

VS DISPLAY TECHNOLOGY (HK) LTD

SPECIFICATION FOR LCD MODULE

Model No.: VS-UTMD043050V.1

ORGANIZED BY	CHECKED BY	APPROVED BY
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1. Application

VS-UTMD043050V.1 Driver Board is mainly designed for AT043TN24, etc 40pin 480x234, 800x480 LCD Module

2. Product Function Description

- 2.1 The input signal can be VGA, CVBS1, CVBS2 , signal Input
- 2.2 Power supply: DC +12V
- 2.3 Multi function OSD Operation
- 2.4 Remote control (option)

3. Standard Signal Input

- 3.1 CVBS: 1.0V_{p-p}75Ω
- 3.2 VGA: 800*600 640*480 (刷新率60)

4. Work Temp

- 3.1 Work Temp : -10℃~+60℃
- 3.2 Operation Humidity : 90%RH

5. Storage Temp

- 4.1 Storage Temp: -20℃~+70℃
- 4.2 Storage Humidity : 90%RH

6. Operate Power Requirements AT043TN24 (Ta=25℃)

ITEM	MIN	TYP	MAX	UNIT
Operate Voltage	9V	+12V	+14V	V
Operate Current	130	100	70	mA

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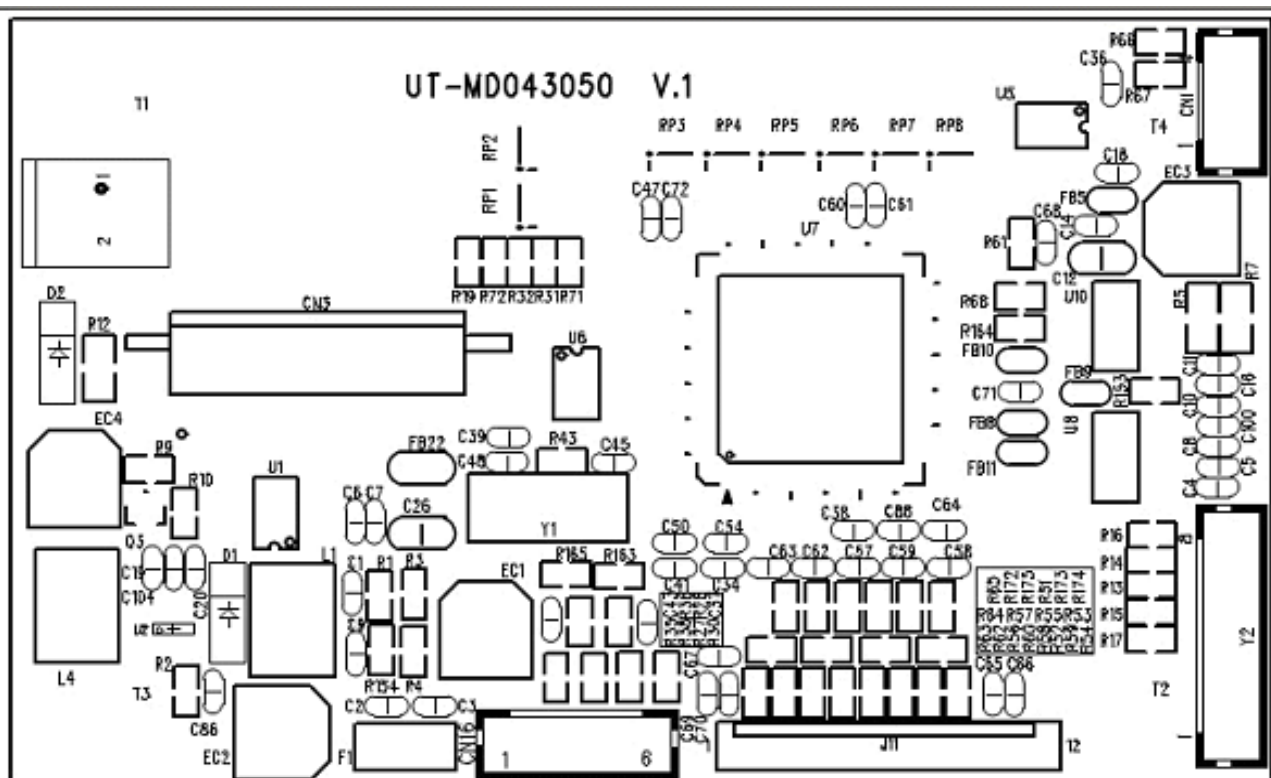
7. Specification

7: 1 MIN PARTS

No.	Name	Specifications	Manufactures	Amount	Notes
1	IC	MST703		1PCS	U7
		PM25LV010		1PCS	U5
	Crystal	12.000MHz		1PCS	Y1

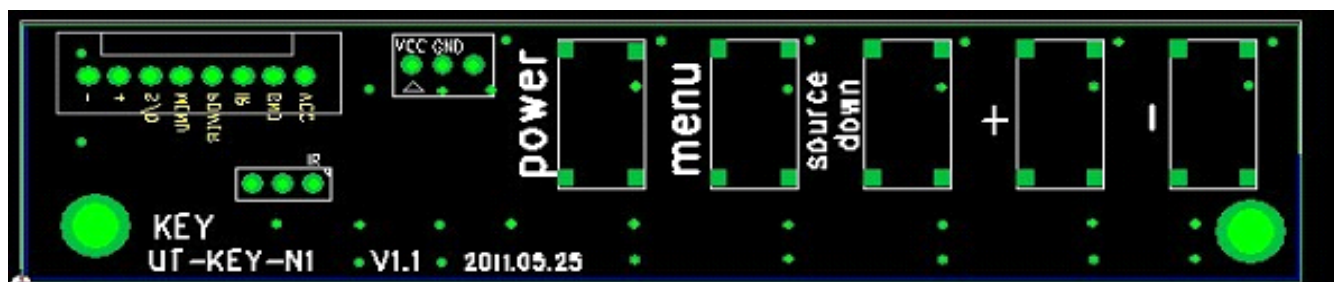
7.2 OUTLINE STRUCTURE (UNIT:mm)

Length = 90.6mm
Wide = 53.4mm



Length = 81.9mm

Wide = 17.2



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7.3 Interface Definition :

CN16(Signal Input) 6PIN/2.0

Pin No	DEFINE	DESCRIPTION
1	+12V	POWER
2	DGND	POWER GROUND
3	CVBS2	AV INPUT
4	AGND	Signal GROUND
5	CVBS1	AV INPUT
6	AGND	Signal GROUND

J11(VGA INPUT)12PIN/2.0

Pin No	DEFINE	DESCRIPTION
1	GND	空
2	VS	Vsync signal input
3	HS	Hsync signal input
4	GND	NO CONNECTION
5	R+	RED SIGNAL
6	GND	GROUND
7	G+	GREEN SIGNAL+
8	GND	+ GROUND
9	B+	BLUE SIGNAL +
10	GND	GROUND
11	NC	I2C Channel
12	NC	I2C Channel

Y2 (Keyboard Define) 8PIN/2.0

Pin No	DEFINE	DESCRIPTION
1	K5	MENU
2	K4	RIGHT
3	K3	LEFT
4	K2	SOURCE/UP
5	K1	POWER
6	IR INT	
7	GND	GROUND
8	VCC	3.3V

CN1 (Adjust Interface) 4PIN/2.0

Pin No	DEFINE	DESCRIPTION
1	NC	NC

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2	GND	GROUND
3	TX	Serial Output
4	RX	Serial Input

(Backlight Interface) 2PIN

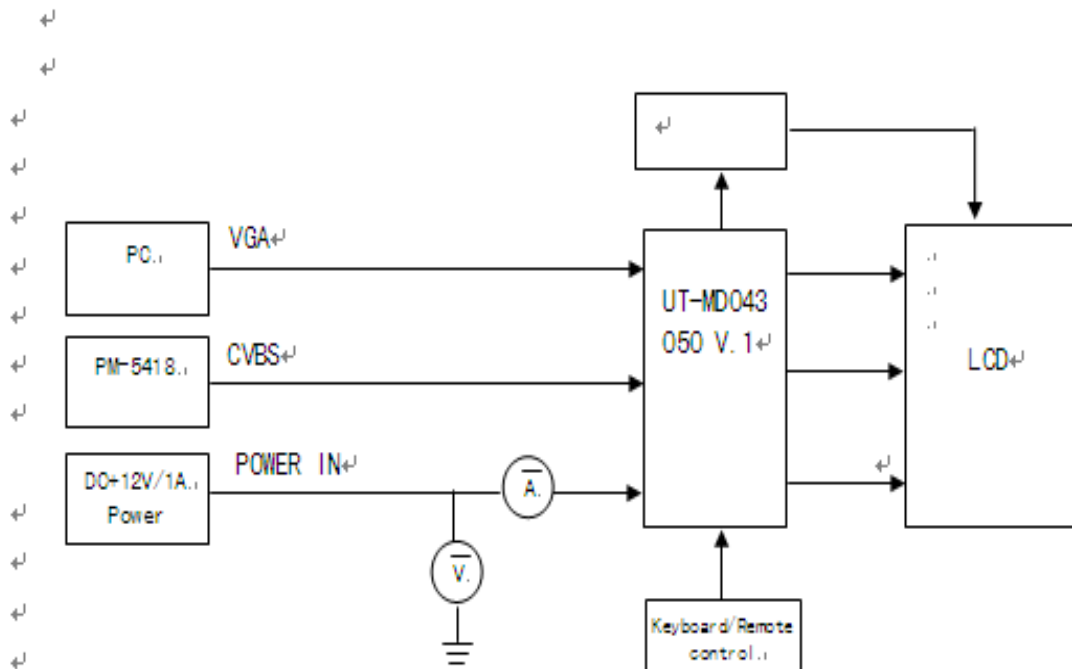
Pin No	DEFINE	DESCRIPTION
1	LED+	LED Voltage+
2	LED-	LED VOLTAGE-

CN3(FPC Definition) 40PIN/ 0.5

Pin No.	Symbol	I/O	Function	Remark
1	V _{LED-}	P	Power for LED backlight cathode	
2	V _{LED+}	P	Power for LED backlight anode	
3	GND	P	Power ground	
4	V _{DD}	P	Power voltage	
5	R0	I	Red data (LSB)	
6	R1	I	Red data	
7	R2	I	Red data	
8	R3	I	Red data	
9	R4	I	Red data	
10	R5	I	Red data	
11	R6	I	Red data	
12	R7	I	Red data (MSB)	
13	G0	I	Green data (LSB)	
14	G1	I	Green data	
15	G2	I	Green data	
16	G3	I	Green data	
17	G4	I	Green data	
18	G5	I	Green data	
19	G6	I	Green data	

20	G7	I	Green data (MSB)	
21	B0	I	Blue data (LSB)	
22	B1	I	Blue data	
23	B2	I	Blue data	
24	B3	I	Blue data	
25	B4	I	Blue data	
26	B5	I	Blue data	
27	B6	I	Blue data	
28	B7	I	Blue data (MSB)	
29	GND	P	Power ground	
30	CLK	I	Pixel clock	
31	DISP	I	Display on/off	
32	NC	-	No connection	
33	NC	-	No connection	
34	DE	I	Data Enable	
35	NC	-	No Connector	
36	GND	P	Power ground	
37	NC	-	No Connector	
38	NC	-	No Connector	
39	NC	-	No Connector	
40	NC	-	No Connector	

11. Power Supply Testing Picture



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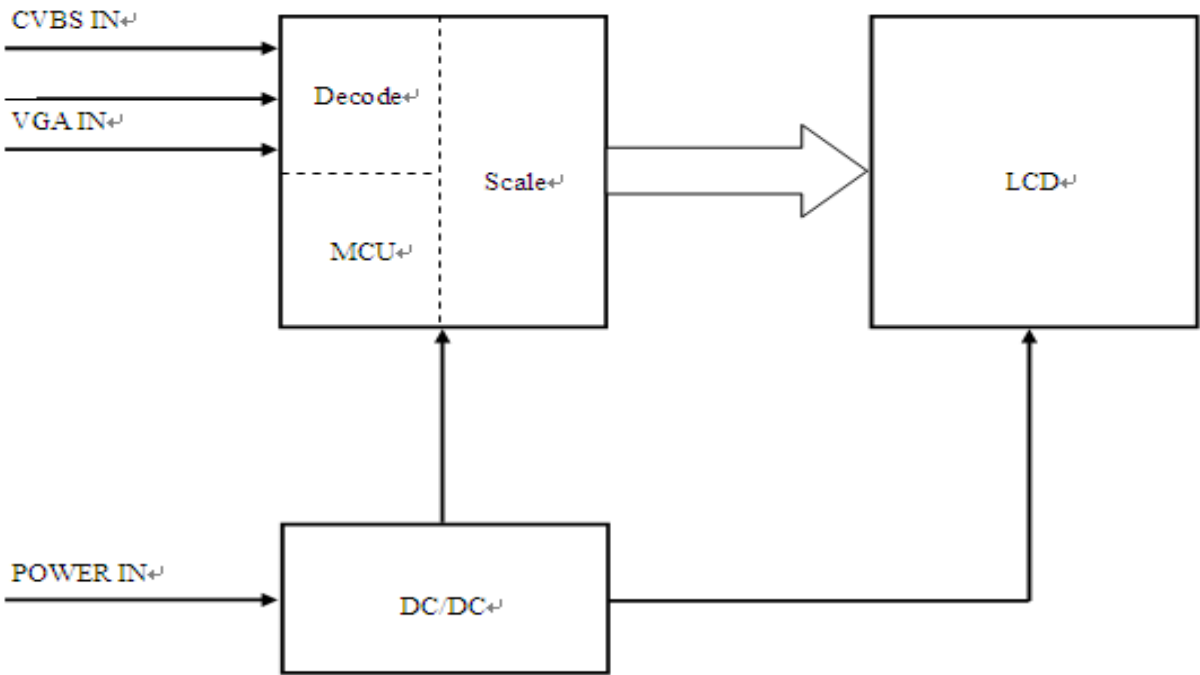
12. Power Consumption AT043TN24

Input Voltage	MIN	TYP	MAX	UNIT
+12V	70	100	130	mA

13.LCD SPEC (AT043TN24 Vđ1)

ITEM	SIZE	UNIT
LCD SIZE	4.3INCH	INCH
RESOLUTION	480×(R,G,B)×272	DOT
EFFECTIVE AREA	95.04(W)×53.868(H)	MM
Pixel size	0.066(W)×0.198(H)	MM

14. Electronic Loop



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15. Basic Operation

15.1 Keys Description:

The are POWER、MENU、SOURCE/UP、LEFT、RIGHT five buttons。

12. 1.1 Definition

POWER: press “ POWER” to control it on/off

SOURCE/UP: it's source while there is no OSD menu,it's up while it's have.

MENU: PICTURE、OPTION、SYSTEM、CLOCK、 EXIT。

12. 1.2 MENU's definition in the AV/S-VIDEO state

The meun have PICTURE、AUDIO、FUNCTION、SYSTEM AND their functions are as follows:

PICTURE

BRIGHTNESS: adjust the photo brightness

CONTRAST: adjust the photo contrast

COLOR: adjust the color in different

ENGLISH; select the language.

SYSTEM

VGA; AV/VGA,

1.4 Description:

Press” MENU”, press “SOURCE/UP”to select while it will be show red .Press”LEFT/RIGHT”can adjust the information.

In the PICTURE window, select BRIGHTNESS、 CONTRAST、 COLOR, press”LEFT/RIGHT” to adjust.

In the OPTION Window, press”LEFT/RIGHT” to adjust NORMAL /UP/HPOSITION/VPOSITION/AUTO

In the SYSTEM (It's valid in the AV/S-VIDEO state) window, press”LEFT/RIGHT”to select AV/VGA.

2. The description of the remote:

The remote have POWER、MENU、LEFT、RIGHT、UP、DOWN six buttons , its operation are the same as the buttons.

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13. Testing

TYPE	PROJECT	TEST CONDITIONS	TEST NO	STANDARD
Storage Temp Test	High Temp Test	+70℃ 96Hr	2	Regular after normal Temp Test
	Low Temp Test	-20℃ 96Hr	2	
Operate Temp Test	High Temp Test	+60℃ 96Hr	2	Normal operation during the test
	Low Temp Test	-10℃ 96Hr	2	
Cold Starting Test	Cold Starting Test	-20℃ $\xrightarrow{40min}$ ON $\xrightarrow{2hours}$ ON 4times $\xrightarrow{4hours}$ ON 4times $\xrightarrow{8hours}$ ON 1times	2	
Heat Cycle Test	Heat Cycle Test	-20℃ $\xrightarrow{30min}$ 25℃ $\xrightarrow{30min}$ 60℃ Continue working 30 cycles	2	
Constant temperature and humidity test		+60℃ 90%RH Continue working 24hours	2	