Good Display

Specification

Driver board Model: GD24TWD

Driver board version: VER: 2.00

LCD model: GTT24P138

USER			MANUFACTURER		
QA	Project	Approved by	Prepared by	Checked by	Approved by

Catalogue

version

Date	version	content
2010-12-23	RD001	The first version
2011-03-01	VER:1.00	The second version
2011-03-14	VER:1.01	The third version（add part no，modify silkscreen）
2011-04-15	VER:1.02	The fourth version（change power solution and add 5V input function）
2012-04-20	VER:1.03	The fifth version（change the circuit）
2013-06-09	VER:2.00	The sixth version(change resolution)

Good Display

1、Profile:

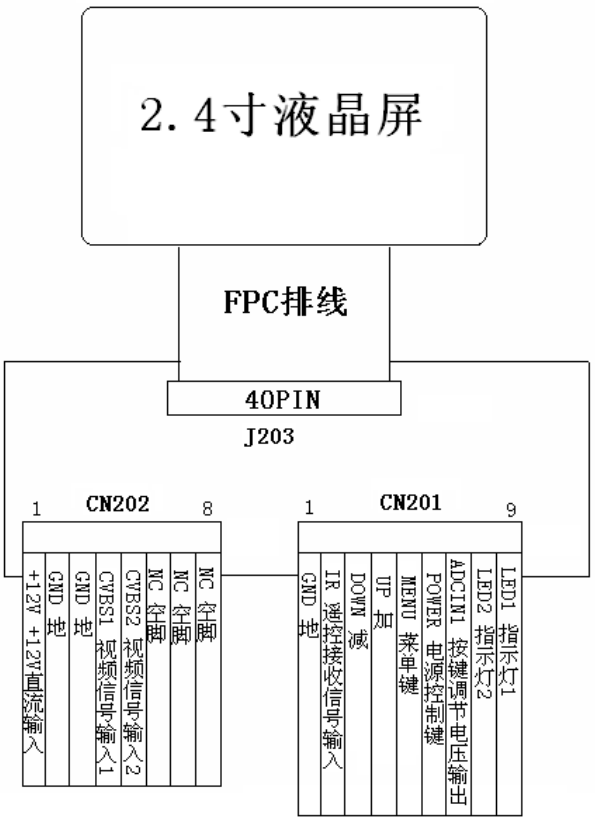
GD24TWD VER:2.00 T24P138 color digital tft lcd module is composed by GD24TWD VER;2.00 driver board AndGT T24P138 LCD panel , it can input CVBS signal . with PAL and NTSC system. Button control method , with OSD menu control . it is mainly used for video door phone or other display electronic equipments.

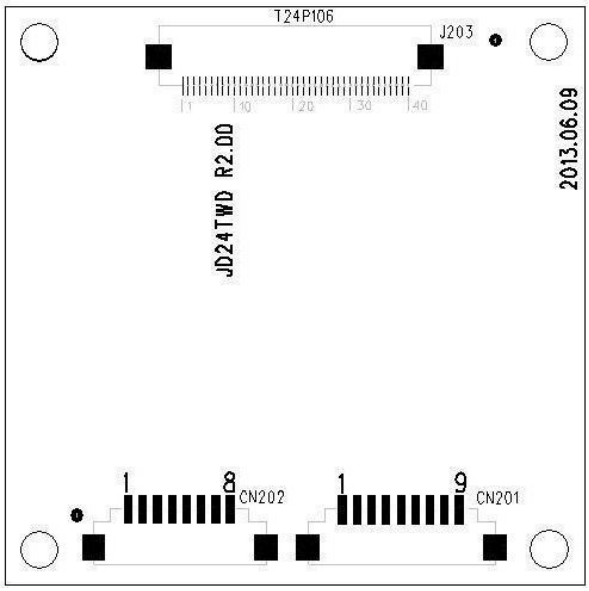
2、Main parameter:

No.	Item	Description	Note
1	LCD display dimension	2.4 inch	
2	LCD display ratio	4:3	
3	Backlight	LED	
4	Brightness	300 (cd/m^2)	
5	Resolution	480(RGB)×234	
6	View angle（U、D、L、R）	（50/65/65/65）	
7	LCD screen	55.5（W）×47.9（H）×3.17（D）	
8	Active Display Area	48.0（H）×35.69（V）mm	
9	Driver Board Size	50.0 (W)×50.0(H) ×5.2 (D)mm	
10	Work voltage （ power supply ripple<0.3VP-P）	Min：DC9V； S：DC12V； Max：DC15V；	
11	Current（DC 12V power supply）	DC50mA±10mA	
12	Power consumption	0.6W（TYP）	
13	Start-up time	≤1.0 s	
14	Operation temperature	-10℃~60℃	
15	Storage temperature	-20℃~70℃	
16	Relative humidity	5~95％RH	

3、Product picture:

4、**Wiring diagrams**:





5、Driver board interface definition：

5.1、CN202：

NO.	Symbol	I/O/P	Description	Note
1	+12V	I	+12V Dc input	Note 1
2	GND	P	GND	
3	GND	P	GND	
4	CVBS1	I	Video signal input 1	Note 2
5	CVBS2	I	Video signal input 2	Note 2
6	NC	-	No connect	
7	NC	-	No connect	
8	NC	-	No connect	

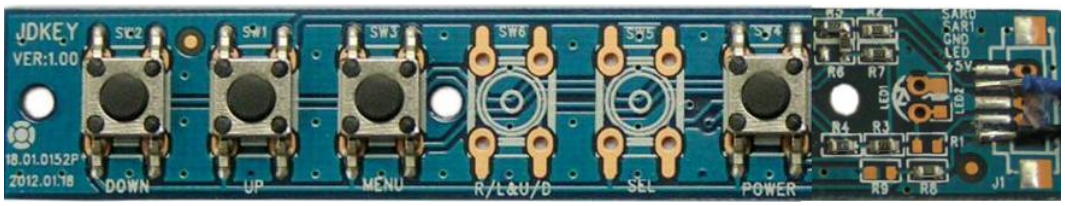
Note 1：DC12V±20% DC power input

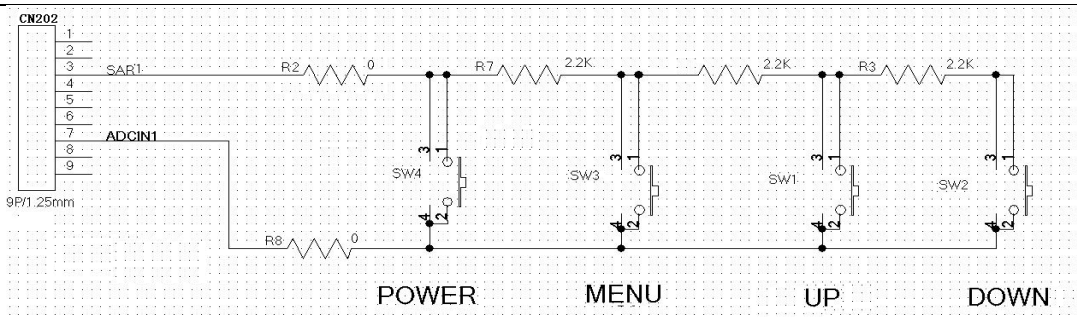
Note 2：$0.5V_{P-P}$-$1.8V_{P-P}$ Video signal input

5.2 、CN201：

NO.	Symbol	I/O/P	Description	Note
1	GND	P	GND	
2	IR	I	Remote receiver signal input	Available
3	DOWN	O	Minus	
4	UP	O	Plus	
5	MENU	O	Menu key	
6	POWER	O	Power control button	
7	ADCIN1	I	Buttons to adjust the voltage output	
8	LED2	O	Indicator 2	
9	LED1	O	Indicator 1	

Key board：





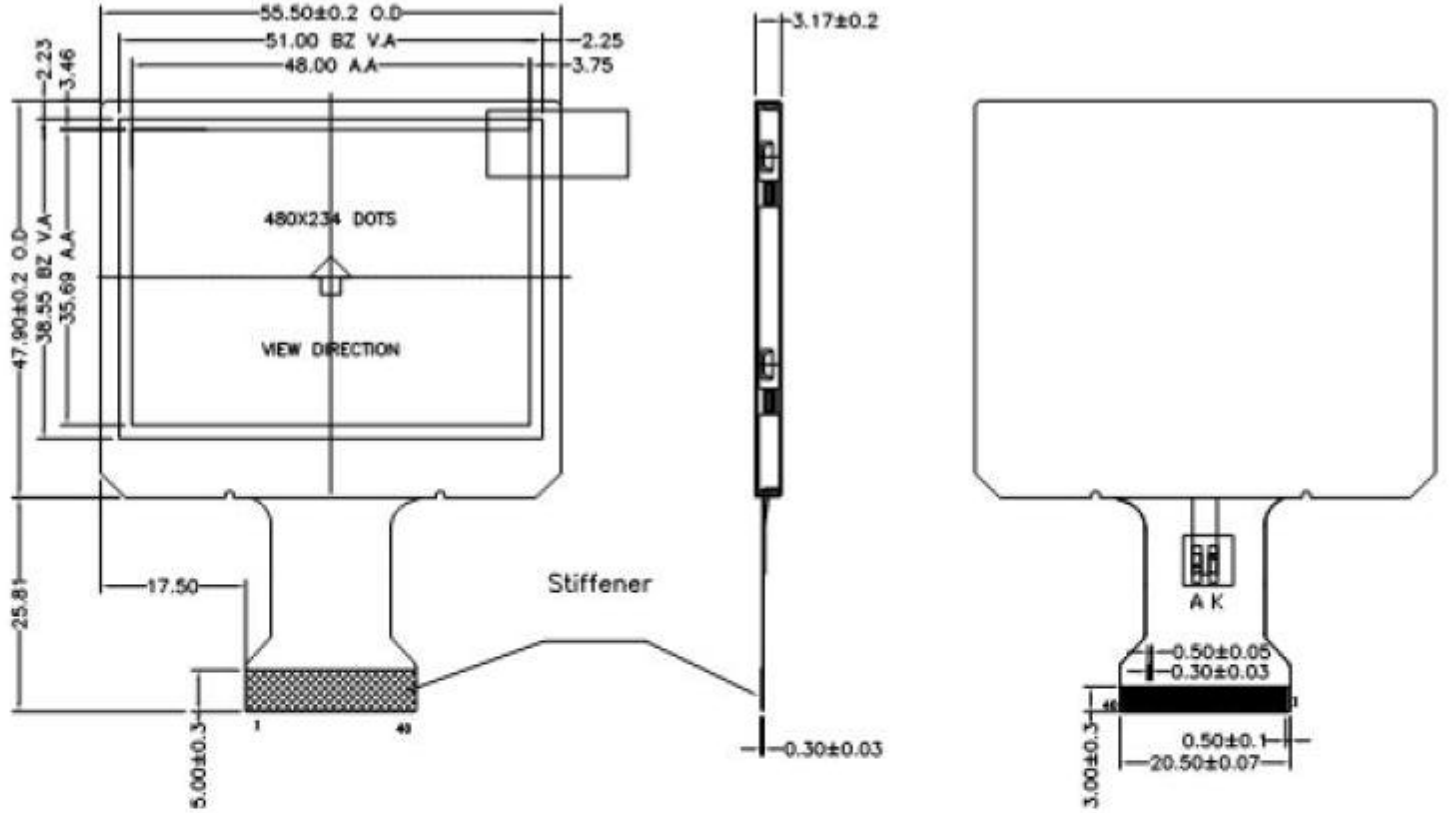
5.3 、J103

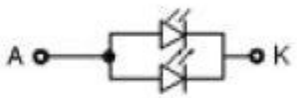
PIN NO.	Symbol	Description	Remark
1~8	D0~D7	Data bus	
9	DCLK	Data clock input	
10	VSYNC	Vertical sync input	
11	HSYNC	Horizontal sync input	
12	SCL	Serial command clock input	
13	SDA	Serial command data input	
14	CSB	Serial communication chip select	
15	VDDIO	Input I/O power supply	
16	AGND	Analog ground for source driver	
17	NC	No Connection	
18	FB	Main boost regulator feedback input	
19	NC	No Connection	
20	VLED	Supply voltage for LED backlight	
21	DRV	Gate signal for the power transister of the boost	
22	VDD	Charge Pump power supply	
23	GND	Digital ground.	
24	C1N	Pins to connect capacitors for power circuitry	
25	C1P	Pins to connect capacitors for power circuitry	
26	NC	NO connection	
27	C2N	Pins to connect capacitors for power circuitry	
28	C2P	Pins to connect capacitors for power circuitry	
29	VDD3	Charge Pump circuit reference voltage	
30	C3N	Pins to connect capacitors for power circuitry	
31	C3P	Pins to connect capacitors for power circuitry	
32	VDD_25V	Intermediate voltage for charge Pump	
33	VCAC	Define the amplitude of VCOM swing	
34	FRP	Frame polarity output for VCOM	

35	VGH	Positive power supply for gate driver outputs	
36	C4N	Pins to connect capacitors for power circuitry	
37	C4P	Pins to connect capacitors for power circuitry	
38	VGL	Negative low power supply for gate driver outputs	
39	NC	NO connection	
40	VCOM	Common electrode driving voltage	

6、Structural diagram:

6.1、TFT LCD Panel:



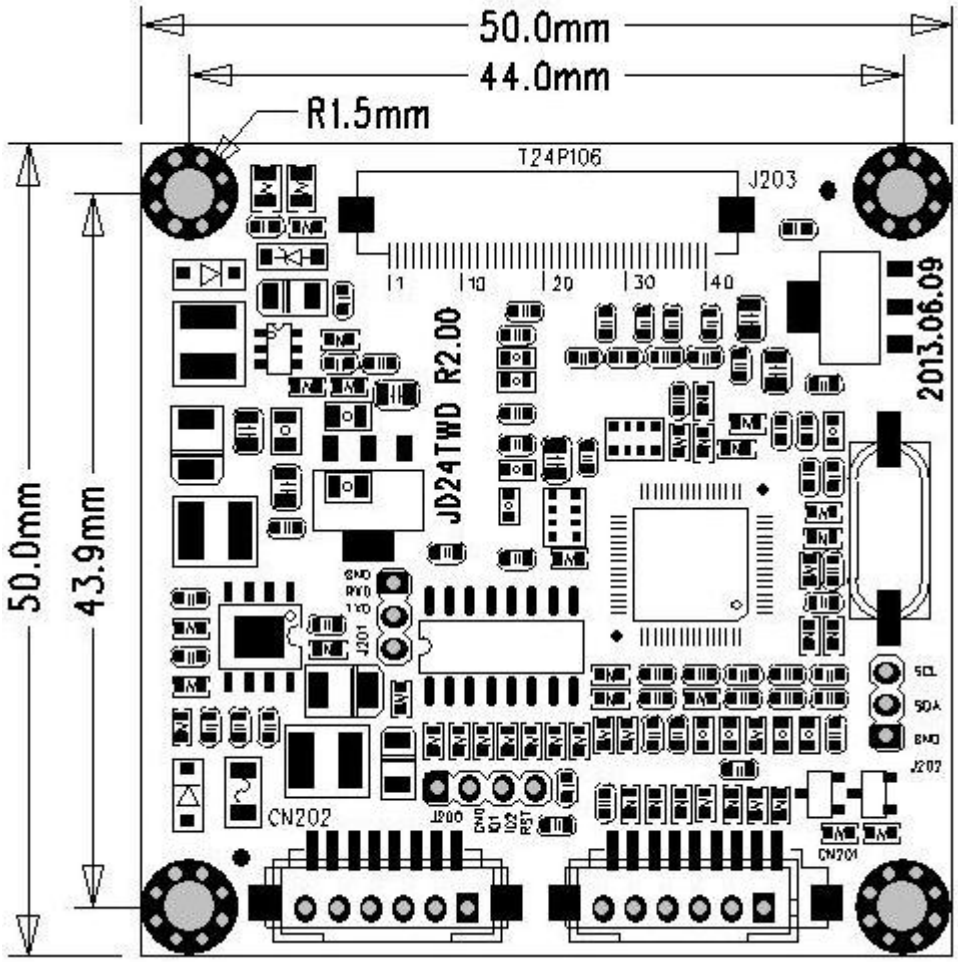


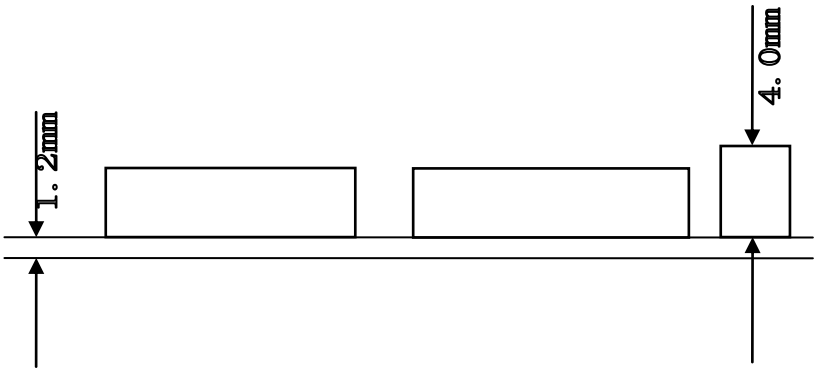
CIRCUIT DIAGRAM

NOTES:

1) DISPLAY TYPE: 2.36''TFT Transmissive
2) DRIVE METHOD: 16.7M
3) VIEW DIRECTION: 6 O'CLOCK
4) NUMBER OF DOTS: 480X234 DOTS
5) DRIVE IC:OTA5182A
6) WHITE BACKLIGHT:2-CHIP WHITE LED
7) OPERATING TEMP:-10°C-----60°C
   STORAGE TEMP:-20°C-----70°C
8) 产品符合ROHS标准

6.2 、PCBA dimension：50.0 (W)×50.0 (H) ×5.2 (D)mm





7、Product logo:

GTT24P138

8、packing、shipping and storage

1. Delivery Package

TBD

2.Shipping and storage

Avoid to crash and drench , chemicals stores with humidity products together that is rigidly prohibited.

9. Caution:

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. 2.4"TFT-LCD Panel is a glasswork, place carefully ,broken for fear.
5. The connection is "FPC", which connect 5.6"TFT-LCD panel with PCB, Please operate it carefully, in order to keep it well.

10、2.4 "TFT- LCD PANEL　Inspection standard:

Aim：Establishing the standard of PANLE for inspecting material & progress and for clients' inspection.

Scope：Apply to 2.4″TFT LCD

Content：

10.1. Inspection 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 is "OK". Otherwise "NG".

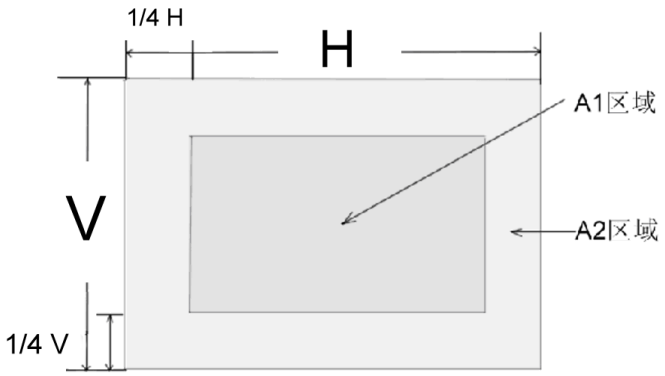
10.1.2. The method and determinative for black & white & color spots for the Panel of LCD：

10.1.2.1. Inspection methods

10.1.2.1.1. Black spots：under status of denote 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 status of denote light, set the Mask of black spot inspection on the white spot(or color spot) then inspect them by eyes if it can hide.

10.1.2.2. Division of LCD Panel



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

A2：The edge of the available area for the picture（around the central area）

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10.1.3、Spots inspection standard:

Spot Diameter（mm）		Allowed Area	
		A1	A2
Black Spot	d≤0.15	Irrespective	Irrespective
	0.15<d≤0.3	4	4
	0.3<d≤0.5	2	3
	0.5<d<0.8	0	2
White or color spot	d≤0.15	Irrespective	Irrespective
	0.15<d≤0.3	3	3
	0.3<d≤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 spot is a 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 ≤ 4.