多功能液晶显示驱动板。

该主板适用于 LVDS（低压差分信号）的接口的液晶面板，分辨率最高支持到 1920X1080，主板支持DC、HDMI 输入和耳机输出。

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2.Configuration & General Precautions(使用注意事项)

- For safety issue, please keep the board 6.0mm away from metal parts of the board at least.
- 基于安全考虑, 请在安装时确保板卡与其他金属材料保持 6.0mm 以上的距离。
- Protect the board from static electrostatic in care of damage to the IC.
- 请使板卡远离静电以免损坏 IC。
- Keep the board away from conductor when it is working.
- 确保板卡工作时远离导体。
- Don't press, distort or disassemble the board.
- 请勿强压、扭曲或拆解板卡。
- Clean the board with soft dry cloth when it's dirty.
- 若板卡有污渍, 请用干布擦拭。
- Don't switch on the power supply before panel is correctly connected.
- 正确连接好屏线前请勿通电。
- Relative humidity: $\leq 80\%$.
- 相对湿度: $\leq 80\%$ 。
- Storage temperature: $-10\sim 60^{\circ}\text{C}$.
- 储存温度: $-10\sim 60^{\circ}\text{C}$ 。
- Operation temperature: $0\sim 40^{\circ}\text{C}$.
- 工作温度: $0\sim 40^{\circ}\text{C}$ 。
- The brightness of panel is influenced greatly by temperature, you should measure it after power on 10~30 minutes.
- 因屏的亮度易受温度影响, 请在开机 10~30 分钟后再测量。
- Keep the board surface clean. Check the appearance of the board if there has any defective parts, such as damaged, weighty nick, etc.
- 保持产品表面整洁。检查产品外观是否有明显品质不良存在, 如: 破损, 严重划痕等。



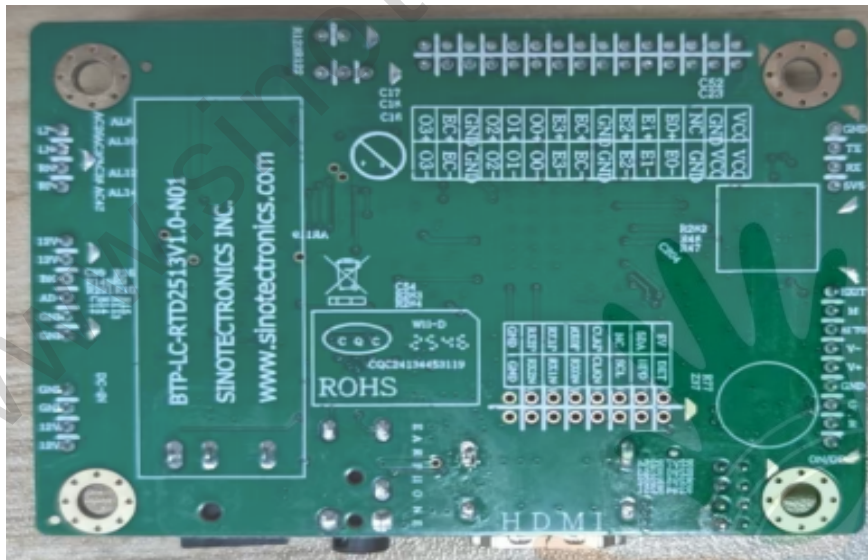
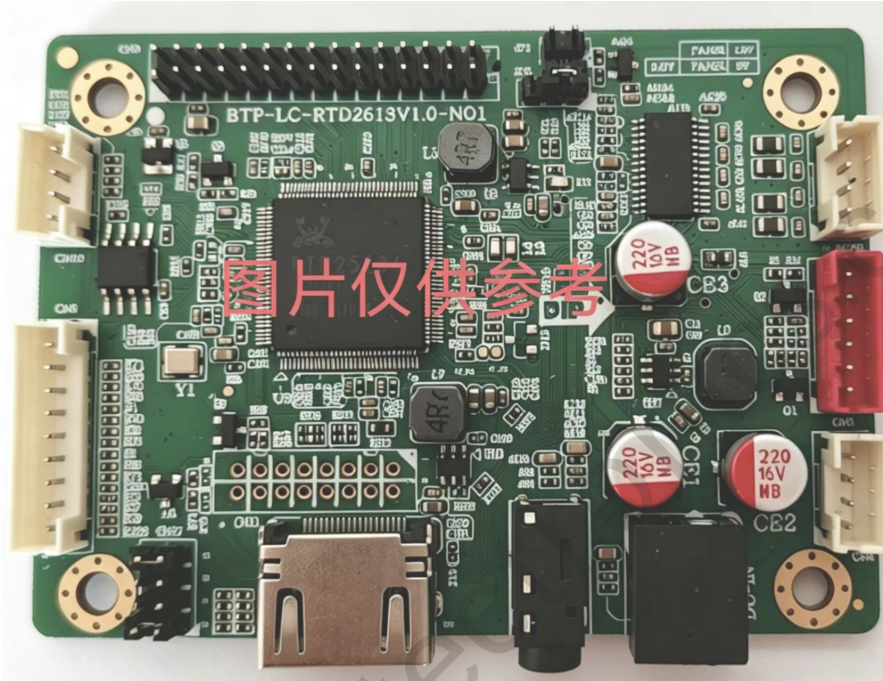
3. Main features (主要特性)

主芯片	RTD2513XX		
Input Signal (输入信号)	HDMI	Format	1920X1080@75Hz
		HDMI Input	1 HDMI terminal (1 HDMI 端子)
	AUDIO OUTPUT (音频输出)	2*5W@ 8Ω	
面板	Type	TFT-LED	
	Resolution	Max:1920*1080	
	Interface (接口)	Single/Double LVDS	
POWER (功率)	Power Requirement (电源需求)	DC12V (+/- 10%)	
	To panel (驱屏电压)	3.3V, 5V, 12V	
	Management (电源管理)	Low power consumable mode (only for PCB board):standby≤0.25w (PCB 板待机功耗)	
按 键	OSD LANGUAGE (菜单语言)	English (英语),Chinese (汉语),French (法语),Spanish (西班牙语),Russian (俄语),German(德语),Italian(意大利语),Korean (韩语)	
	KEY FUNCTIONS (按键功能)	MENU, AUTO, LEFT, RIGHT, ON/OFF (菜单, 自动, 左, 右, 开/关)	
Note(注意): 1.Licenses involved in specifications above are supposed to be obtained by customers themselves. 1.以上规格涉及授权证书 部分需要客户自己获取。 2.When the screen drive current is ≥ 1000mA, please contact the engineer. 2.当驱屏电流≥1000mA, 请与工程师联系。			

4.BOARD PICTURE(板卡外观图)

Pictures are for reference only, specific to prevail in kind.

图片仅供参考，请以实物为准。



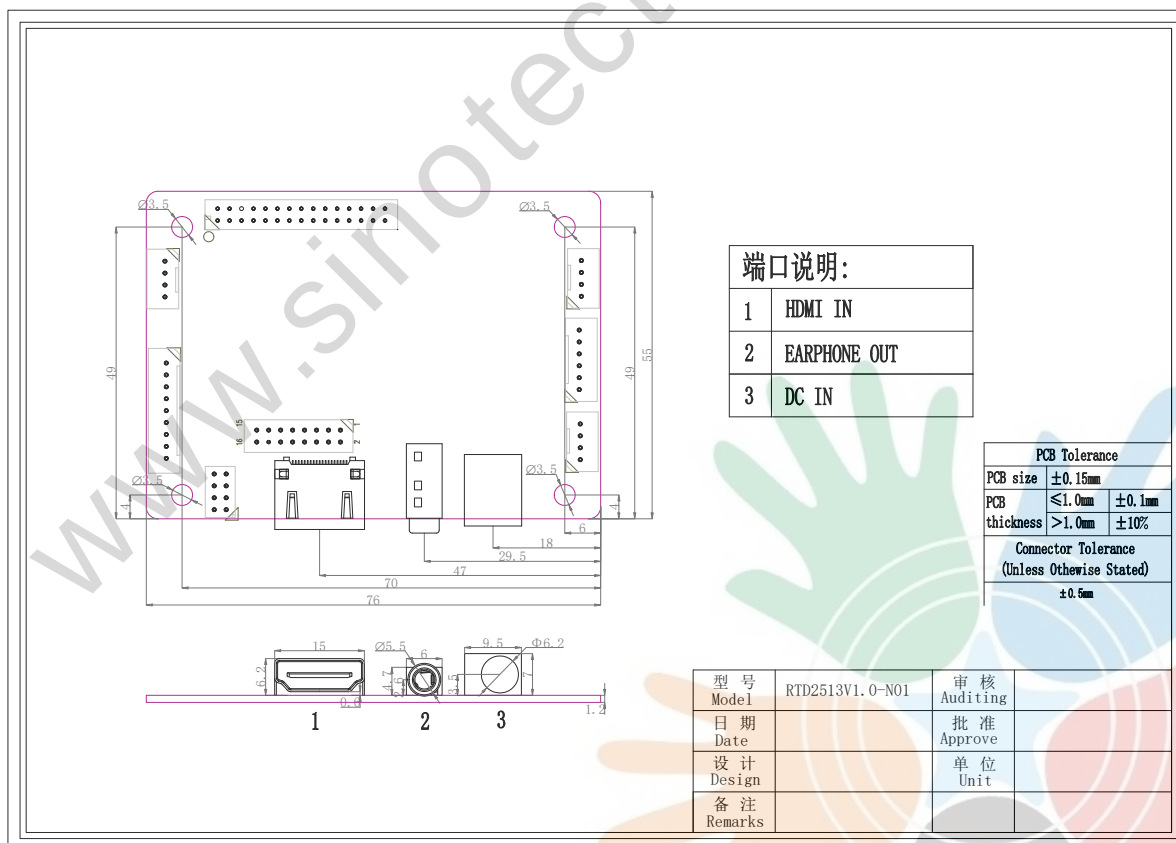
5.PCB Dimension(结构尺寸图)

Front View Of RTD2513V1.0-N01 (前视图)



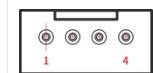
1	2	3
HDMI	EARPHONE	DC IN

CAD DIMENSIONS (CAD 尺寸)



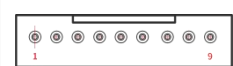
6. Interface Definition (接口定义)

CN16(4PIN/2.0MM) DEBUG INTERFACE(调试接口)



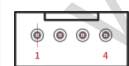
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	GND	GND (地)
2	TX	Transmit data (发送数据)
3	RX	Receive data (接收数据)
4	5VS	+5V Power Supply (+5V 供电)

CN9(9PIN/2.0mm) KEY & IR BOARD INTERFACE (按键和遥控接口)



NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	EXIT	EXIT (退出)
2	M	MENU Key (菜单)
3	AUTO	AUTO (自动)
4	V-	VOL- Key (音量-)
5	V+	VOL+ Key (音量+)
6	GND	Ground (地)
7	G	Green indicator (绿色指示器)
8	R	Red indicator (红色指示器)
9	ON/OFF	ON/OFF Key (开/关)

ACN1(4PIN/2.0mm) 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(2*15PIN/2.0MM) LVDS PANEL INTERFACE (LVDS 接口)



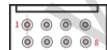
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	VCC	Power for panel (驱屏电压)
2	VCC	Power for panel (驱屏电压)
3	VCC	Power for panel (驱屏电压)
4	GND	Ground (地)
5	GND	Ground (地)
6	NC	NC
7	O0-	LVDS ODD 0- Signal (LVDS 奇数 0-信号)
8	O0+	LVDS ODD 0+ Signal (LVDS 奇数 0+信号)
9	O1-	LVDS ODD 1- Signal (LVDS 奇数 1-信号)
10	O1+	LVDS ODD 1+ Signal (LVDS 奇数 1+信号)
11	O2-	LVDS ODD 2- Signal (LVDS 奇数 2-信号)
12	O2+	LVDS ODD 2+ Signal (LVDS 奇数 2+信号)
13	GND	Ground (地)
14	GND	Ground (地)
15	OC-	LVDS ODD Clock- Signal (LVDS 奇数时钟-信号)
16	OC+	LVDS ODD Clock+ Signal (LVDS 奇数时钟+信号)
17	O3-	LVDS ODD 3- Signal (LVDS 奇数 3-信号)
18	O3+	LVDS ODD 3+ Signal (LVDS 奇数 3+信号)
19	E0-	LVDS EVEN 0- Signal (LVDS 偶数 0-信号)
20	E0+	LVDS EVEN 0+ Signal (LVDS 偶数 0+信号)
21	E1-	LVDS EVEN 1- Signal (LVDS 偶数 1-信号)
22	E1+	LVDS EVEN 1+ Signal (LVDS 偶数 1+信号)
23	E2-	LVDS EVEN 2- Signal (LVDS 偶数 2-信号)
24	E2+	LVDS EVEN 2+ Signal (LVDS 偶数 2+信号)
25	GND	Ground (地)
26	GND	Ground (地)
27	EO-	LVDS EVEN Clock- Signal (LVDS 偶数时钟-信号)
28	EO+	LVDS EVEN Clock+ Signal (LVDS 偶数时钟+信号)
29	E3-	LVDS EVEN 3- Signal (LVDS 偶数 3-信号)
30	E3+	LVDS EVEN 3+ Signal (LVDS 偶数 3+信号)

CN11(2*8PIN/2.0MM) EXTERNAL HDMI INTERFACE (外甩 HDMI 接口)



NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	GND	Ground (地)
2	GND	Ground (地)
3	RX2P	HDMI Data 2+ (HDMI 2+数据)
4	RX2N	HDMI Data 2- (HDMI 2-数据)
5	RX1P	HDMI Data 1+ (HDMI 1+数据)
6	RX1N	HDMI Data 1- (HDMI 1-数据)
7	RX0P	HDMI Data 0+ (HDMI 0+数据)
8	RX0N	HDMI Data 0- (HDMI 0-数据)
9	CLKP	HDMI Clock+ (HDMI 时钟+)
10	CLKN	HDMI Clock- (HDMI 时钟-)
11	NC	NC
12	SCL	I2C Clock signal (I2C 时钟信号)
13	SDA	I2C Data signal (I2C 数据信号)
14	HPD	HDMI Hot Plug (HDMI 热插拔检测)
15	5V	+5V from external HDMI model supply (+5V HDMI 供电)
16	DET	HDMI Detect (HDMI 检测)

CN27(8PIN/2.0mm) Resolution jumper pin (分辨率跳帽插针)



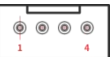
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	S0	Screen resolution selection (屏幕分辨率选择)
2	GND	Ground (地)
3	S1	Screen resolution selection (屏幕分辨率选择)
4	GND	Ground (地)
5	S2	Screen resolution selection (屏幕分辨率选择)

6	GND	Ground (地)				
7	S3	Screen resolution selection (屏幕分辨率选择)				
8	GND	Ground (地)				
普通程序跳帽定义 1：插上跳帽 0：不插跳帽						
CN27 像素		S0	S1	S2	S3	排位
1680×1050 dou 8		0	0	0	0	0
1280×1024 dou 8		1	0	0	0	1
1024×768 sig 8		0	1	0	0	2
800×600 sig 6		1	1	0	0	3
1024×768 sig 6		0	0	1	0	4
1440×900 dou 8		1	0	1	0	5
1024×600 sig 6		0	1	1	0	6
1280×800 sig 6		1	1	1	0	7
1366×768 sig 8		0	0	0	1	8
1920×1080 dou 8		1	0	0	1	9
1920×1200 dou 8		0	1	0	1	10

CN5(6PIN/2.0mm) BACKLIGHT BOARD INTERFACE (背光板接口)

		
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	GND	Ground (地)
2	GND	Ground (地)
3	ADJ	BRI_ADJ (背光亮度调节)
4	BK	Back-light on/off control (背光控制开关)
5	12V	+12V DC Power supply (+12V 直流供电)
6	12V	+12V DC Power supply (+12V 直流供电)

CN4(4PIN/2.0MM) EXTERNAL DC INTERFACE (外甩 DC 接口)

		
NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	12V	+12V DC Power supply (+12V 直流供电)
2	12V	+12V DC Power supply (+12V 直流供电)

3	GND	Ground (地)
4	GND	Ground (地)

7. International Standard (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)

- ◆ UL62368-1
- ◆ EN62368-1
- ◆ IEC62368-1
- ◆ GB4943-2011/GB8898-2011

Isolation (隔离)

- ◆ HI-POT (耐压测试)

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

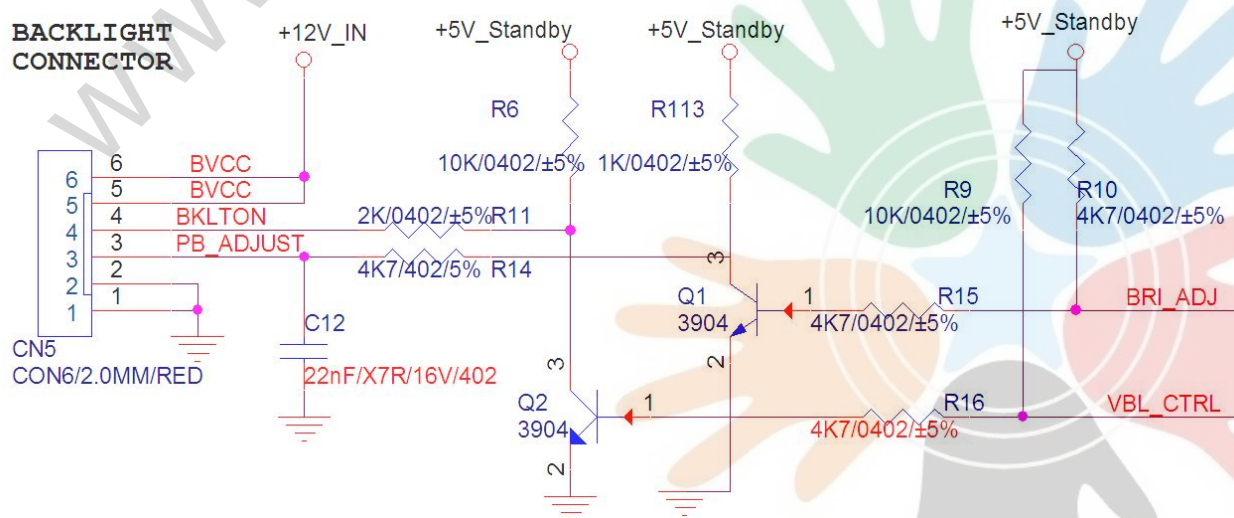
- ◆ Isolation Resistance (隔离电阻)

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

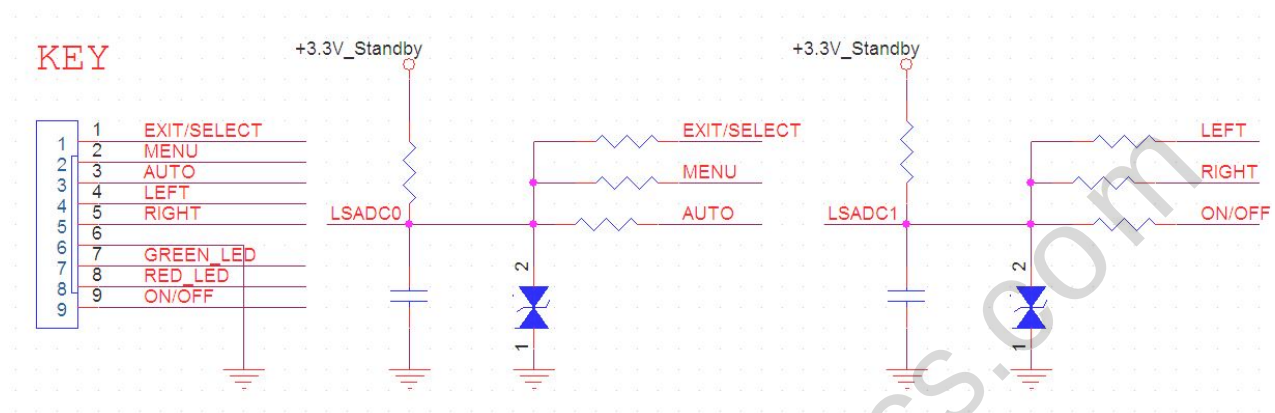
8. BK&ADJ Board System Schematic (BK 和 ADJ 原理图)

The Motherboard ADJ and BK control circuits refer to below and confirm motherboard circuit compatibility before adapting for external power supply.

(主板 ADJ 和 BK 控制电路参考如下, 适配外置电源前需确认主板电路兼容性。)



9. Key & IR Board System Schematic (按键遥控原理图)



10. Matters Need Attention (注意事项)

Mount Matters Need Attention (装配注意事项):

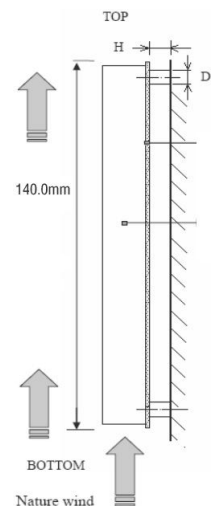
D	≤5.5mm
H	≥7.0mm

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 5.5mm.

◆ If $H \leq 7.0\text{mm}$.Add Mylar under PCB bottom.



Environmental Requirement (环境要求):

- ◆ 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℃. (储存温度: -10~ +60℃)
- ◆ Operation temperature: 0~ +40℃. (操作温度: 0~ +40℃)
- ◆ 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)