

产品规格书

Specification

产品名称 (Product) : 7寸高清触摸模组/7inch HD TFT LCD Module With Touch驱动板 (Driver board): JD70M6M版本号 (Version): VER:1.01液晶屏 (TFT LCD): HE070NA-13B-27H触摸屏 (Touch Screen): XWT689

客户名称 (Customer): _____

客户型号 (Cust.P/N): _____

日期 (Date): _____

客户 CUSTOMER			承制方 MANUFACTURER		
品质 Quality	工程 Engineer	审批 Approved	审核 Checked	批准 Approved	销售 Sales

目 录 Contents

目 录 Contents.....	2
版本 Version.....	3
1. 概 况 Profile	4
2. 基本参数 Specifications	4
3. 产品图片 Product Picture	5
4. 连线示意图 Wiring Diagram.....	5
5. 驱动板接口定义 Interface Definition	6-10
6. 结构图 Structure	11-13
7. 产品标示 Labels	14
8. 包装运输 Packing Shipping.....	14
9. JD70M6M 调试注意事项 Notes	14
10. 7.0"TFT- LCD PANEL 判定标准 Judgment	15-17

版本更改 Version

日期/Date	版本/Ver.	修改版本/Modification
2013-06-21	RD001	第一版(研发版) / First Version(Development version)
2013-12-20	VER: 1.00	第二版(正式版) / Second Version(official version)
2014-10-08	VER: 1.01	第三版(正式版) / Third Version(official version)

1. 概况 Profile:

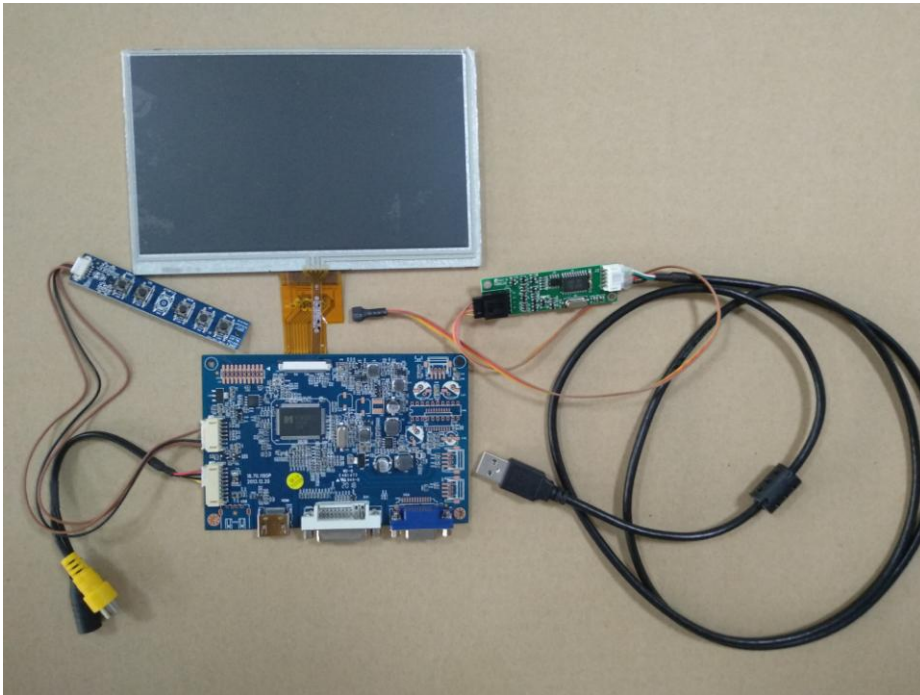
JD70M6M VER:1.01-HE070NA-13B-27H-XWT689 彩色液晶驱动触摸模组，由 JD70M6M VER:1.01 驱动板和（HE070NA-13B-27H）屏及 XWT689 电阻触摸屏组成。可输入 2 路 CVBS、1 路 VGA、1 路 DVI、1 路 HDMI 信号，有 PAL 制和 NTSC 两种制式，可实现自动识别。可用按键调节菜单，OSD 显示。它主要用于车载显示器、可视门铃、可视电话、楼宇对讲等其他显示电子设备。

JD70M6M VER:1.01-HE070NA-13B-27H-XWT689 TFT touch LCD module is composed by JD70M6M VER:1.01 driver board and HE070NA-13B-27H panel & XWT689 Resistive Touch Screen. It can input 2 channel CVBS、1channel 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 pushbutton, OSD display. The product is mainly used for video door phone or other display electronic equipments.

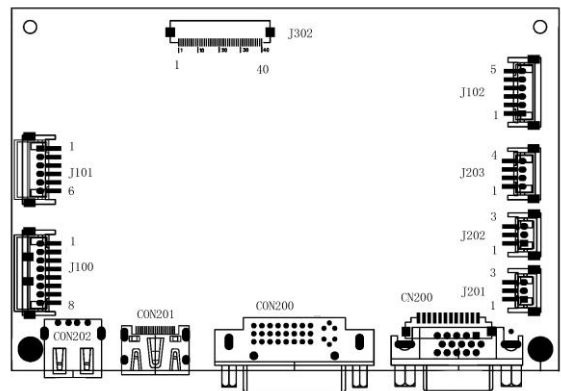
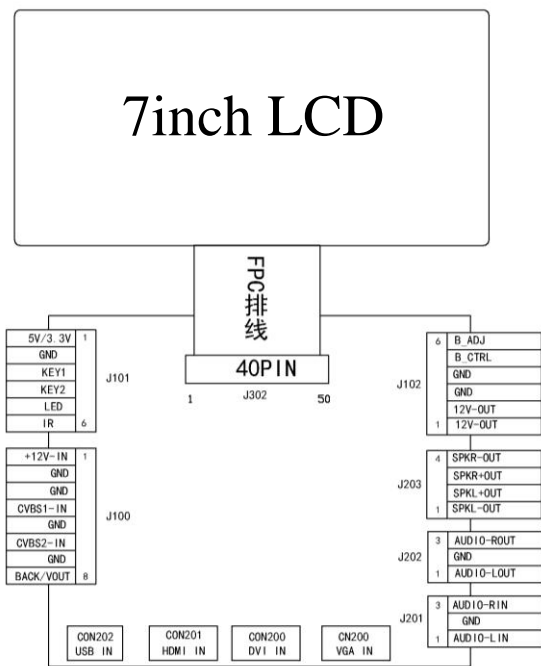
2. 基本参数 Specifications:

No.	项目/Item	说明/Description	Note
1	液晶屏显示尺寸/LCD Display	7.0 英寸/7inch	
2	显示比例/Display Ratio	16:9	
3	背光方式/Backlight	LED	
4	亮度/Brightness	180-230 cd/m ²	
5	解析度/Resolution	1024×3 (RGB)×600	
6	视角范围 View angle	(60 / 65 / 65 / 65)up/down/left/right	
7	液晶屏尺寸/LCD dimension	160 (W) ×101.1 (H) ×1.23 (D) mm	
8	有效显示范围/Effect area	153.6 (W) ×90.0 (H) mm	
9	驱动板尺寸/Driver board size	128.8(W)×85.5(H) ×15.78(D)mm	
10	工作电压（纹波小于 0.3VP-P） Working Voltage (Wave<0.3VP-P)	最小：DC9V；标准：DC12V；最大：DC15V； Min:DC9V; Standard: DC12V; Max: DC15V;	
11	工作电流（DC 12V 供电时） Working Current (DC 12V supply)	DC430mA±30mA	
12	消耗功率/Power Consumption	5.16W (TYP)	
13	启动时间/Start Time	≤5 秒（开机画面）≤10 秒（进入通道画面） ≤5s (Boot screen); ≤10s(Access channel screen)	
14	工作温度范围/Working Temp.	-10℃~60℃	
15	储存温度范围/Storage Temp.	-20℃~70℃	
16	环境相对湿度/ENV. Humidity	5~90%RH	

3. 产品图片/Product Picture:



4. 连线示意图/Wiring Diagram:



5. 驱动板接口定义/Interface Definition:

5.1. J100 接口定义/J100 Interface Definition: (8PIN 2.0mm)

PIN	Function	I/O/P	脚位定义说明/PIN Definition	Note
1	+12V IN	I	直流电源输入/DC power input	9V~15V
2	GND	P	地/GND	
3	GND	P	地/GND	
4	CVBS 1	I	视频信号输入/Video Signal input	0.5V~1.5VP-P
5	GND	P	地/GND	
6	CVBS 2	I	视频信号输入/Video Signal input	0.5V~1.5VP-P
7	GND	P	地/GND	
8	BACK/VOUT	I/O	倒车控制输入/视频输出/ Reversing control input / video output	倒车控制电压为 12V / 视频输出 0.2V~1.2VP-P /Reversing control voltage is 12V / video output 0.2V~1.2V _{P-P}

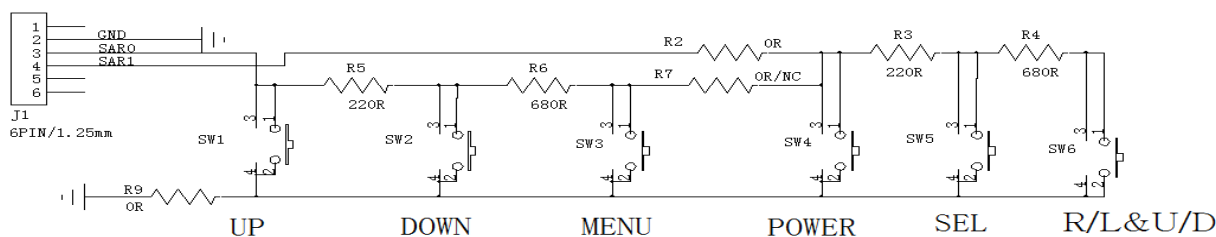
5.2. J101 接口定义/J101 Interface Definition: (6PIN 2.0mm)

PIN	Function	I/O	脚位定义说明/PIN Definition	Note
1	5V/3.3V	O	3.3V 直流输出/3.3V direct-current output	
2	GND	P	地/ Ground	
3	KEY1	I	按键输入/ keypad input	
4	KEY2	I	按键输入/ keypad input	
5	LED	O	主板要作状态指示输出/Main board needs to be state indicator output	
6	IR	I	红外遥控信号输入/Infrared remote control signal input	

5.2.1. 按键板/SJD-keypad



5.2.2. 按键板接线图/Wiring Diagram of keypad:



5.2.3. 按键功能说明/Keypad Description:

SW1 (UP): 音量加键。主菜单模式下此键为菜单向上移动键，参数增加键。

SW1: Up key. The key without any operation, Press the key to increase the volume. The key is the menu option parameter increase key under the menu mode.

SW2 (DOWN): 音量减键。主菜单模式下此键为菜单向下移动键，参数递减键。

SW2: Down key. The key without any operation, Press the key to decrease the volume. The key is the menu option parameter decrease key under the menu mode.

SW3 (MENU): 菜单键。按此键进入主菜单。

SW3: Menu key. Press the key to chose contrast、brightness、color、definition.

SW4 (POWER): 待机键/开机键。待机状态下按此键进入开机状态，开机状态按此键进入待机状态。

SW4: Power key. Press the key to open/close the screen.

SW5 (SEL): 切换键，此键为视频通道切换键。

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

5.3. VGA、DVI、HDMI 接口参数/VGA,DVI,HDMI connector Parameters

5.3.1. 兼容 HDMI 版本:HDMI 1.3/1.4, 兼容 HDCP 1.2。支持的格式有 HDMI 3D input, HDMI 4Kx2K input, HDMI ARC。

Compatible with HDMI version: HDMI 1.3/1.4, compatible with HDCP 1.2. Supported formats are HDMI 3D input、HDMI 4Kx2K input、HDMI ARC

5.3.2. 兼容 DVI 版本: DVI 1.0, 最高支持分辨率 1920×1080@60HZ 和 1600×1200@60HZ。

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

5.3.3. 支持电脑 RGB 输入,支持分辨率 800×600@60HZ-1280×768@60HZ。

Supported computer RGB input, resolution at 800x600 60HZ, 1280x768 60HZ.

5.4. J302 接口定义/J302 Interface Definition:

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	

Pin No.	Symbol	I/O	Function	Remark
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

5.5、J102 接口定义/J102 Interface Definition: (6PIN 2.0mm)

PIN	Function	I/O/P	脚位定义说明/PIN Definition	Note
1	12V-OUT	O	12V 直流输出/12V DC output	
2	12V-OUT	O	12V 直流输出/12V DC output	
3	GND	P	地/ GND	
4	GND	P	地/ GND	
5	B-CTRL	O	背光开关信号输出/Backlit switch signal output	
6	B-ADJ	O	背光亮度调节输出/ Backlight brightness adjustment output	

5.6、J201接口定义/J201 Interface Definition: (3PIN 2.0mm)

PIN	Function	I/O/P	脚位定义说明/PIN Definition	Note
1	AUDIO-LIN	I	左声道 音频输入/ Left channel audio input	0.1V~1.0V _{P-P}
2	GND	P	地/ GND	
3	AUDIO-RIN	I	右声道 音频输入/ Right channel audio input	0.1V~1.0V _{P-P}

5.7、J202接口定义/J202 Interface Definition: (3PIN 2.0mm)

PIN	Function	I/O/P	脚位定义说明/PIN Definition	Note
1	AUDIO-LOUT	O	左声道 音频输出/Left channel audio output	
2	GND	P	地/ GND	
3	AUDIO-ROUT	O	右声道 音频输出/Right channel audio output	

5.8、J203接口定义/J203 Interface Definition: (4PIN 2.0mm)

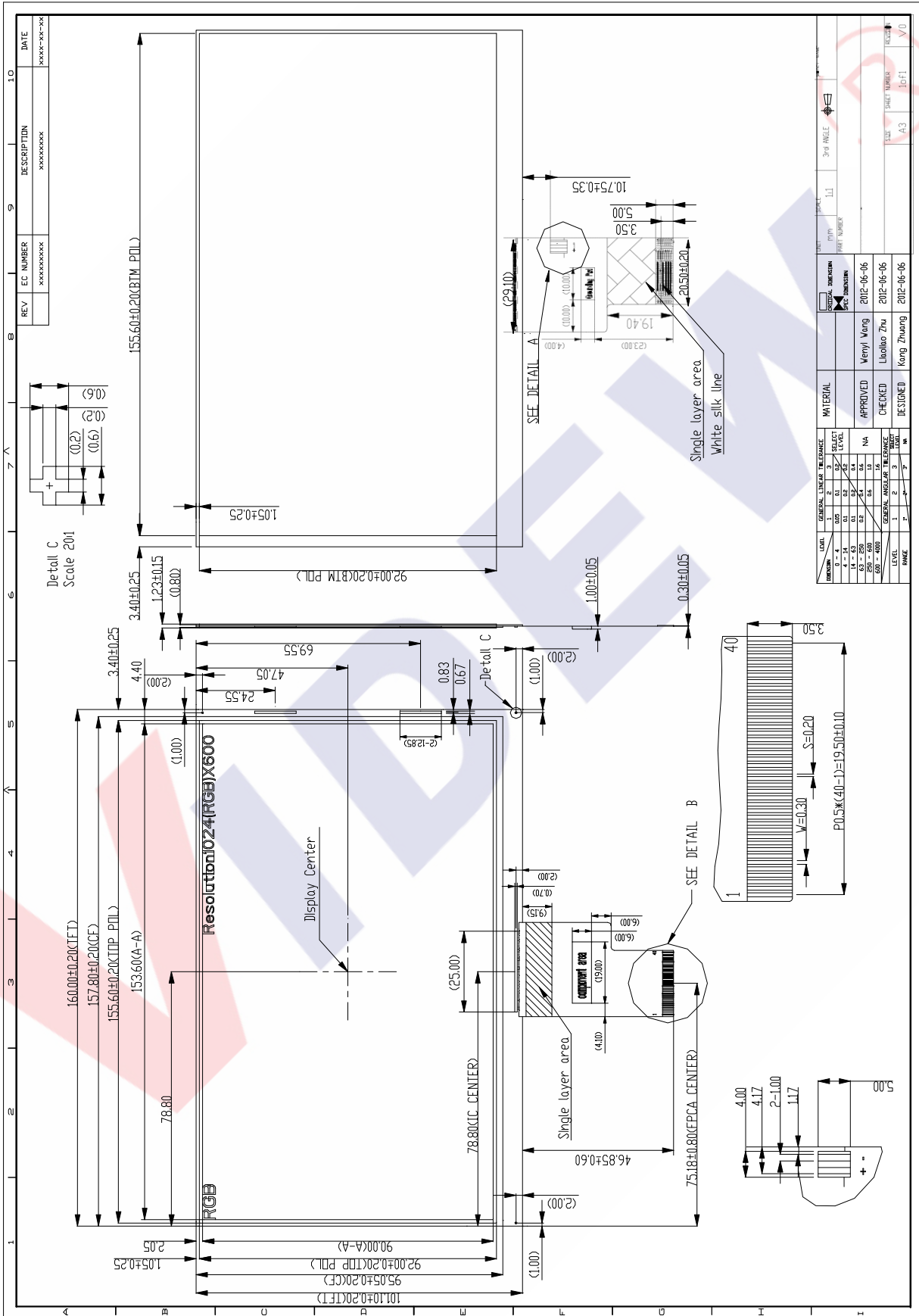
PIN	Function	I/O/P	脚位定义说明/PIN Definition	Note
1	SPK-L-OUT	O	左喇叭负输出/Left speaker output -	8Ω ~1.25W
2	SPK-L+OUT	O	左喇叭正输出/Left speaker output +	4Ω ~1.9W
3	SPK-R+OUT	O	右喇叭正输出/Right speaker output +	8Ω ~1.25W
4	SPK-R-OUT	O	右喇叭负输出/ Right speaker output -	4Ω ~1.9W

5.9、触摸屏接口定义/Touch screen interface definition

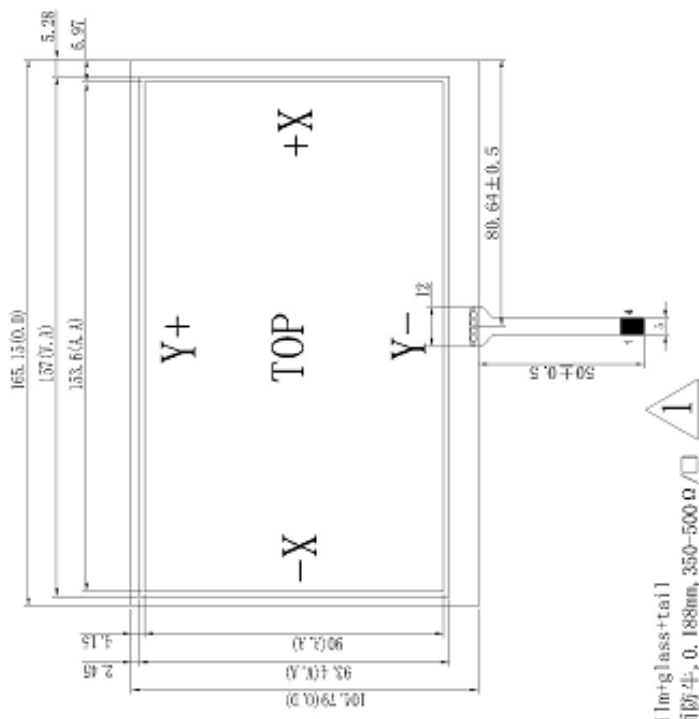
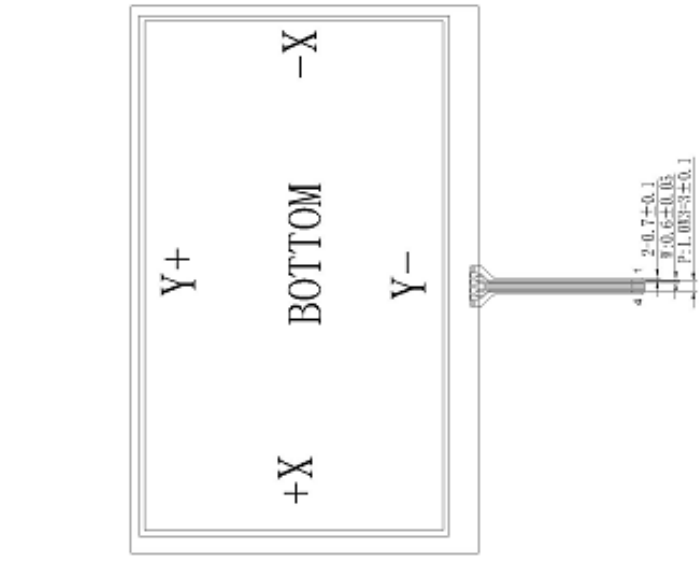
Pin	Symbol	Description
1	X-	
2	Y-	
3	X+	
4	Y+	

6. 结构图/Structure:

6.1. TFT LCD Panel:



版本	说明	日期	姓名	审核
0	共用XWT170FPC	2013.03.05	TING	
1	上线材料改为亮面防牛,共用XWT170FPC	2013.03.22	REN	



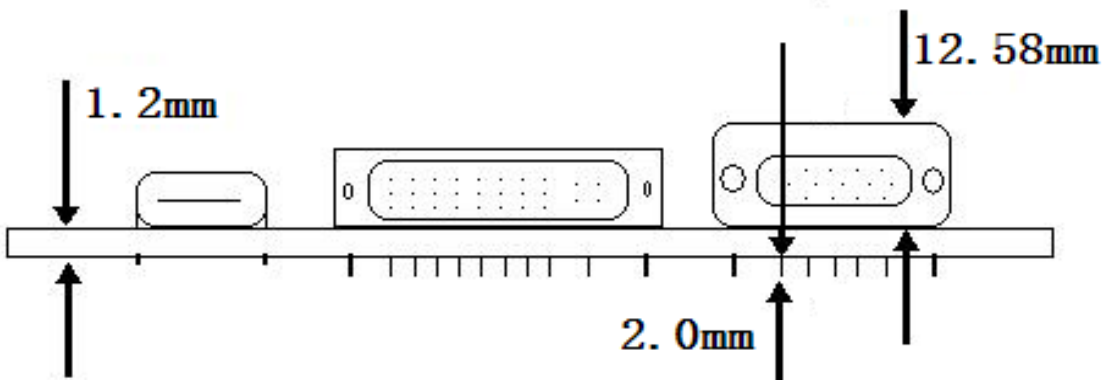
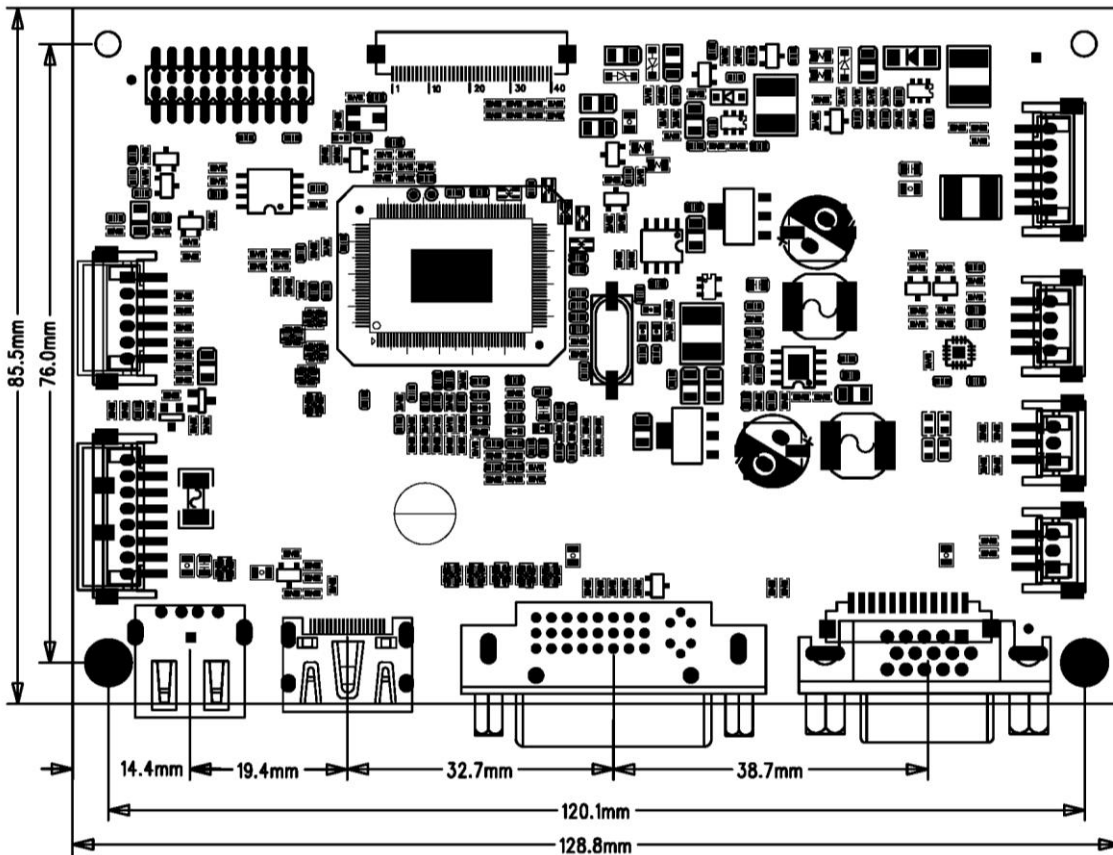
- 说明:
1. 结构: film+glass+tail
film:亮面防牛,0.188mm,350-500Ω/□
glass:普通玻璃,1.1mm,350~500Ω/□
tail:双面FPC (pitch=1.0mm)
总厚度:1.4±0.15mm
 2. 电路等级: DC5V 1mA
 3. 绝缘阻抗: ≥20MΩ (25V DC)
 4. 线性: ≤1.5%
 5. 透光率: ≥80%
 6. 操作压力: 20-150g
 7. 敲击寿命: ≥1,000,000次
 8. 笔划寿命: ≥100,000次
 9. 工作环境: -20℃~+70℃
 10. 储存环境: -25℃~+75℃
 11. X (film):400-1000Ω, Y (Glass):80-500Ω
 12. 响应时间: ≤30ms
 13. 未注尺寸公差按±0.20

Pin No.	Symbol	姓名	日期
1	X-		
2	Y-		
3	X+		
4	Y+		

图号	审核	日期	姓名
单位	审核	日期	姓名
比例	1:1		
图例			
图例			

图例名称:	XWT689工程图
客户编号:	7"

6.2. PCB 尺寸/PCB size: 128.8(W)×85.5(H) ×15.78(D)mm (with VGA)



USB 电阻触摸驱动板/USB RTP Driver board:



7. 产品标示/Product Label:

HE070NA-13B-27H-XWT689

8. 包装、运输及贮存/Packing Shipping

8.1. 供货包装/Packing

TBD

8.2. 运输及贮存/Shipping

运输过程避免碰撞和雨雪淋袭；严禁与化学物品及潮湿物品同库贮存。

Don't hit and rain when transportation: Don't storage with chemic goods and wet goods together.

9. JD70M6M 调试注意事项/Notes

9.1. TFT 出厂前已用专用仪器进行精密调试和老化、测试，一般不需要再做调整。

TFT have used by special instrument to adjust precision and aging, test before leave factory, no need adjust again.

9.2. 调整前，应正确连接电源、视频信号，应数次开关电源以及视频信号检查图像情况。

Please correctly connect power, video signal before you adjust, should be on/off power and video signal to check the image's effect.

9.3. 因为此产品为电子产品，请注意防静电。

Due to this product is electronic product, please notice prevent static.

9.4. 7" TFT- LCD PANEL 为玻璃制品，小心拿放，以免破裂。

7.0" TFT-LCD Panel is a glasswork, place carefully ,broken for fear

9.5. 按按键时需注意不能让手碰到按键引脚，因人体有一定的电阻，如触摸到会对按键功能造成影响。

Don't touch pushbutton's pin feet when you adjust potentiometers, due to person have resistance, you will effect pushbutton's function when touch it.

10. 7.0"TFT- LCD PANEL 判定标准/Judgment:

目的: 制定 PANEL 的标准供进料检查、制程检查、客户检查的依据.

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

范围: 适用于 7.0"TFT LCD 产品.

Ranges: apply to 7.0"TFT LCD modules

作业内容/ Determinant standard and method:

10.1. 判定标准及方法:

Judgment standard and method:

10.1.1. LCD 显示屏伤痕检测方法判定:

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

在 20W 萤光灯下, 距离 PANEL 30CM 处垂直 (或左、右 45 度) 观察, 如果没有看见异物、伤痕, 则判定 OK, 否则 NG.

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. LCD 显示屏黑点, 白点, 色点检测方法与判定:

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

1. 检查方法/Inspection Method:

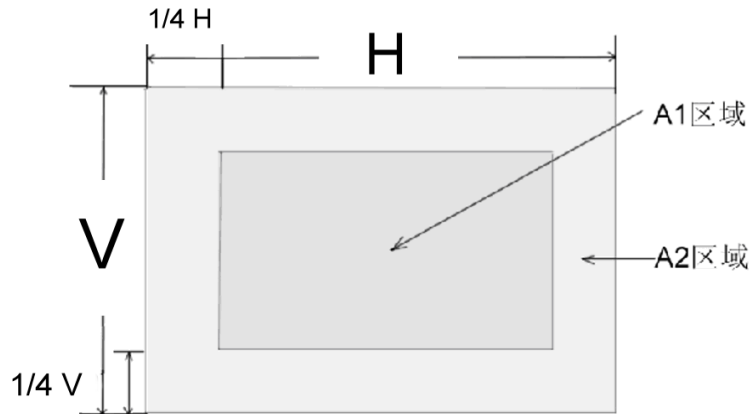
黑点: 在表示点灯状况下, 把检查黑点的 MASK 摆在 LCD 黑点的附近, 目视观察比较大小.

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.

白点, 色点: 在表示点灯状况下, 把检查黑点的 MASK 重叠在 LCD 白点 (色点) 处, 目视观察判断白点 (色点) 是否可以隐藏.

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.

2. 显示屏区域划分/Division of LCD Panel:



注/Note: A1 区域: 图像有效区域中心范围。

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

A2 区域: 图像有效区域边缘范围 (四周的区域)。

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

10.2. 判定选择/Judgment:

欠点直径 (mm) Spot Diameter		允收范围/Accept Range	
		A1 区域/A1 area	A2 区域/A2 area
黑点 Black spot	$d \leq 0.15$	不计/Disregard	不计/Disregard
	$0.15 < d \leq 0.3$	4	4
	$0.3 < d \leq 0.5$	2	3
	$0.5 < d < 0.8$	0	2
白点或色点 White spot or Color spot	$d \leq 0.15$	不计/Disregard	不计/Disregard
	$0.15 < d \leq 0.3$	3	3
	$0.3 < d \leq 0.5$	1	2
	$0.5 < d < 0.8$	0	1

注/Note:

1. 大小: 平均直径= (最长直径+最小直径) /2

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

2. 关于小欠点密集的时候, 用上述的基准判断。

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

3. 黑斑、白斑: 通过电压的变化来看, 用对比的方法, 对于明显斑点用点规格判断。

Black & White spot: To judge the obvious spots through the change of voltage by comparison.

4. 总的黑点、白点、色点个数: A1+A2 区 ≤4 个。

Total quantity of Black & white & color spot: A1+A2 ≤4.