



深圳市一众显示科技有限公司

SHEN ZHEN TEAM SOURCE DISPLAY TECH. CO, LTD.

TFT-LCD Module Specification

Module NO.: TST070WXBE-05-HDMI

Version: V1.0

APPROVAL FOR SPECIFICATION

APPROVAL FOR SAMPLE

For Customer' s Acceptance:	
Approved by	Comment

Team Source Display:		
Presented by	Reviewed by	Organized by

Version No.	Date	Content	Remark
V1.0	2018-4-27	Initial Release	

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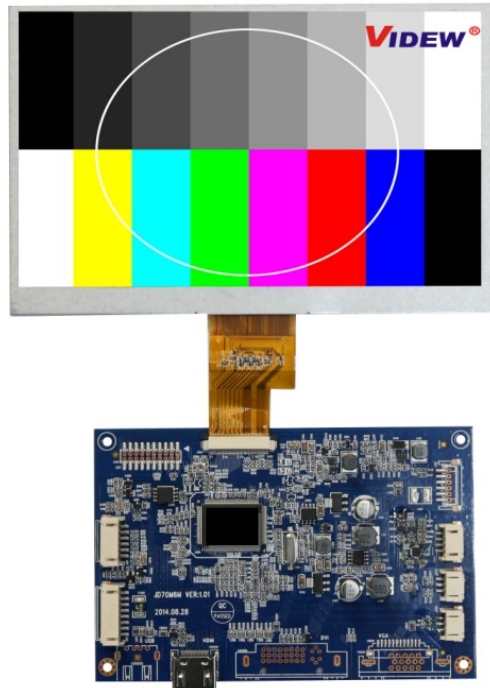
1、 Profile:

TST070WXBE-05-HDMI TFT LCD module is composed by PCB of TSM070JDM6M-13B-27H and TST070WXBE-05 panel . it can input 2 channel CVBS、 1chnnel VGA、 1 channel DVI、 1channel HDMI signal; 1channel CVBS output , 2 channel Audio input and output . with PAL and NTSC system format (auto switch) . it' s menu can be adjusted by push button or remote control, mainly used for video door phone or other display electronic equipments.

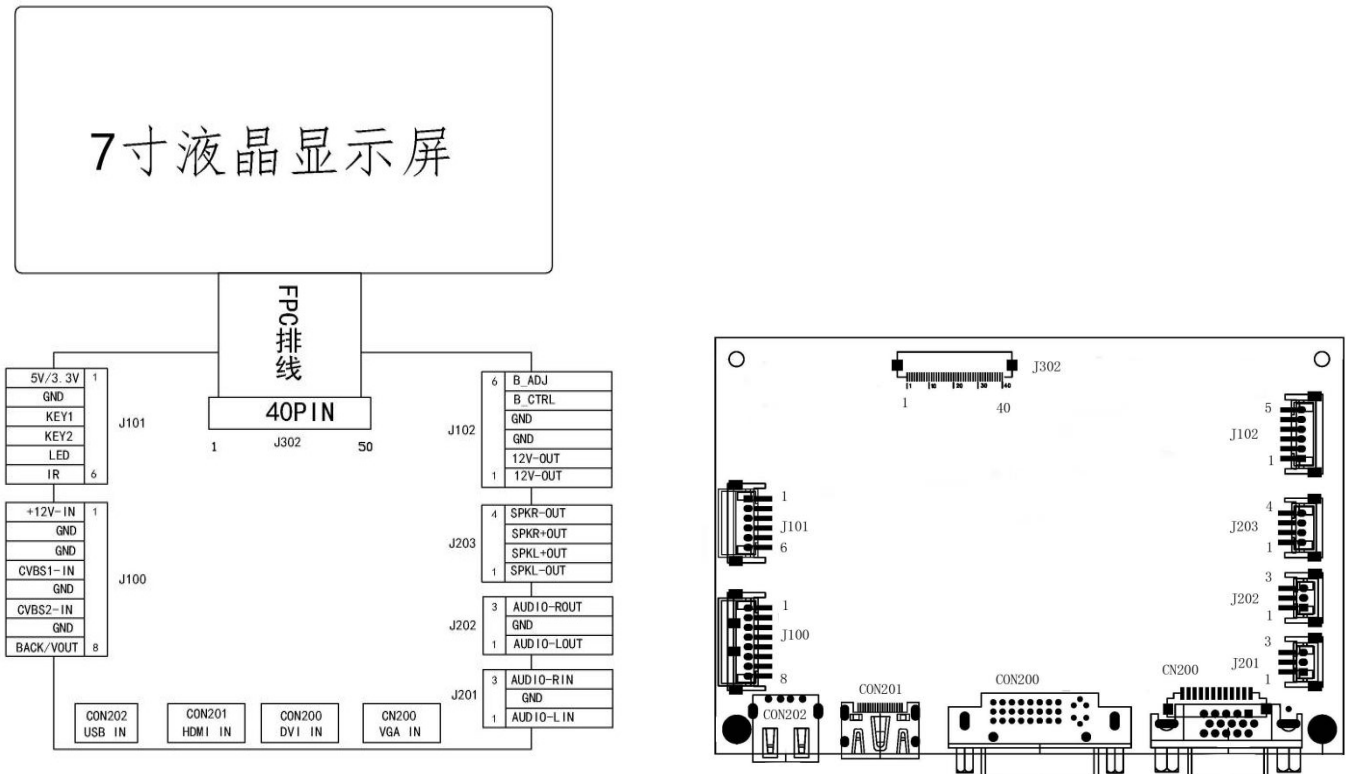
2、 Main parameter:

NO.	Item	Description	Remark
1	LCD Size	7.0 inch	
2	Display ratio	16:9	
3	Backlight	LED	
4	Brightness	550 cd/m2	
5	Resolution	1024×3 (RGB)×600	
6	Viewing angle (U,D,L,R)	(75/ 70 / 75 / 75)	
7	Display dimension	164 (W) × 103 (H) × 3.5 (D)	
8	Active area	154.21 (W) × 85.92 (H) mm	
9	LCD voltage	3.3V	
10	Working temperature	-20℃~70℃	
11	Storage temperature	-30℃~80℃	
12	Environment Humidity	5~90%RH	

3、Product picture:



4、Wiring diagram:



5、Connector definition of driver board:

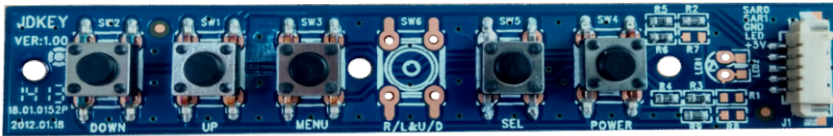
5.1 、 J100: (8PIN 2.0mm)

PIN NO.	Symbol	I/O/P	Description	Remark
1	+12V-IN	I	DC POWER INPUT	9V~15V
2	GND	P	Ground	
3	GND	P	Ground	
4	VIDEO1-IN	I	Video signal input	0.5V~1.5V _{P-P}
5	GND	P	Ground	
6	VIDEO2-IN	I	Video signal input	0.5V~1.5V _{P-P}
7	GND	P	Ground	
8	BACK/VOUT	I/O	Control input/Video signal output	Control voltage 12V / Video output 0.2V~1.2V _{P-P}

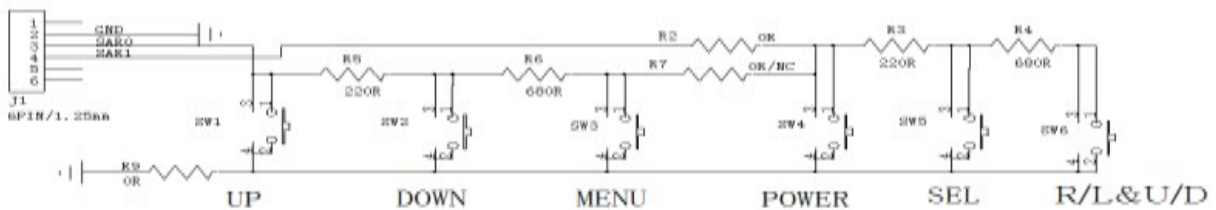
5.2、 J101: (6PIN 2.0mm)

PIN NO.	Symbol	I/O	Description	Remark
1	5V/3.3V	O	+ 3.3Voutput	
2	GND	P	Ground	
3	KEY1	I	KEY1 Input	
4	KEY2	I	KEY2 Input	
5	LED	O	Output	
6	IR	I	Remote Input	

5.2.1、 Push button board SJD-KEY



5.2.2、 Push button board wiring diagram:



5.2.3、 Push button function description :

SW1(UP): Press the key to increase the volume. The key is the menu option parameter increase key under the menu mode.

SW2(DOWN): Press the key to decrease the volume. The key is the menu option parameter decrease key under the menu mode.

SW3 (MENU) : Press the key to chose contrast、 brightness、 color、 definition.

SW4 (POWER) : Press the key to open/close the screen.

SW5 (SEL) : This key is Video channel switch button, Press this key to choose CVBS1、 CVBS2、 VGA、 DVI、 HDMI channel.

5.3、 VGA、 DVI、 HDMI interface parameters

5.3.1、 Compatible HDMI: HDMI 1.3/1.4, compatible HDCP 1.2。

Support formats are HDMI 3D input、 HDMI 4Kx2K input、 HDMI ARC

5.3.2 、 Compatible with DVI version : DVI 1.0, Supported high resolution 1920×1080@60HZ and 1600×1200@60HZ

5.3.3 、 Supported computer RGB input, Supported resolutions 800×600@60HZ-1280×768@60HZ

5.4 、 J302:

Pin No.	Symbol	I/O	Function	Remark
1	VCOM	P	Common Voltage	
2	VDD	P	Power Voltage for digital circuit	
3	VDD	P	Power Voltage for digital circuit	
4	NC	--	No connection	
5	Reset	O	Global reset pin	
6	STBYB	O	Standby mode, Normally pulled high STBYB = "1", normal operation STBYB = "0", timing controller, source driver will turn off, all output are High-Z	
7	GND	P	Ground	
8	RXIN0-	O	-LVDS differential data input	
9	RXIN0+	O	+ LVDS differential data input	
10	GND	P	Ground	
11	RXIN1-	O	-LVDS differential data input	
12	RXIN1+	O	+ LVDS differential data input	
13	GND	P	Ground	
14	RXIN2-	O	-LVDS differential data input	
15	RXIN2+	O	+ LVDS differential data input	
16	GND	P	Ground	
17	RXCLKIN-	O	-LVDS differential clock input	

18	RXCLKIN+	O	+ LVDS differential clock input	
19	GND	P	Ground	
20	RXIN3-	O	-LVDS differential data input	
21	RXIN3+	O	+ LVDS differential data input	
22	GND	P	Ground	
23	NC	--	No connection	
24	NC	--	No connection	
25	GND	P	Ground	
26	NC	--	No connection	
27	DIMO	O	Backlight CABC controller signal output	
28	SELB	O	6bit/8bit mode select	
29	AVDD	P	Power for Analog Circuit	
30	GND	P	Ground	
31	LED-	P	LED Cathode	
32	LED-	P	LED Cathode	
33	L/R	O	Horizontal inversion	
34	U/D	O	Vertical inversion	
35	VGL	P	Gate OFF Voltage	
36	CABCEN1	O	CABC H/W enable	
37	CABCEN0	O	CABC H/W enable	
38	VGH	P	Gate ON Voltage	
39	LED+	P	LED Anode	
40	LED+	P	LED Anode	

I: input, O: output, P: Power

5. 4、J102: (6PIN 2.0mm)

PIN NO.	Symbol	I/O	Description	Remark
1	12V-OUT	O	12V Output	
2	12V-OUT	O	12V Output	
3	GND	P	Ground	
4	GND	P	Ground	
5	B-CTRL	O	Backlight on/off signal output	
6	B-ADJ	O	Backlight brightness adjustment output	

5. 5、J201: (3PIN 2.0mm)

PIN NO.	Symbol	I/O	Description	Remark
1	AUDIO-LIN	I	Left channel Input	0.1V~1.0V _{P-P}
2	GND	P	Ground	
3	AUDIO-RIN	I	Right Channel Input	0.1V~1.0V _{P-P}

5. 6、J202: (3PIN 2.0mm)

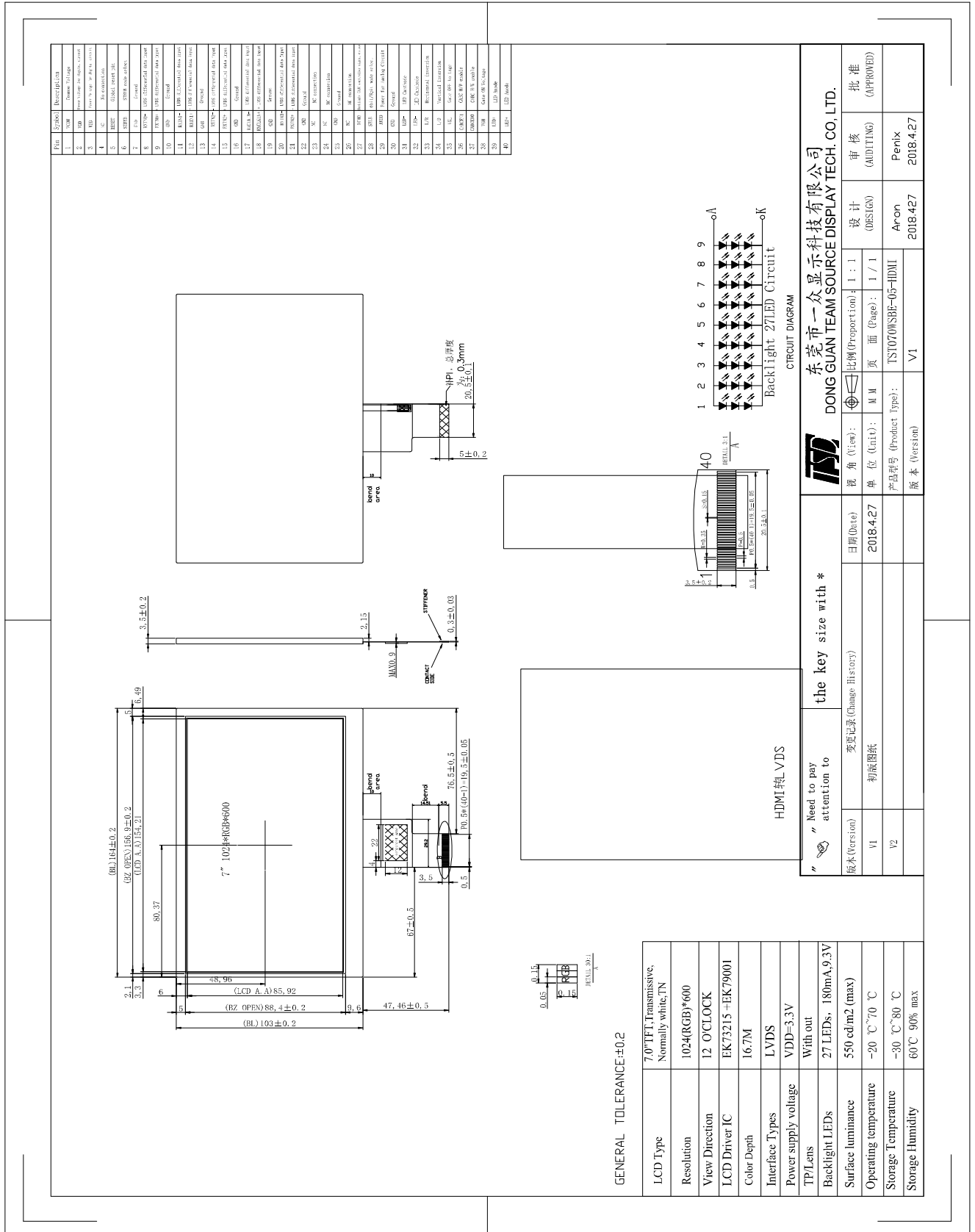
PIN NO.	Symbol	I/O	Description	Remark
1	AUDIO-LOUT	O	Left Audio Output	
2	GND	P	Ground	
3	AUDIO-ROUT	O	Right Audio Output	

5. 7、J203: (4PIN 2.0mm)

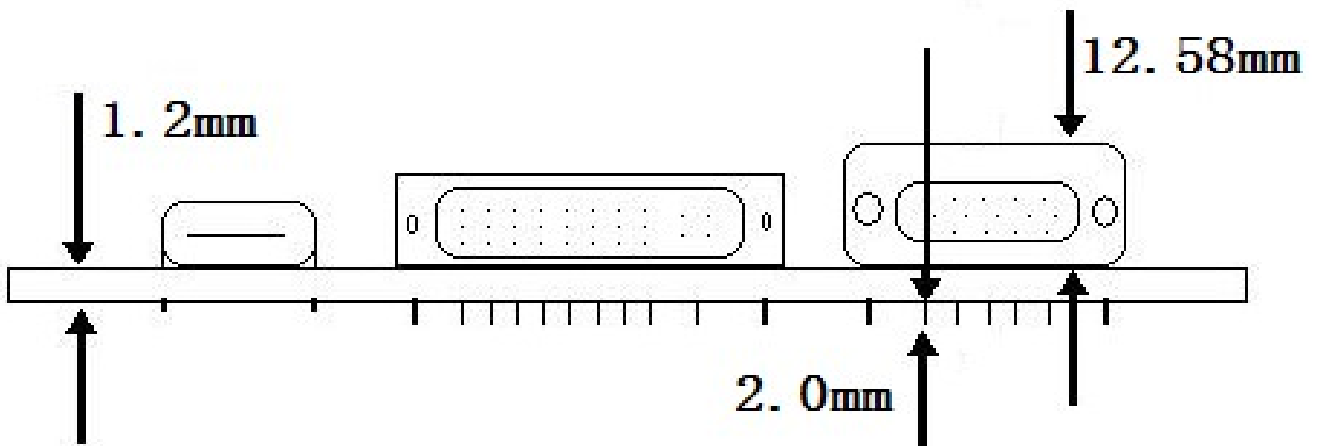
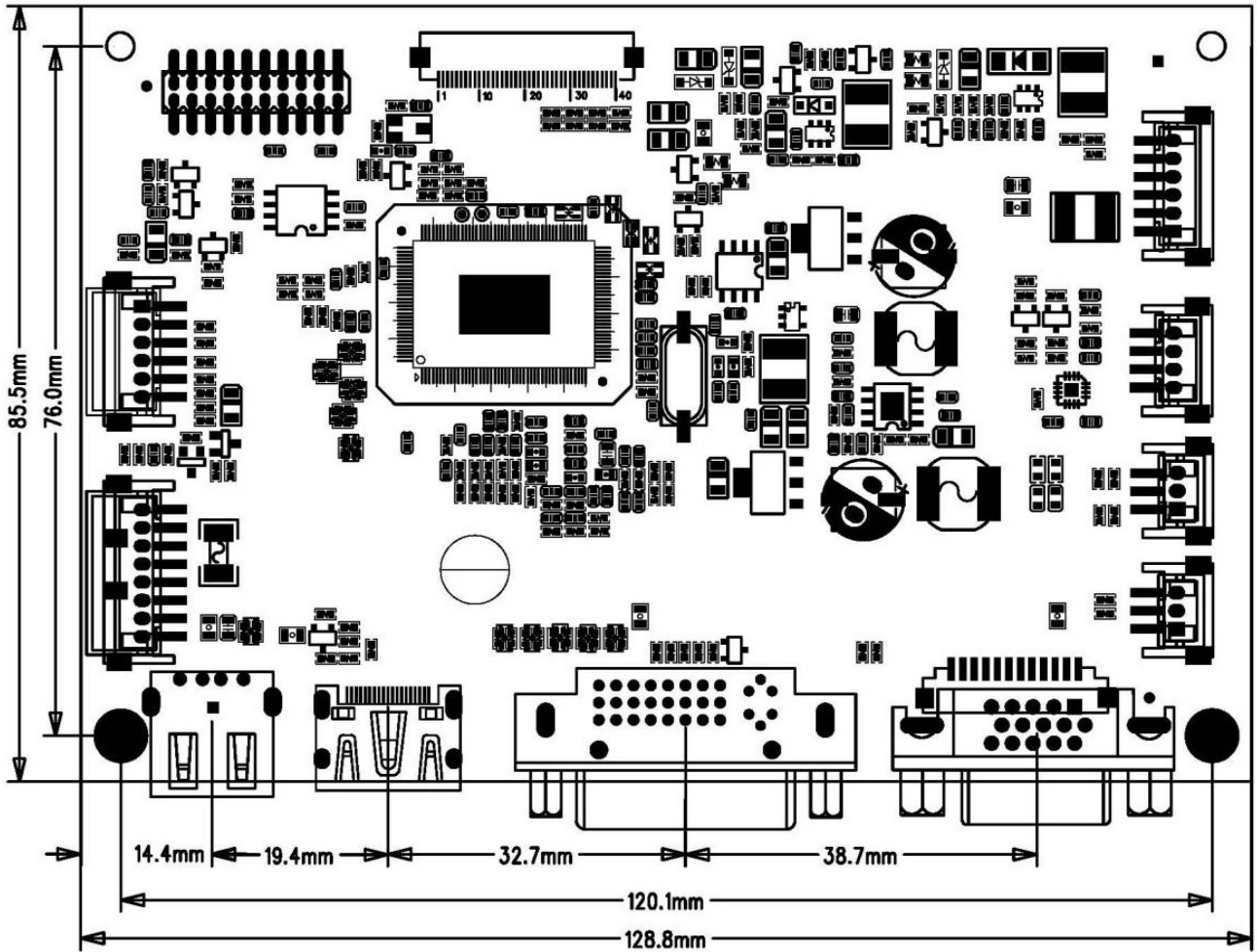
PO NO.	Symbol	I/O	Description	Remark
1	SPK-L-OUT	O	Left speaker negative output	8Ω~1.25W 4Ω~1.9W
2	SPK-L+OUT	O	Left Speaker positive output	
3	SPK-R+OUT	O	Right speaker positive output	8Ω~1.25W 4Ω~1.9W
4	SPK-R-OUT	O	Right speaker negative output	

6、Structural diagram:

6.1、TFT LCD Panel:



6.2、PCB



7、 Packaging, transportation and storage

1、 Packing

TBD

2、 Transportation and storage

Don't hit and rain when transportation;

Don't storage with chemic goods and wet goods together.

8、 TSM70M6M Precaution

1. TFT have used by special instrument to adjust precision and aging、 test before leave factory, no need adjust again.
2. Please correctly connect power、 video signal before you adjust, should be on/off power and video signal to check the image's effect.
3. Due to this product is electronic product, please notice prevent static.
4. 7.0" TFT LCD Panel is a glass work, place carefully ,broken for fear.
- 5、 Don't touch push button's pin feet when you adjust potentiometers, due to Person have resistance, you will effect push button's function when touch it.

9、 7" TFT- LCD PANEL Inspection standard:

Aim: Make the panel standards to material purchasing, process inspecting and customer checking.

Ranges: 7.0" TFT LCD

10.1 Determinant standard and method:

10.1.1. The method and determinant of inspecting the nick of panel of LCD:

10.1.1.1. Inspect vertically (or at 45°angle from left/right) under the light tube (the power is 20 W) in the distance of 30cm to the panel. If there is no nick, it determines “OK”, otherwise “NG”.

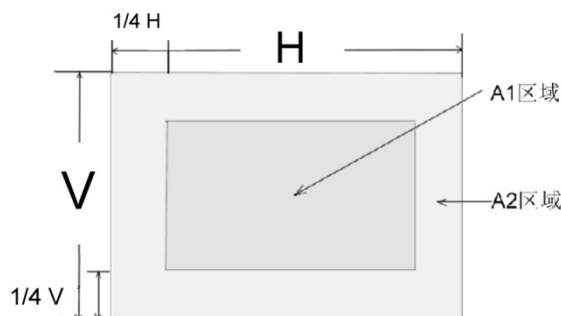
10.1.2. The method and determinative for black & white & color spots for the Panel of LCD:

10.1.2.1. Inspecting method

10.1.2.1.1. Black spots: under the situation of “turn on the light”, set the MASK of black spot inspection near the black spot then compare the big and small by eyes.

10.1.2.1.2. White & Color spots: under situation of “turn on the light”, set the Mask of black spot inspection on the white spot (or color spot) then observe them by eyes if it can hide.

10.1.2.2. Division of LCD Panel



Remark: Area of A1: The center of the available area for the picture

Area of A2: The edge of the available area for the picture

9.1.3、 The inspection standard for the spots of LCD panel:

Spot Diameter (mm)		Allowed Area	
		A1	A2
Black Spot	$d \leq 0.15$	Negate	Negate
	$0.15 < d \leq 0.3$	4	4
	$0.3 < d \leq 0.5$	2	3
	$0.5 < d < 0.8$	0	2
White or color spot	$d \leq 0.15$	Negate	Negate
	$0.15 < d \leq 0.3$	3	3
	$0.3 < d \leq 0.5$	1	2
	$0.5 < d < 0.8$	0	1

Remark: 1. Size: Average Diameter= (Max. Diameter + Min. Diameter) /2

2. Using information above as a standard in order to judge while the e spots are dense.

3. Black & White spot: To judge the obvious spots through the change of voltage by comparison. 4. Total quantity of Black & white & color spot: $A1+A2 \leq 4$.