



SPECIFICATION

LCD Module User Manual

MODULE NO.: DN40PVL

REV NO.: 1.01

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1.Profile :

DN40PVL TFT LCD Module is composed of JD40PVL Ver:1.04 driver board and GTPA040XR2 4.3" digital TFT display. This module provides users with Video signal input and automatic identifying and converting of NTSC/PAL systems, built-in OSD(on-screen display) function, and the OSD menu offers adjustment of brightness, contrast and color. The power control IC is designed for better reliability.

2.Application:

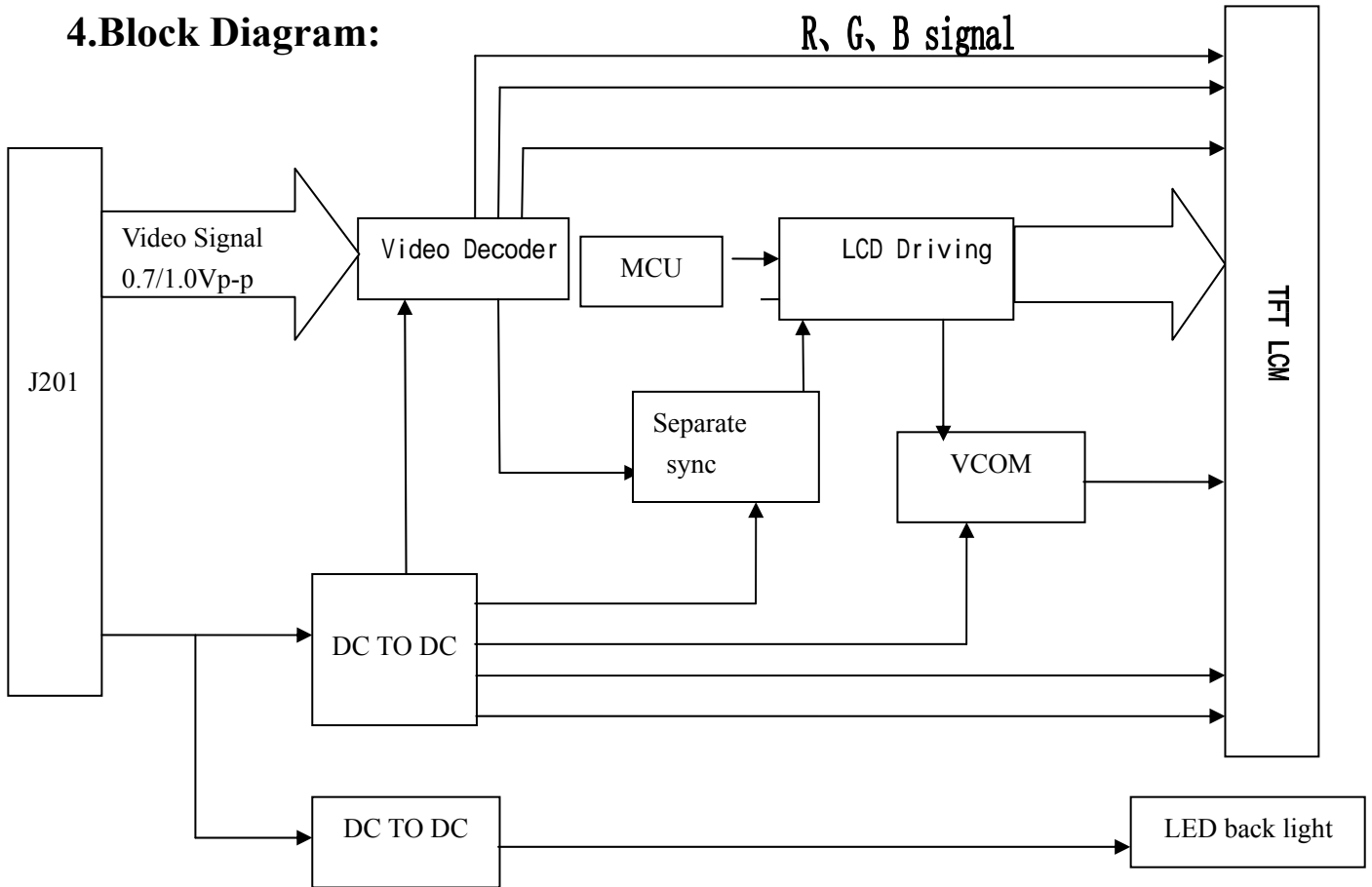
- Office electronic equipment
- Instrument & Measure appliance
- Machinery & Equipment
- Audiovisual equipment (Car display、 Portable DVD Player)
- Household (Video door bell、 Videophone、 Security camera)

3.Main Parameters :

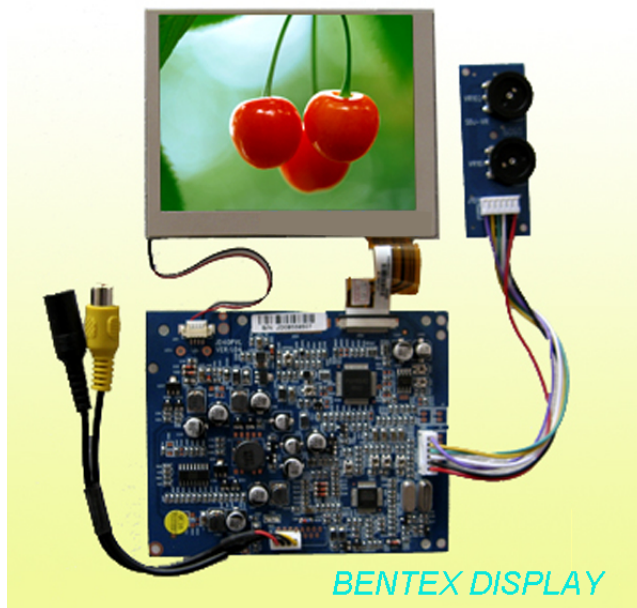
- Product Name : 4" Digital TFT LCD Module
- Product Model: DN40PVL
- LCD display: 4" TFT display: GTPA040XS2
- Backlight: LED
- Resolution: 960(H)*234(V)
- System: PAL/NTSC (automatic identifying and converting)
- View Angle(up/down/left/right) : 15/35/50/50
- Luminance: 220 cd/m²
- Signal Input: VIDEO
- Power Supply Voltage: DC +12V(9V-15V)
- Active Area(mm): 81.12 (H) X61.77 (V)
- Outside Dimension of Display(mm): 96 (W) x 75.98 (H) x 6.22 (D)
- Structural Dimension of PCB(mm): 102.3(W) x82.4 (H) x 8.8 (D)
- Operating Temperature: -10~+60
- Relative Humidity: 5~95% RH
- Storage Temperature: -20 ~+70



4. Block Diagram:

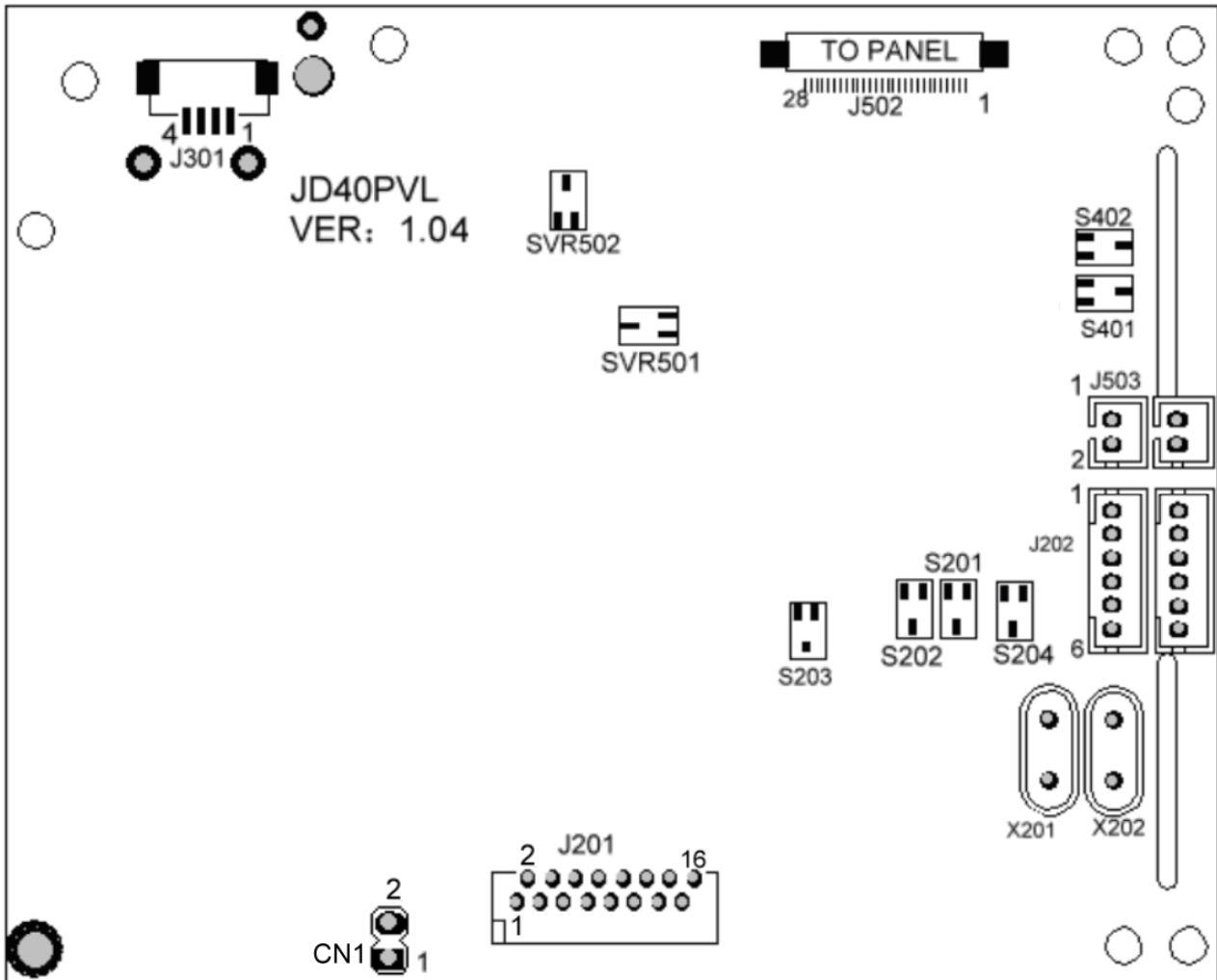


BL40PVL Module's Picture:





5. Wiring Diagram:



Key-press board:



The definition of key-press:

Pin No.	Symbol	In/Out	Description	Remark
SW5	POWER	I	Power	
SW6	MENU	I	menu	
SW7	+	I	up	
SW8	-	I	down	

6.The Connector Definition of Controller board:

6.1 J202 Connector Definition:

Pin No.	Symbol	In/Out	Description	Remark
1	BRI+	I		
2	BRI	I		
3	BRI-	I		
4	COL+	I		
5	COL	I		
6	COL-	I		

6.2 J301 Connector Definition:

Pin No.	Symbol	Description
1	LED-	
2	LED-	
3	LED+	
4	LED+	

6.3 J202 Connector Definition:



6.3 J201 Connector Definition:

Pin No.	Symbol	In/Out	Description	Remark
1,2	+Vin	I	+12V DC input	
3,4	GND	-	ground	
5	GNDS	-	ground of video input	
6	CONT	I	contrast control	
7	VIDEO	I	video input	
8	BRI	I	brihgt control	
9	COL	I	colour control	
10	L/R	I	left right reversed image	
11	TINT	I	hue control	
12	-HSY	O	horizontal sync output	
13	-CSY	O	vertical sync output	
14	Rin	I	red signal input	
15	Gin	I	green signal input	
16	Bin	I	blue signal input	

6.4 CN1 Connector Definition:

Pin No.	Symbol	In/Out	Description	Remark
1	GND	-		
2	VIDEO/SW	I	switching interface	



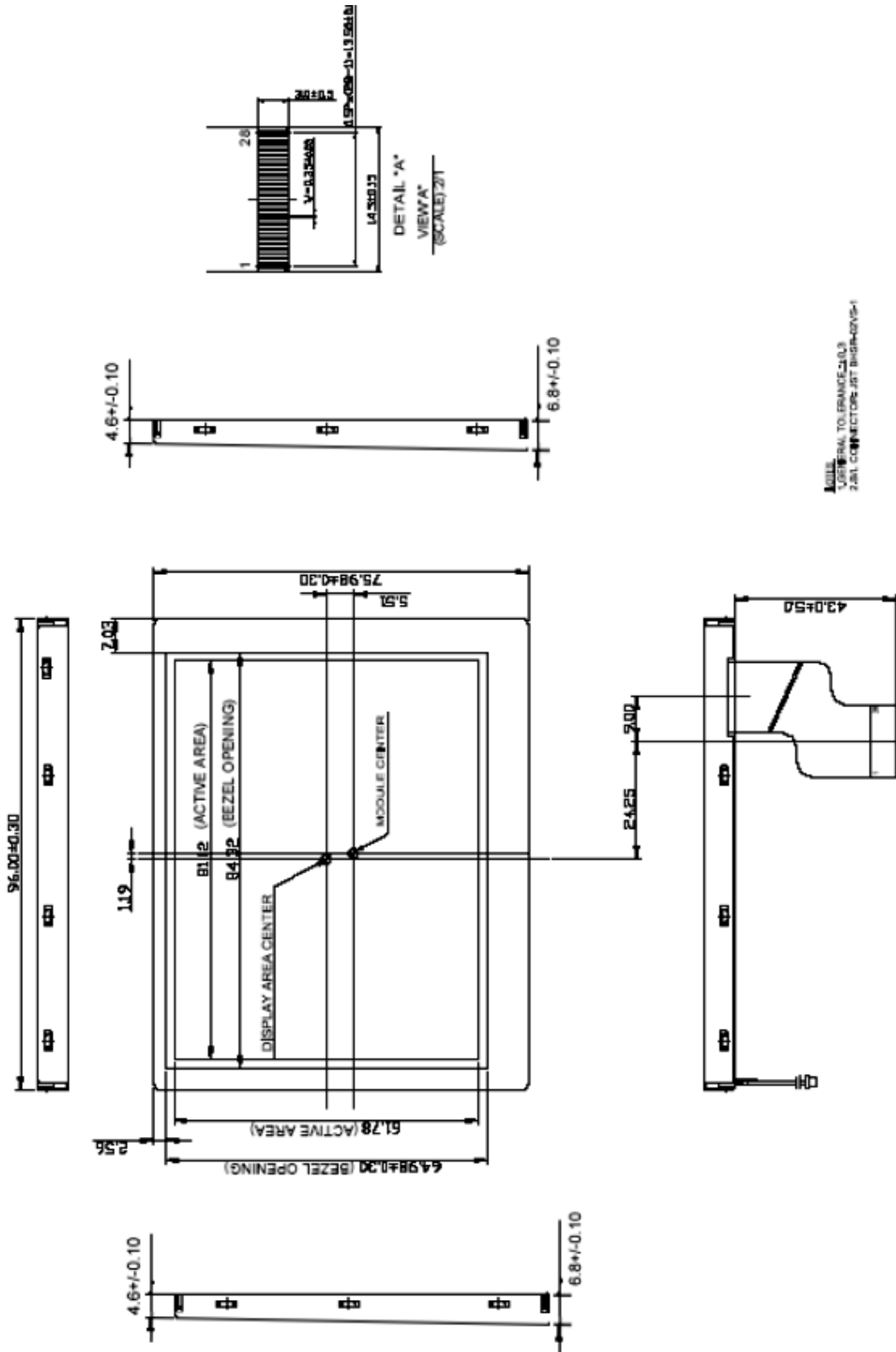
6.5 J502Connector Definition:

Pin No	Symbol	I/O	Description	Remark
1	STH1	I/O	Start pulse for source driver	
2	AVSS	I	Analog GND for source driver	
3	AVDD	I	Analog power input for source driver	
4	VB	I	Video Input B	
5	VG	I	Video Input G	
6	VR	I	Video Input R	
7	VSS	I	Digital GND	
8	VDD	I	Digital power input	
9	CPH1	I	Sampling and shift clock for source driver	
10	CHP2	I	Sampling and shift clock for source driver	
11	CHP3	I	Sampling and shift clock for source driver	
12	STH2	I/O	Start pulse for source driver	
13	N/C	-	Not connector	
14	INH	I	Output enable for source driver	
15	R/L	I	Left/Right Control for source driver	
16	VCOM	I	Common electrode voltage	
17	VCOM	I	Common electrode voltage	
18	XOE	I	Output enable for gate driver	
19	CPV	I	Clock input for gate driver	
20	U/D	I	Up/Down Control for gate driver	
21	DIO2	I/O	Vertical start pulse	
22	DIO1	I/O	Vertical start pulse	
23	VGL	I	Gate off voltage(alternative every 1-H)	
24	N/C	-	Not connector	
25	VSS	I	GND	
26	VCC	I	Logic power for gate driver	
27	VGH	I	Gate on voltage	
28	GND	-	B/L case GND	



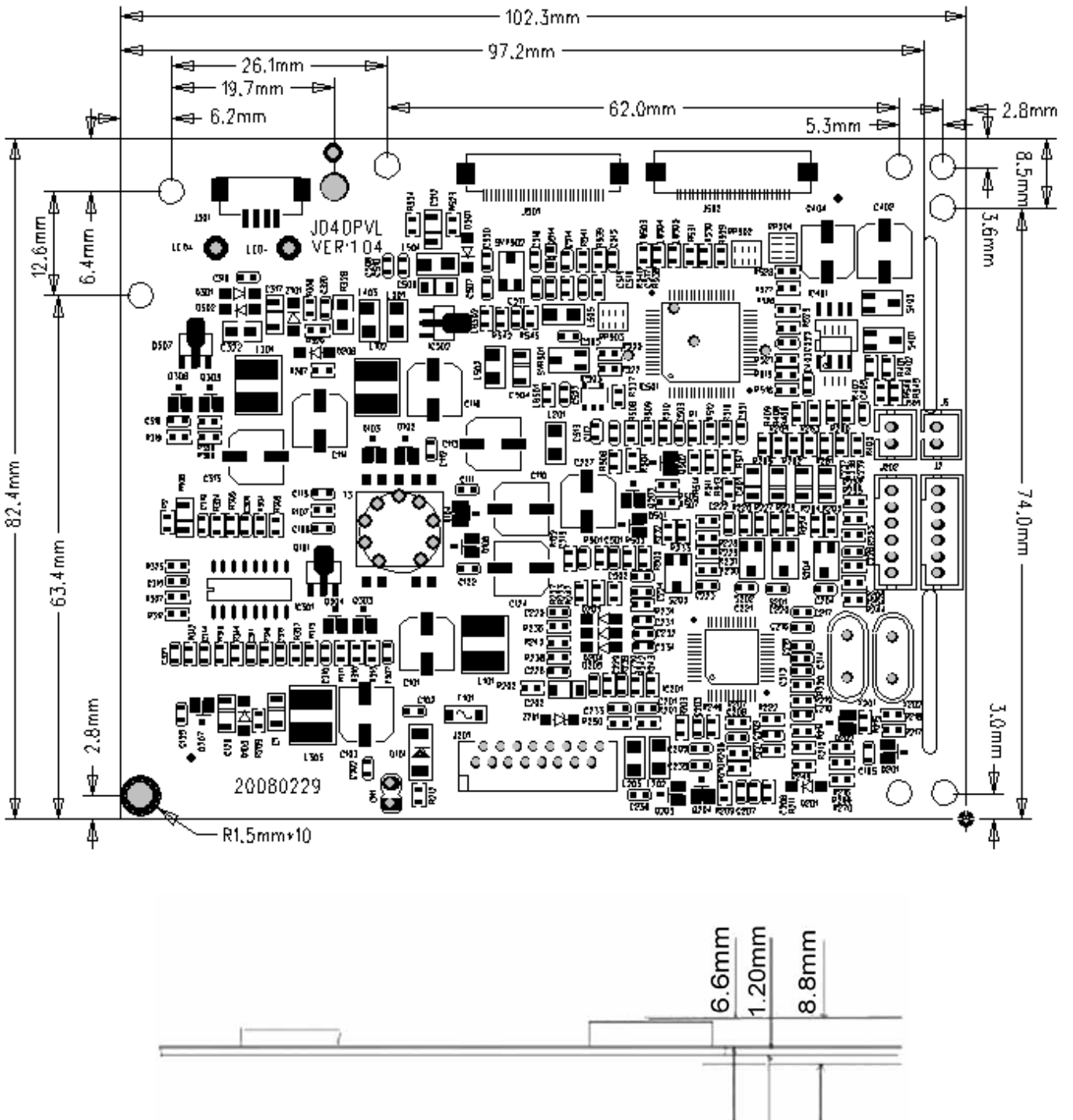
7. Structural Diagram:

7.1 TFT LCD Panel:





7.2 PCB:





8. 4.0" TFT- LCD Panel's Determinant standard:

Aim : Establish the standard of PANLE for inspecting material & progress and

Scope : Apply to 4.0" TFT LCD

Content :

8.1 Determinant standard and method :

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

8.1.1.1. 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".

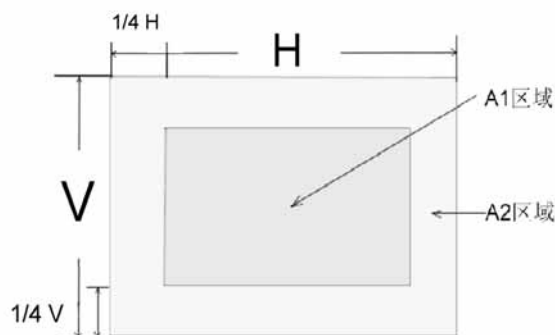
8.1.2. The method and determinative for black & white & color spots for the Panel of LCD :

8.1.2.1. Inspecting method

8.1.2.1.1. 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.

8.1.2.1.2. 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.

8.1.2.2 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 (8mm around the central area)



8.1.3. Determinant Choice

Spot Diameter (mm)		Allowed Area	
		A1	A2
Black Spot	$d \leq 0.15$	Negate	Negate
	$0.15 < d \leq 0.25$	4	4
	$0.25 < d \leq 0.3$	2	3
	$0.5 < d < 0.8$	0	1
White or color spot	$d \leq 0.15$	Negate	Negate
	$0.15 < d \leq 0.25$	3	3
	$0.25 < d \leq 0.3$	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: $A1 + A2 \leq 4$.



9.Packing:

TBD

10.Attention:

1. The voltage of supply power don't exceed maxmium limit.
2. The connector can't connect board in reverse, or the board will be burnt and the products can't funtion well.
3. Please don't touch it in order to keep your skin non-burn when you electrify the board(there is High voltage on the board).
4. 4.0" TFT LCD Panel, it is a electric product, so you need to take anti-static measure when you operate it.
5. 4.0" TFT- LCD Panel is a glasswork, place carefully, broken for fear.
6. The connection if "FPC", which connect 4.0" TFT LCD Panel to PCB.
Please operate it carefully in order to keep it well.
7. Don't touch the pin of "variable resistor" when you adjust "VR".