

规格书

PRODUCT SPECIFICATION

LCD TV MODULE

产品名称: 26"-56" 美规液晶电视

MST6M16(分离高频头)

DESCRIPTION: 26"-56" LCD TV MST6M16

型号/MODEL: 9M04-12B

日期/DATE: 2009/07/16

版本/VERSION: 1.0

拟制 PREPARED BY	审核 REVIEWED BY	批准 APPROVED BY	签章 SIGNATURE

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REVISION HISTORY

VERSION	DATE	PAGE	DISCRIPTION	AUTHOR
1. 0	09.07.16	All	First issued	

1. GENERAL DESCRIPTION

9M04-12B is a multi-purpose LCD/PDP TV control board; it supports LCD panels between 26" -- 56" and PDP panels with single/dual LVDS interface. It supports resolution up to 1920x1080.

9M04-12B supports USB, PIP, POP, dual HDMI, dual CVBS, PC, YPbPr, S-Video and Analog TV input, CVBS output. It includes an audio amplifier which can support 2X10W (8Ω) output.

9M04-12B supports HDMI1.3A, 3D Noise reduction, supports FULL HD panels.

9M04-12B provides extended functions such as DVD combo

2. FEATURES

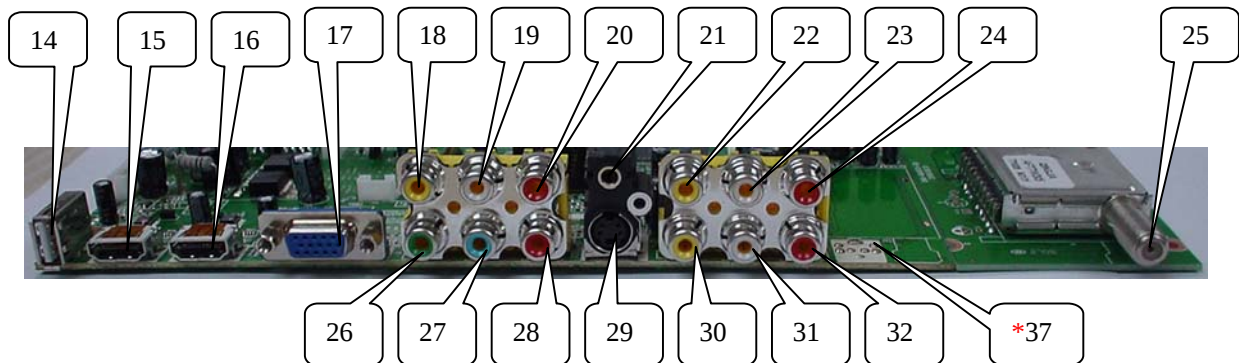
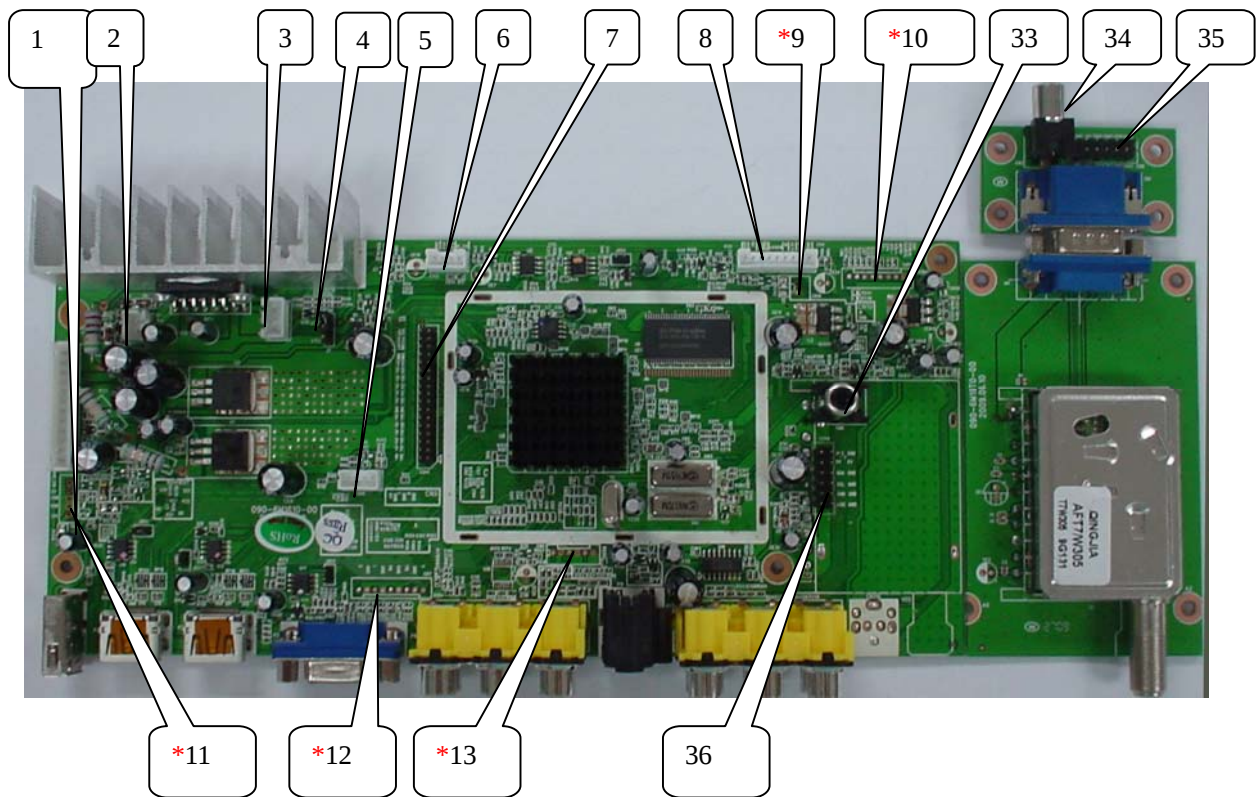
CHIPSET	MST6M16		
MARKET AREA	AMERICA		
OSD LANGUAGE	English, French, Spanish, Portuguese (Option)		
PANEL	Panel Type	LCD/PDP	
	Interface	Dual/Single LVDS interface	
	Resolution	Up to 1920x1080	
TV INPUT	TV	Tuner receiving range	55.25MHz – 801.25MHz
		Input impedance	75Ω
		Video System	NTSC, PAL
		Sound System	M, N
		Max.Storage Channels	200CH(0~199)
		Colour Killer level	≦30dBuV
VIDEO INPUT	PC-RGB	Format	Up to 1920x1080@60Hz
	CVBS	Video System	PAL/NTSC/SECAM
		Video level	1.0 Vp-p ±5%
	S-VIDEO	S-Y:1.0 Vp-p: ±5% S-C:0.7 Vp-p: ±5%	
	YPbPr/YCbCr	480i, 480p, 576i, 576p, 720p, 1080i, 1080p	
	HDMI	480i, 480p, 576i, 576p, 720p, 1080i, 1080p	
AUDIO INPUT	CVBS	L/R RCA input	0.5 Vrms
	S-VIDEO		
	CVBS	L/R RCA input	0.5 Vrms
	YPbPr/YCbCr		
USB	Multimedia Format	JPEG, MP3	
VIDEO OUTPUT	CVBS	Video level	1.0 Vp-p ±5%
		Video System	PAL/NTSC/SECAM
AUDIO OUTPUT	Frequency response	100Hz - 10000Hz @±3dB (1KHz 0dB reference signal)	
	Max Output power	2x10 W(8Ω) THD+N<10%	
	CVBS	Audio level	0.2 – 0.5 Vrms
	EARPHONE	Rating 2×1.5mW （36Ω load）	

POWER	Requirement	12V, 5V, 5V Standby	
	To Panel	5V, 12V	
	Management	Low power consumption mode, standby < 1W	
PIP/POP	Yes		
3:2/2:2 pull down/film mode	Yes		
Picture Freeze	Yes		
COMB FILTER	3D		
DEINTERLACE	3D		
WEAK SIGNAL ENHANCEMENT	Yes		
NOISE REDUCTION	Yes		
CCD	Yes		
V-CHIP	Yes		
Sound effect	Standard - News- Music - Equalizer		
KEY FUNCTION	MENU, CH+, CH-, VOL+, VOL-, INPUT, POWER		
EXPANSIBLE MODULES	DVD combo		
TERMINALS	INPUT	TV	1 FS 75Ω
		PC-RGB	1 D-SUB 15Pin terminal(blue)
		S-VIDEO	1 S-Video terminal(black)
		CVBS	2 RCA terminal(yellow)
		HDMI	2 HDMI terminals
		Component	3 RCA terminals(Green, Blue, Red)
		CVBS1 AUDIO	2 RCA terminals(white, red)
		S-VIDEO AUDIO	
		YPBPR AUDIO	2 RCA terminals(white, red)
		CVBS2 AUDIO	
		PC-RGB AUDIO	1 Earphone terminal(black)
		USB	1 terminal
	OUTPUT	CVBS	1 RCA terminal(yellow)
		CVBS AUDIO	2 RCA terminals(white, red)
		EARPHONE(Optional)	1 Earphone terminal (black)

3. FUNCTION LAYOUT

TOP VIEW OF LCD CONTROL BOARD

NOTE: The optional connectors and terminals are marked with "*".



INTERFACE FUNCTION DESCRIPTION

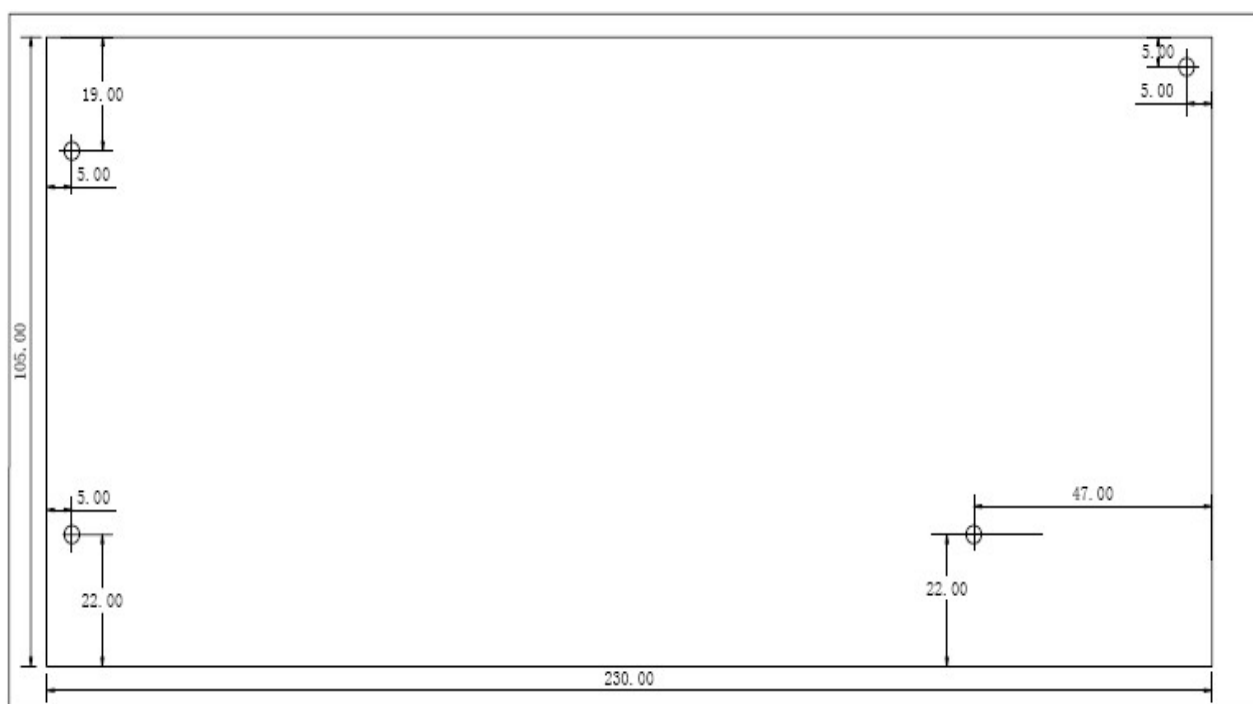
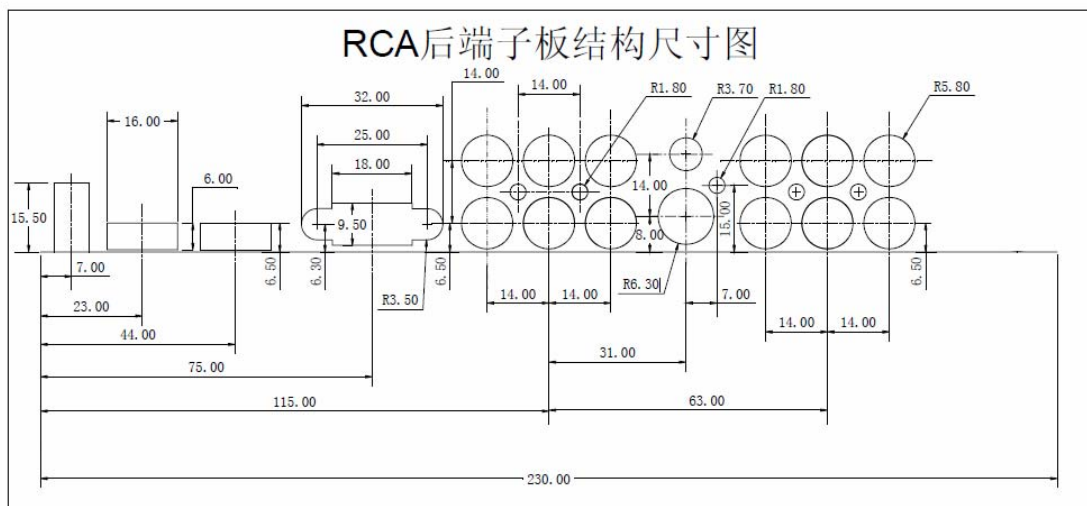
NOTE: The optional connectors and terminals are marked with “*”.

NO.	DESCRIPTION	NO.	DESCRIPTION
1(CN1)	Power Supply Connector	20	CVBS2/YPbPr Audio (Right) Input
2(J2)	Speaker Connector(Right)	21	PC-Audio Input
3(J3)	Speaker Connector(Left)	22	CVBS Output
4(J1)	Power Jumper for Panel	23	CVBS Audio (Left) Output
5(CN5)	Debugging Connector	24	CVBS Audio (Right) Output
6(CN2)	Inverter Connector	25	RF Input
7(CON1)	LVDS Panel Connector	26	Component-Y Input
8(CN4)	Key Board & IR Receiver Connector	27	Component-Pb Input
*9(CN10)	DVD IR Connector(Optional)	28	Component-Pr Input
*10(CN11)	Key Board Connector(Optional)	29	S-VIDEO Input
*11(CN12)	DVD control and power input connector(Optional)	30	CVBS1 Input
*12(CN7)	Side YPbPr and Audio(Optional)	31	CVBS1/S-Video Audio (Left) Input
*13(CN9)	Side AV and Audio(Optional)	32	CVBS1/S-Video Audio (Right) Input
14	USB Input	33	IF Connectot
15	HDMI2 Input	34	IF Connectot
16	HDMI1 Input	35(CN2)	TUNER Signal Connector
17	PC-RGB Input	36(CON4)	TUNER Signal Connector
18	CVBS2 Input	*37	EARPHONE Output(Optional)
19	CVBS2/YPbPr Audio (Left) Input		

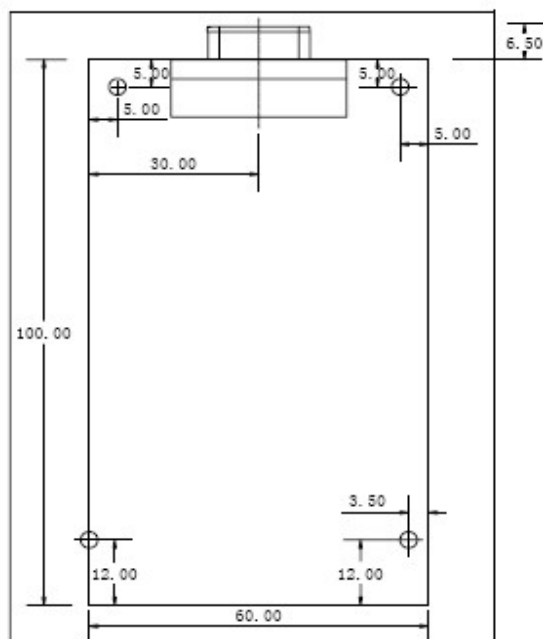
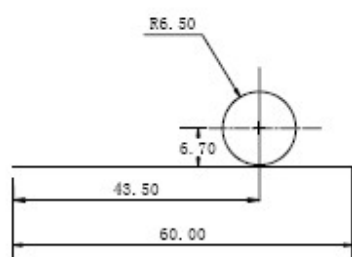
4. PCB DIMENSION

The height of the control board is 27.0 mm.

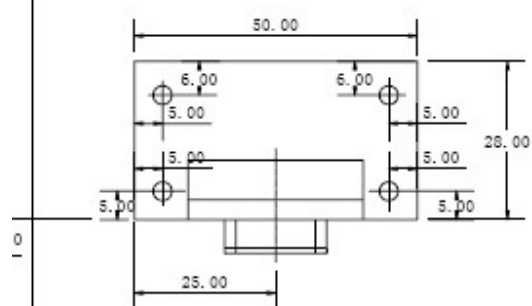
SINHO 6M16 双HDMI后端子结构尺寸图 (单位: mm)



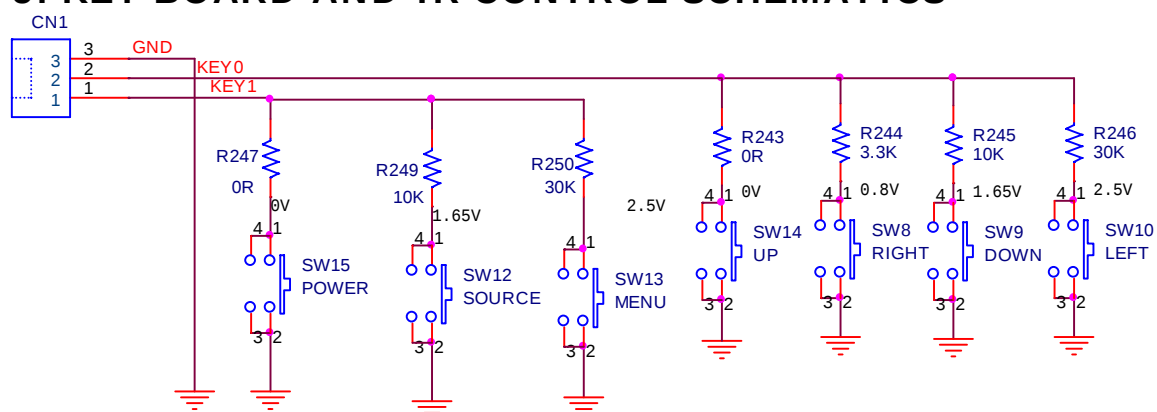
高频头端子板结构图

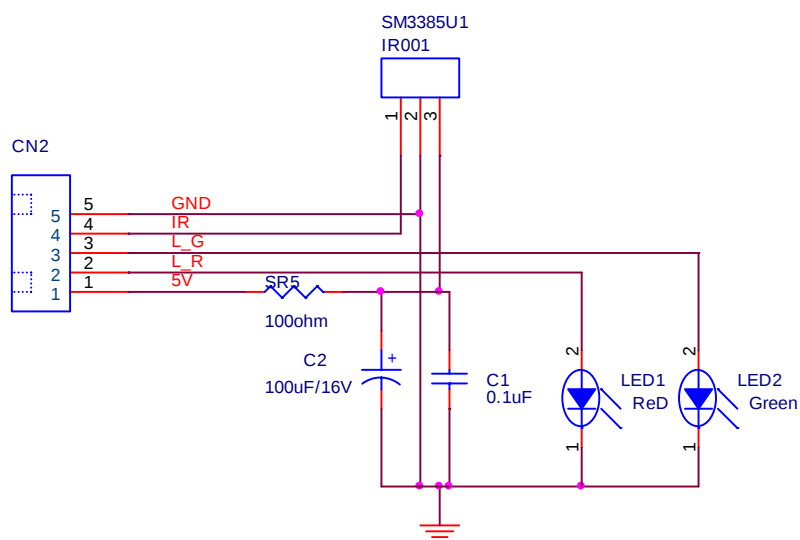


转接板尺寸图



5. KEY BOARD AND IR CONTROL SCHEMATICS





6. INTERFACE DEFINITION

- CN1: (to power supply board, 12V\5VSTB\5V input of main board)

No.	Name	Description	Electric Current
1	+5V	+5V Power Supply	+12 Maximum load current:4A +5V_STB Maximum load current:2A +5Vpower Maximum load current:2A
2	+5V		
3	SW	Standby Control	
4	GND	Ground	
5	GND		
6	GND		
7	+5VSTB	Power Standby	
8	+5VSTB		
9	GND	Ground	
10	GND		
11	+12V	+12V DC Power Supply	
12	+12V		

CN4: (to key and IR board)

No.	Name	Description	No.	Name	Description
1	GND		6	IR	IR signal in
2	NC		7	KEY1	Power, menu, source key
3	LED1 (Red)	Power on: low Standby: high	8	KEY0	Ch+, Ch-, Vol+, Vol- key
4	LED0 (Green)	Power on: high Standby: low	9	GND	
5	+5VSTB	Power for IR and key			

● CN11: (to key board)

No.	Name	Description
1	CH-	
2	CH+	
3	VOL-	
4	VOL+	
5	MENU	
6	SOURCE	
7	POWER	
8	GND	

● J3: (Left audio speaker output)

No.	Name	Description
1	NC	
2	L+	
3	L-	

● J2: (Right audio speaker output)

No.	Name	Description
1	R-	
2	R+	

● J1: (Power Jumper for Panel)

No.	Name	Description
1	+5V	+5V Power Supply for panel
2	No name	LVDS POWER
3	+12V	+12V Power Supply for panel

- CN2: (to panel inverter, control signal)

No.	Name	Description
1	GND	
2	ADJ	Output for Select
3	3.5V	Output for Select
4	B_SW	Inverter on/off +3.3V on; 0V off;

- CN7: (Expandable side YpbPr&DVD Combo)

No.	Name	Description
1	Y	DVD Y in
2	GND	
3	PB	DVD Pb in
4	GND	
5	PR	DVD Pr in
6	GND	
7	L	Side YUV audio L in
8	GND	
9	R	Side YUV audio R in

- CN9: (Expandable side AV board)

No.	Name	Description
1	AV	Side AV in
2	GND	
3	L	Side AV audio L in
4	GND	
5	R	Side AV audio R in
6	GND	

- CN10: (DVD IR Connector)

No.	Name	Description
1	GND	
2	IR	DVD IR signal in

- CN12: (DVD POWER CONNECTOR)

No.	Name	Description
1	D_SW	DVD Power Switch high level:on low level:off
2	D-5V	+5V Power Supply for DVD
3	GND	
4	GND	
5	D-12V	+12V Power Supply for DVD

- CN5(Debug connector):(to debug tool)

No.	Name	Description
1	+5VSTB	Power Standby
2	GND	
3	RXD	Debug signal-RXD
4	TXD	Debug signal-TXD

- CON1(LVDS) :(connect to panel signal input port)

No.	Name	Description	No.	Name	Description
1	00+		18	E1-	
2	00-		19	E2+	
3	01+		20	E2-	
4	01-		21	EC+	
5	02+		22	EC-	
6	02-		23	E3+	
7	0C+		24	E3-	
8	0C-		25	E4+	
9	03+		26	E4-	
10	03-		27	GND	
11	04+		28	GND	
12	04-		29	GND	
13	GND		30	OPT	
14	GND		31	VCC	
15	E0+		32	VCC	
16	E0-		33	VCC	
17	E1+		34	VCC	

- CON4: (to tuner board)

No.	Name	Description	No.	Name	Description
1	AFC	AFC signal	7	SCL	SCL signal
2	GND		8	GND	
3	5V	+5V Power Supply for Tuner	9	GND	
4	5V	+5V Power Supply for Tuner	10	GND	
5	SDA	SDA signal	11	AGC	AGC signal
6	GND		12	GND	

- CN2: (tuner board connect to mother board)

No.	Name	Description	No.	Name	Description
1	AFC	AFC signal	7	SCL	SCL signal
2	GND		8	GND	
3	5V	+5V Power Supply for Tuner	9	GND	
4	5V	+5V Power Supply for Tuner	10	GND	
5	SDA	SDA signal	11	AGC	AGC signal
6	GND		12	GND	

7. CONFIGURATION & GENERAL PRECAUTIONS

- 1 Relative humidity: $\leq 80\%$.
- 2 Storage temperature: $-10\sim+60\text{ }^{\circ}\text{C}$.
- 3 Operation temperature: $0\sim+40\text{ }^{\circ}\text{C}$.
- 4 Protect the control board from static; it may cause damage to the IC.
- 5 Disconnect the TV before the power supply of panel is connected correctly.
- 6 Do not drop any metal on the control board when it is working.
- 7 Do not push or pull the connector when the control board is working.
- 8 Do not disassemble the module.
- 9 If the surface of the control board is dirty, clean it with soft dry cloth.
- 10 Can't be pressed and distorted.