

# LC-GD70VGA

## open frame monitor with VGA and Video input

7.0", resolution 800xRGBx480

### 1. Profile:

GD102MLXD-GTI070TN92 Ver:2.00 Color TFT LCD Module is composed of JD102MLXD Ver:2.00 driver board and 7" Digital TFT display: GTI070TN92. It provides users with Video, VGA and Audio (Audio is optional) signal input and automatic identifying and converting of NTSC/PAL systems, built-in OSD (on-screen display) and Infrared Remote Control function. and the OSD menu offers adjustment of brightness, contrast and color etc, and full functions can be controlled by the Remote Control device included. The power control IC is designed for better reliability.

### 2. Application:

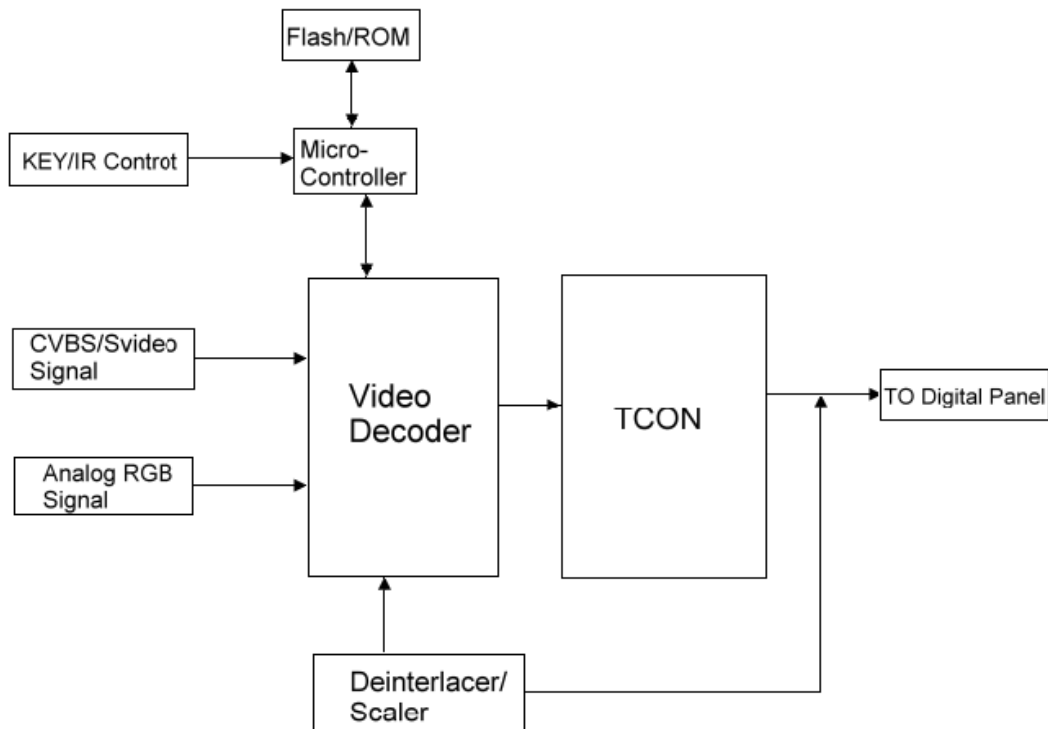
This module applies for as follows:

- Office electronic equipment
- Instrument and Measure appliance
- Machinery and Equipment
- Audiovisual (Car Monitor、Portable DVD Player、Long-distance terminal display)
- Household (Video door phone、Video phone)

### 3. Main Parameters:

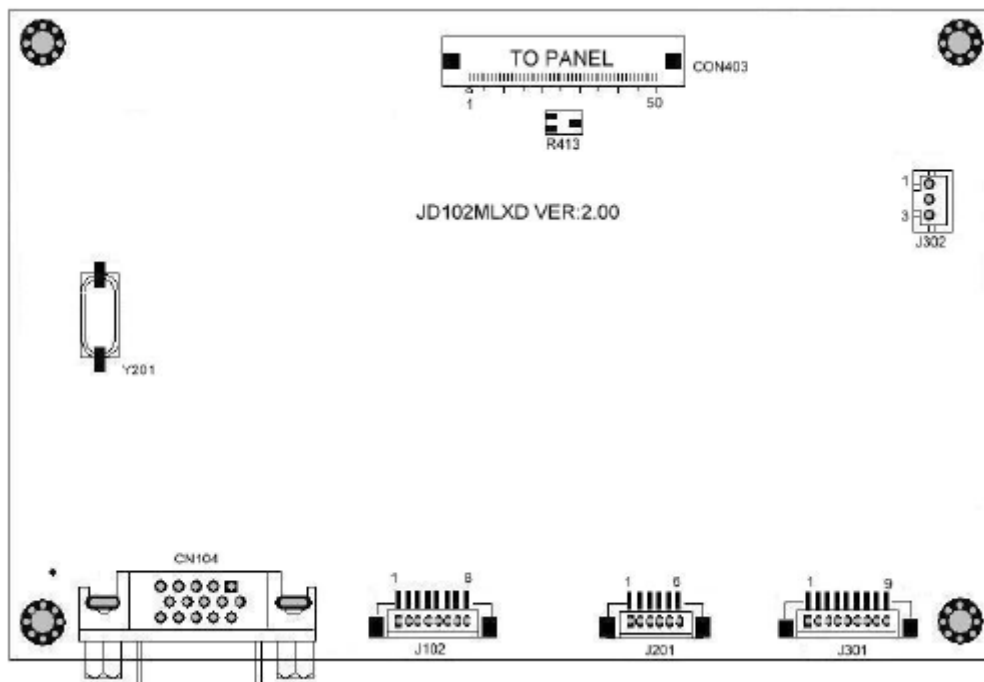
- Product name: 7" TFT LCD Module
- Product Model: GD102MLXD-GTI070TN92
- TFT Display: 7" TFT display: GTI070TN92
- Backlight: LED
- Resolution: 800(H) x 3RGBx 480 (V)
- View angle  $\emptyset$  (U/D/L/R): (50/70/70/70)
- Brightness: >250 cd/m<sup>2</sup>
- System: PAL/NTSC (automatic identifying and converting)
- Signal Input: VGA, Video
- Power Supply Input Voltage: DC 12V  $\pm$ 25% 330mA $\pm$ 30mA
- Active Area(mm): 154.08 (H)  $\times$ 85.92 (V)
- Outside dimension of Display (mm): 164.9 (W)  $\times$ 100 (H)  $\times$ 5.7(D)
- Structural dimension of PCB (mm): 128.8(W) $\times$ 85.4 (H)  $\times$  6.7 (D)
- Operation temperature: -20~+70 $^{\circ}$ C
- Environmental relative humidity: 5~95% RH
- Storage temperature: -30  $^{\circ}$ C~+80 $^{\circ}$ C

#### 4. Block Diagram:



supports graphic resolutions of 640x480, 800x600 and 1024x768 in VGA-mode

#### 5. Wiring Diagram :



## 5.1 OSD-Keybaord, connected to J201



Pin No.	Symbol	Input/Output	Definition	Remark
SW4	SOURCE	I	AV Switch	
SW5	POWER	I		
SW6	MENU	I		
SW7	+	I	Up	
SW8	-	I	Down	

## 6. Connection Definition of Driver Board :

### 6.1 J201

Pin No.	Symbol	Input/Output	J201 Description	Remark
1	+5V	O	+5V Power output	
2	IR	I	Remote control input	
3	GND	-	Ground	
4	SAR0	I	Key-board 0 input	
5	SAR1	I	Key-board 1 input	
6	NC	-	Empty	

### 6.2 J102 (Video input, power supply)

Pin No.	Symbol	Input/Output	Description	Remark
1	+12V	I	+12V power input	
2	+12V	I	+12V power input	
3	GND	-	Ground	
4	GND	-	Ground	
5	Video	I	Video Input	
6	C	I	C Signal Input	
7	Y	I	Y Signal Input	
8	GND	-	Ground	

### 6.3 J301 (Audio input)

Pin No.	Symbol	Input/Output	Description	Remark
1	GND	-	Ground	
2	VGA-L	I	VGA Audio Left	
3	VGA-R	I	VGA Audio Right	
4	GND	-	Ground	
5	CVBS-L	I	CVBS Audio Left	
6	CVBS-R	I	CVBS Audio Right	
7	GND	-	Ground	
8	Y/C-L	I	Y/C Audio Left	
9	Y/C-R	I	Y/C Audio Right	

### 6.4 CN104 (VGA input)

Pin No.	Symbol	Input/Output	Description	Remark
1	RED	I		
2	GREEN	I		
3	BLUE	I		
4	NC	-	Empty	
5	GND	-		
6	GND	-		
7	GND	-		
8	GND	-		
9	NC	-		
10	NC	-		
11	NC	-		
12	NC	-		
13	HSYNC	I		
14	VSYNC	I		
15	NC	-		

### 6.5 J302 (left track, right track output)

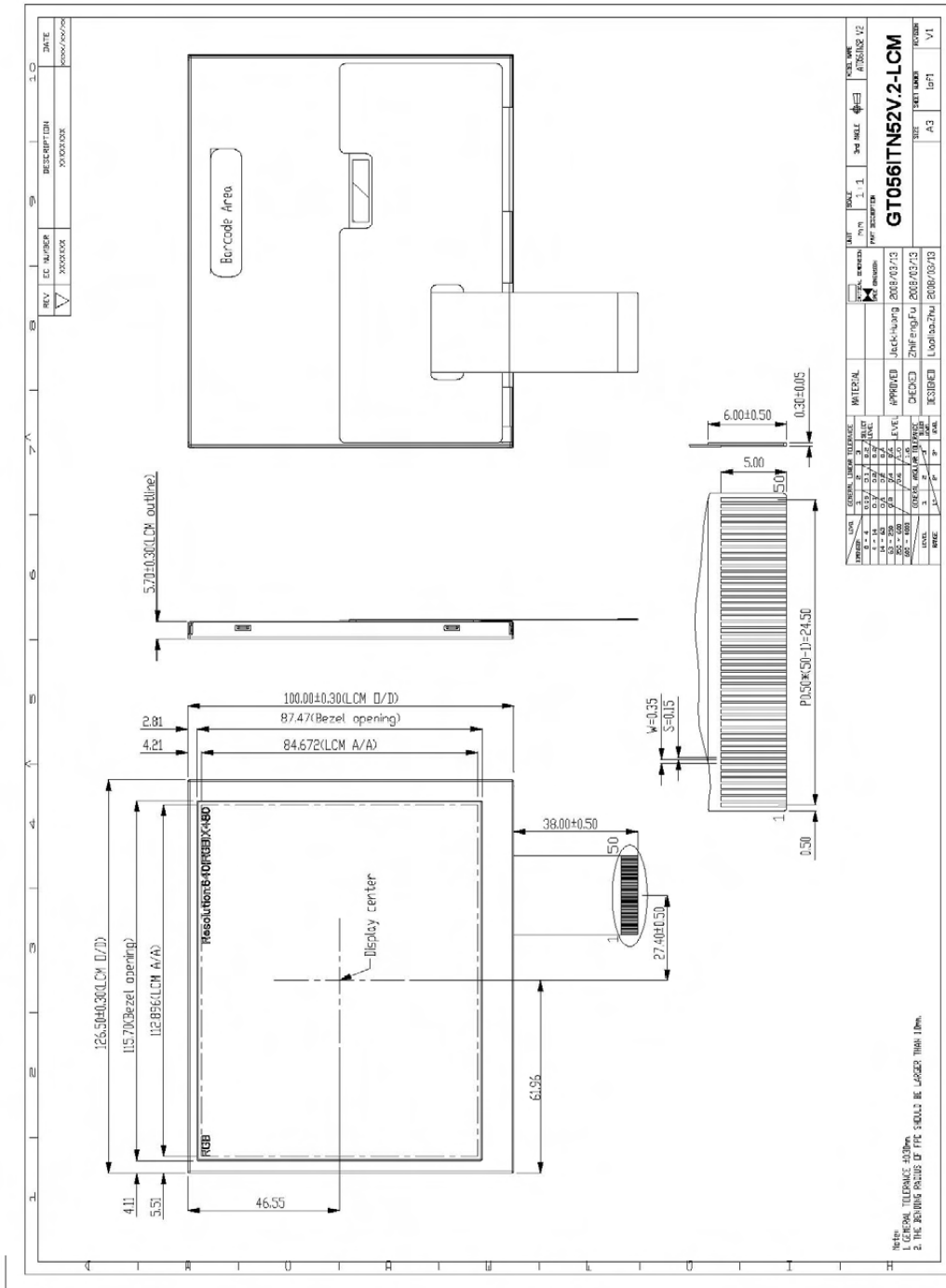
Pin No.	Symbol	Input/Output	Description	Remark
1	LOUT	O	Left Track Output	
2	GND	-	Ground	
3	ROUT	O	Right Track Output	

## 6.6 CON403 (display module)

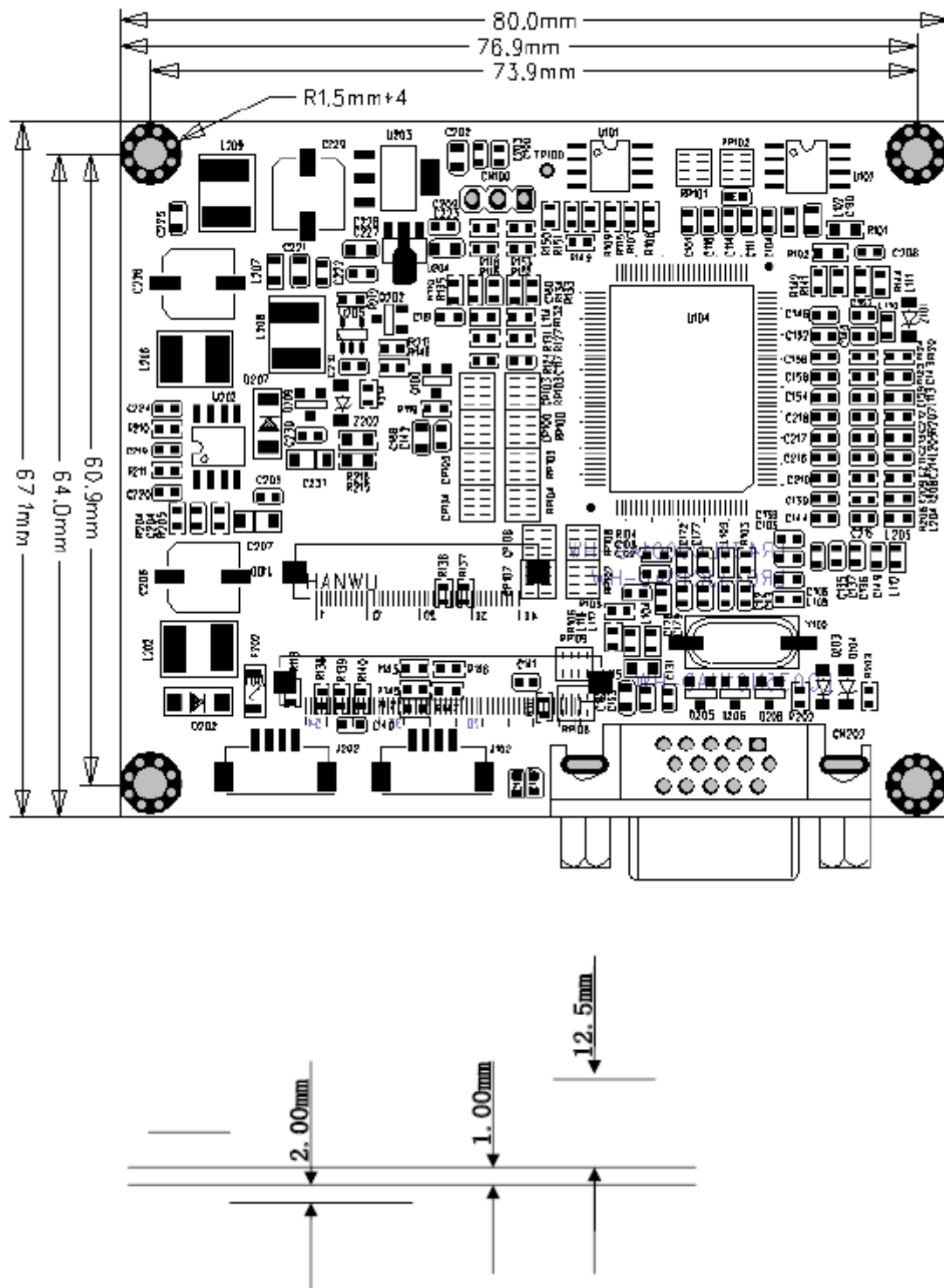
Pin No.	Symbol	I/O	Function	Remark
1	LED +	P	LED Anode	
2	LED +	P	LED Anode	
3	LED -	P	LED Cathode	
4	LED -	P	LED Cathode	
5	GND	P	Power ground	
6	VCOM	I	Common voltage	
7	VCC	P	Power for Digital circuit	
8	MODE	I	DE/SYNC mode select	Note3
9	DE	I	Data Input Enable	
10	VS	I	Vertical Sync Input	
11	HS	I	Horizontal Sync Input	
12	B7	I	Blue data(MSB)	
13	B6	I	Blue data	
14	B5	I	Blue data	
15	B4	I	Blue data	
16	B3	I	Blue data	
17	B2	I	Blue data	
18	B1	I	Blue data	
19	B0	I	Blue data(LSB)	
20	G7	I	Green data (MSB)	
21	G6	I	Green data	
22	G5	I	Green data	
23	G4	I	Green data	
24	G3	I	Green data	
25	G2	I	Green data	
26	G1	I	Green data	
27	G0	I	Green data (LSB)	
28	R7	I	Red data (MSB)	
29	R6	I	Red data	
30	R5	I	Red data	
31	R4	I	Red data	
32	R3	I	Red data	
33	R2	I	Red data	
34	R1	I	Red data	
35	R0	I	Red data (LSB)	
36	GND	P	Power ground	
37	DCLK	I	Sample clock	
38	GND	P	Power ground	
39	L/R	I	Right/ left selection	Note2,5
40	U/D	I	Up/down selection	Note2,5
41	VGH	P	Gate ON voltage	
42	VGL	P	Gate OFF voltage	
43	AVDD	P	Power for Analog circuit	
44	RESET	I	Global reset pin.	Note1
45	NC	-	No connection	
46	VCOM	I	Common voltage	
47	DITHB	I	Dithering function	Note 4
48	GND	P	Power ground	
49	NC	-	No connection	
50	NC	-	No connection	

## 7. Structural diagram:

### 7.1. LCD Panel



## 7.2 Structural Diagram of PCB:



## 8. TFT-LCD Panel's Determinat standard

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

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".

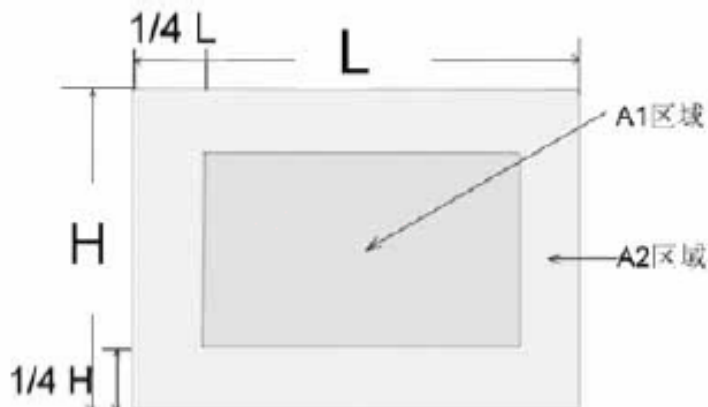
8.1.2. The method and determinative for black & white & color spots for the Panel of LCD :

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.

#### 8.1.2.1.2. 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 Choise

Spot Diameter (mm)		Allowed Area	
		A1	A2
Black Spot	$d \leq 0.15$	Irrespective	Irrespective
	$0.15 < d \leq 0.3$	4	4
	$0.3 < d \leq 0.5$	2	3
	$0.5 < d \leq 0.8$	0	2
White or color spot	$d \leq 0.15$	Irrespective	Irrespective
	$0.15 < d \leq 0.3$	3	3
	$0.3 < d \leq 0.5$	1	2
	$0.5 < d \leq 0.8$	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 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. Voltage don't exceed upper limit.
2. The connector can't connect board in reverse, or will burn the board and influence the product.
3. Please don't touch it in order to keep your skin non-burn when you electrify the board(High voltage on the board).
4. TFT LCD Panel, it is a electric product, so you need to take anti-static measure when you operate it.
5. TFT LCD Panel is a glasswork, place carefully, broken for fear.
6. The connection is "FPC", which connect TFT LCD Panel to PCB. Please operate it carefully, in order to break off for fear.
7. Don't touch key-press's pin when you adjust brightness, color through soft key-press, due to Person's body have resistance, you will effect image's impact when touch it.