

Digital Panel Driving Board

(Preliminary)

CUSTOMER:

MODEL NO.: TDS_-3150 VGA/DVI Board

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Approval by :	Review by :	Design by :

Rev. Record

Rev No	Date	Description	Note
0.1	2009.08.11	Initial version	
0.2	2009.12.05		
0.3	2010.01.06		

GENERAL:

TDS-3160-XXXX is high performance for middle and large size panel driving board, which can directly support PC VGA input and DVI(optional TMDS) input . The board for PC VGA input can allow from 640x480@60Hz to 1280x1200@75 Hz input;

For the panel display output support ,This board can support display panel range from VGA panel(640x480) up to high resolution such as 1920x1080 panel with LVDS interface.

Features:

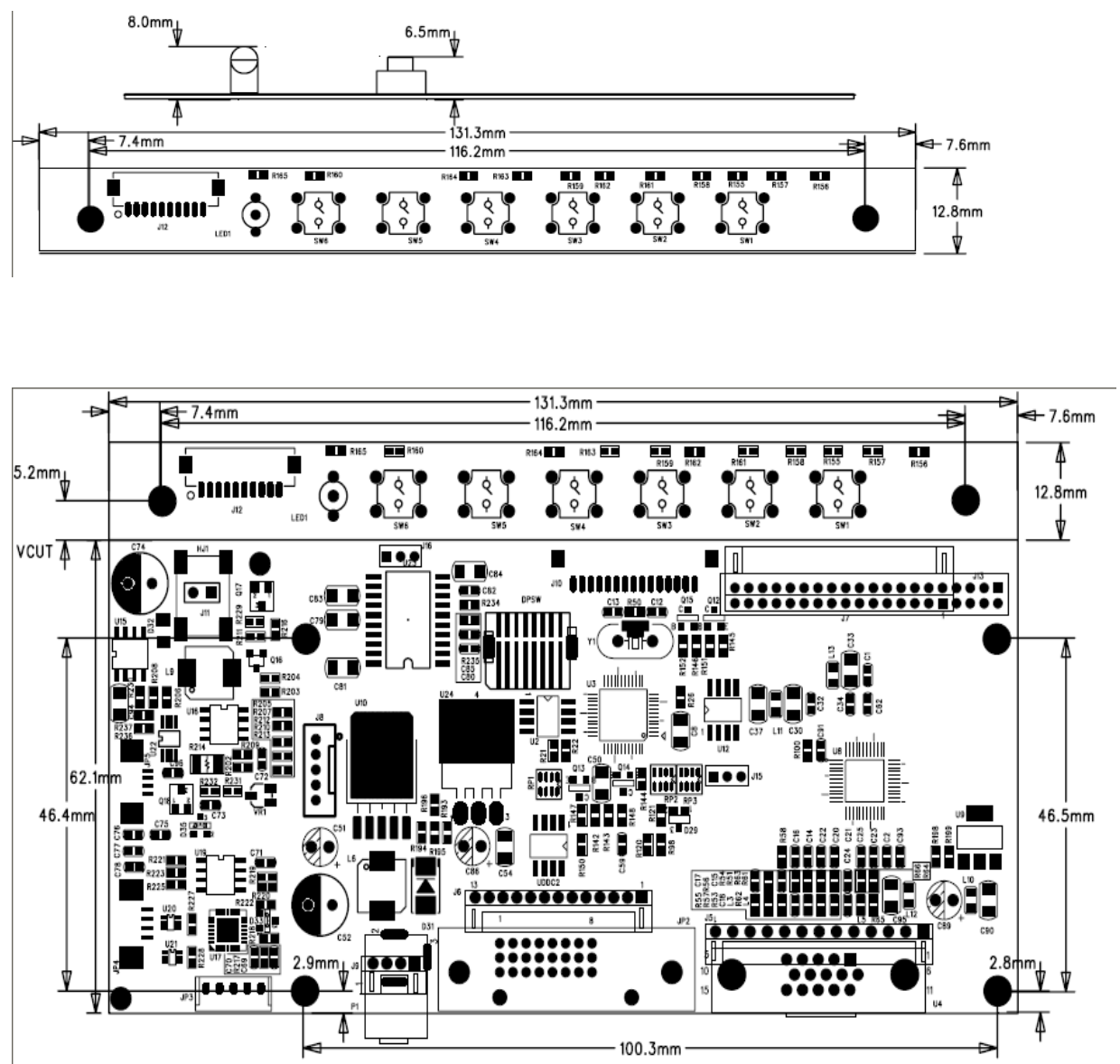
- **Support VGA,SVGA,XGA,WXGA,1920x1080 higher resolution TFT LCD panel**
- **Support single or double pixel LVDS panel interface TFT LCD panel**
- **Support Standard VESA PC VGA Input Mode**
- **Auto-adjustment function for PC analog and Auto color adjustment**
- **Build in Normal brightness LED driver with Dimming function (PWM,analog adjustment)**
- **Build in High brightness LED driver for Optional Model (10.2V Max 800mA)**
- **RS232 Communication Function available (optional)**
- **TouchScreen with Resistance 4 wires supported (optional)**
- **Suitable for Industry operation**
- **Compact and small size**

BOARD DIMMENSION:

Main board: 131.3(L) mm x 62 mm(W) x 15.0 mm (Height)—standard Board

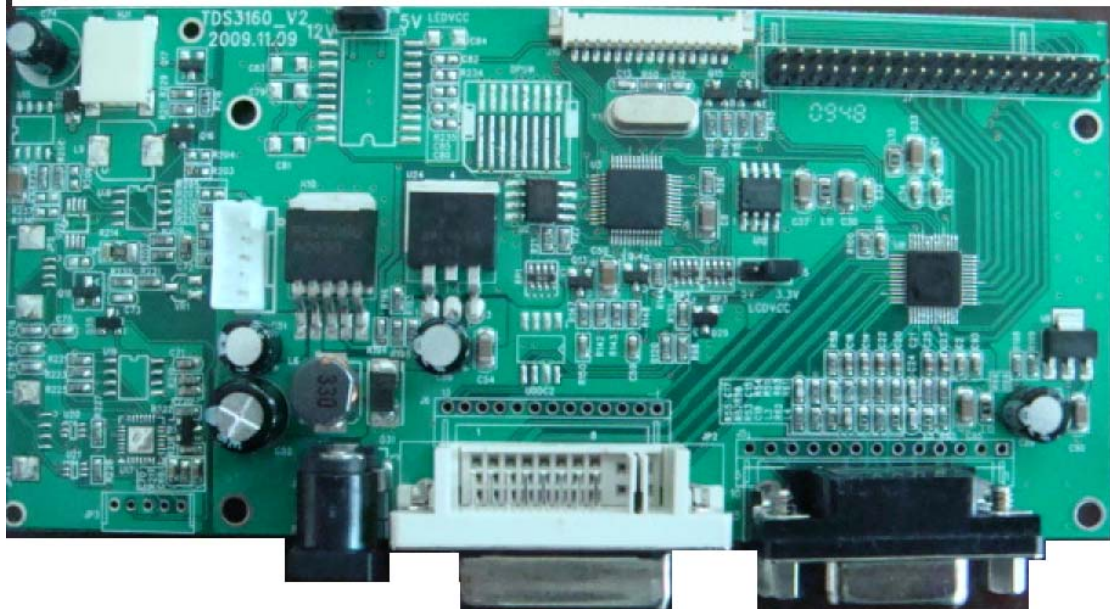
Main board: 131.3(L) mm x 62 mm(W) x 10.0 mm (Height)—Low profile

Key Board : 131 mm x 61 mm x 8.0mm

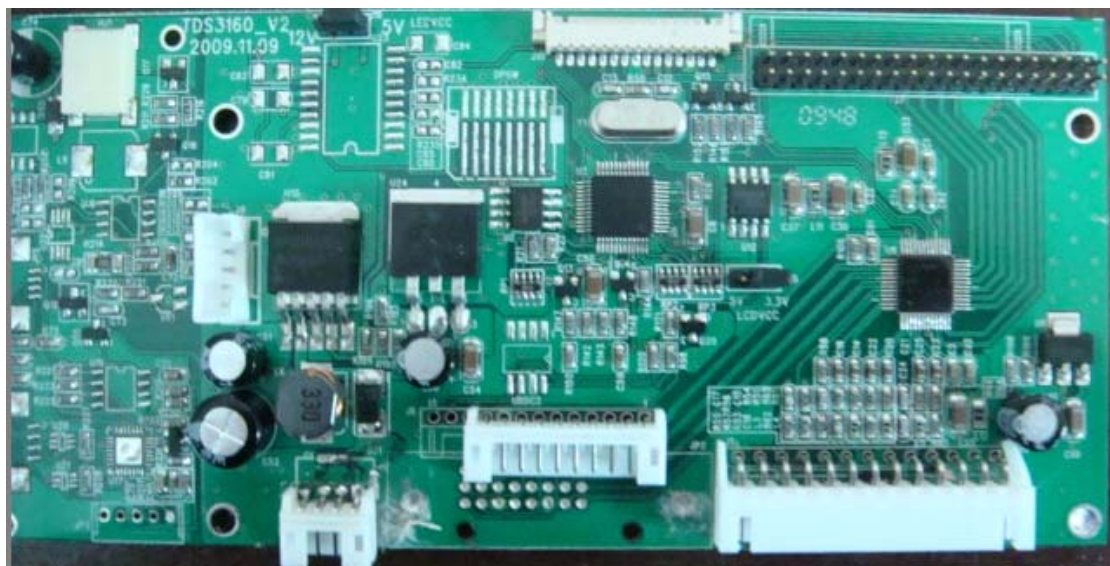


Main Board and Keypad Board

Board Photo picture:



(Board with Standard Version)



(Board with Low Profile version)

VGA Support Timing Table

Support Timing Table

Mode	Resolution	H Freq. (kHz)	V Freq. (Hz)
1	640*350@70	31.469	70.087
2	640*400@70	31.469	70.087
3	640*480@60	31.469	59.940
4	640*480@72	37.861	72.809
5	640*480@75	37.500	75.000
6	720*400@70	31.469	70.087
7	800*600@56	35.156	56.250
8	800*600@60	37.879	60.317
9	800*600@72	48.077	72.188
10	800*600@75	46.875	75.000
11	1024*768@60	48.363	60.004
12	1024*768@70	56.476	70.069
13	1024*768@72	58.038	71.918
14	1024*768@75	60.023	75.029
15	1024*768@60	48.019	60.000
16	1024*768@60	47.700	60.000
17	1280*1024@60	63.980	60.000
18	1280*1024@70	74.882	69.853
19	1280*1024@75	79.976	75.025

Connector List

Reference	Function	Note
J10	Key Board Connector	PH: 1.25 mm, 15 Pin, 90°
J8	Inverter/LED Connector	PH: 2.0 mm, 5 Pin, 90°
J5	VGA Connector (optional)	PH: 2.4 mm, 13 Pin, 90°
J6	DVI Connector(optional)	PH: 2.0 mm, 13Pin,90°
J9	Power Connector	PH: 2.0 mm, 4 Pin, 90°
J7	LCD Panel for LVDS	PH: 2.0 mm, 2*20 Pin, 180°
CN1		

2. Pin define for connectors

J10: Key Board Connector (1.25 mm 10 Pin 90°)

Pin	Function	Note
1	SW1	POWER
2	SW2	AUTO
3	SW3	MENU
4	SW4	UP
5	SW5	DOWN
6	LED-G	
7	LED-R	
8	GND	
9	NC	NC
10	NC	NC
11	AUDIO_R_IN	OPTIONAL
12	AUDIO_L_IN	OPTIONAL
13	GND	OPTIONAL
14	SPK_R_OUT	OPTIONAL
15	SPK_L_OUT	OPTIONAL

J8: Inverter/LED Connector (2.0 mm 5 Pin 90°)

Pin	Function	Note
1	12V Input	
2	GND	
3	Brightness Control	
4	GND	
5	ON / OFF Control	5V ON ; 0V OFF

J5: VGA Connector (2.5 mm13 Pin 90°)

Pin	Function	Note
1	B	
2	CND	
3	G	
4	CND	
5	R	
6	GND	
7	HS	
8	VS	
9	CND	
10	CND	
11	SDA	
12	SCL	
13	CND	

J6 : DVI Connector (2.0 mm13 Pin 90°)

Pin	Function	Note
1	TMDS 0+	
2	TMDS 0-	
3	TMDS 1+	
4	TMDS 1-	
5	TMDS 2+	
6	TMDS 2-	
7	TMDS CK+	
8	TMDS CK-	
9	GND	
10	DVI POWER	
11	DVI DETEC	
12	DVI_SCL	
13	DVI_SDA	

J9 : 2nd Power Connector (2.0 mm4 Pin 90°) (Option)

Pin	Description	Note
1	12V Input	
2	GND	
3	GND	
4	12V Input	

J7 : Panel Connector / (2x2.0 MM 40 PIN 180)

Pin	Name
1	GPIO 0
2	GPIO 1
3	GPIO 2
4	GPIO 3
5	GPIO 4 (DDC CLOCK)
6	GPIO 5 (DDC DATA)
7	LED VDD (5V or 12V)
8	GPIO 7
9	VDD
10	VDD
11	
12	LED PWM
13	GND
14	GND
15	GND
16	GND
17	RXO1N3
18	RXO1N3+
19	RXOCK1N
20	RXOCK1N+
21	RXO1N2
22	RXO1N2+
23	RXO1N1
24	RXO1N1+
25	RXO1N0
26	RXO1N0+

27	GND
28	GND
29	RXE1N3
30	RXE1N3+
31	RXECK1N
32	RXECK1N+
33	RXE1N2
34	RXE1N2+
35	RXE1N1
36	RXE1N1+
37	RXE1N0
38	RXE1N0+
39	GND
40	GND

OPERATION CONDITION

- 1.) Operating Temperature : -20°C ~ +75°C
- 2.) Storage Temperature :-20~85°C
- 3.) Operating Relative Humidity :90% MAX.R.H.
- 4.) Storage Relative Humidity : 90% MAX.R.H.

ENVIRONMENT

Operating Temperature	-20 TO 75°C
Operating Humidity	90% MAX. R.H.
Storage Temperature	-20 TO 85°C
Storage Humidity	90% MAX. R.H.

PC OSD MENU:

OSD KEY OPERATION:

TROUBLE SHOOTING:

APPENDIX: