

Multimedia Board with HDMI Specification

CS53S1

V1.0

Version	Date	Model			
V1.0	2022-6-05	CS53S1 ver:1.0			

1.1 Product Introduction

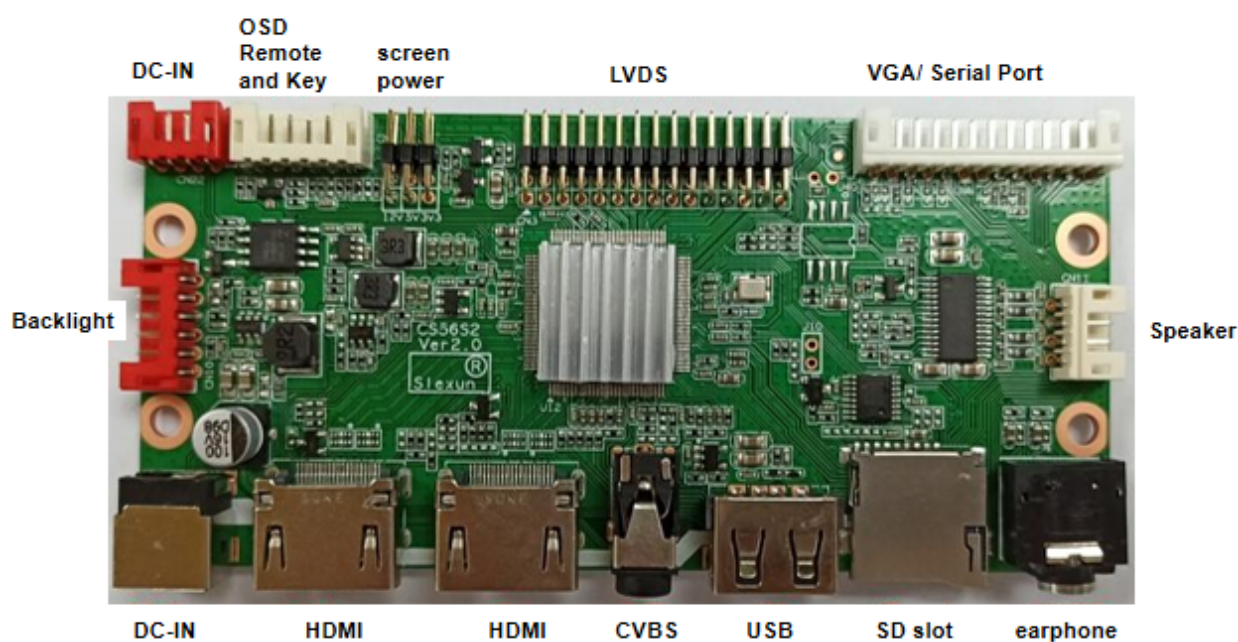
CS53S1 is a cost-effective LCD driver board, using the MSTARtsumv53 solution, supporting HDMI1.4b, AV and USB input, headphone output, DC adapter power supply and built-in power supply.

In terms of display, it uses LVDS output, supports single/dual 8-bit screen, and supports a maximum resolution of 1920*1080, which is suitable for stand-alone display and strip screen displays.

1.2 Product Features

Adopts MSTAR chip solution, good stability, excellent display effect;
Automatically identifies and plays video files from SD card and USB flash;
RTC function reserved (not yet open).

1.3 Product Appearance and Ports



2. Functional Description

2.1 USB

One USB2.0,supportsmultimedia play

2.2 HDMI

2x HDMI1.4binput,supports4K30HZsignal input and decoding

2.3 Earphone

Supports 1-way 3.5MM headphone output. After connecting the headphone, the amplifier is muted and no sound can be output at the same time.

2.4 AV input

Support1mini-AVinput

2.5 SD card

Support SD card video playback (MP4 format)

2.6 Speaker output

Support 2.0 speaker output, using 4-PIN2.0 socket, the maximum output power can reach 2*8 ohms/8W

2.7 Remote control and keys

Supports OSD remote control and key functions.

It has a matching remote control (not included by default, if required, please tell us.)

Regarding the key function, the mainboard provides an ADC port. When you want to use the key function, you need to use a keypad with a voltage divider resistor. For details, refer to Appendix 1

2.8 VGA input/ Serial port

Supports 1 VGA input, using a built-in socket. The public board does not have this function by default. If you want the VGA input function, you need to change it separately;

Supports 1 serial port, shared with VGA signal RX/TX. When the VGA input function is not used, the serial port can be used alone. When with VGA input, this serial port cannot be used

2.9 LVDS output

Supports 1-channel LVDS output, uses 30-PIN2.0 plug-in pin header, supports single/dual 8-bit screen, and supports the highest resolution up to 1920*1080

2.10 Motherboard power supply

Supports adapter and built-in single 12V power supply, the built-in power supply uses a 4-PIN2.0 socket

2.11 Backlight control

One backlight control interface, using a standard 6-PIN2.0 socket, supports PWM dimming and DC dimming.

The public board defaults to PWM dimming, which needs to be changed when DC dimming is required.

2.12 Upgrade

Support USB local upgrade, support automatic upgrade at startup, easy to upgrade

2.13 Screen power supply

Support 3.3V, 5V, 12V screen power supply, selectable through jumper

3. Interface Definition

Built-in power supply interface

PIN	Symbol	Description
1	GND	Ground
2	GND	
3	12V	12V power input
4	12V	

Backlight Control

PIN	Symbol	Description
1	GND	Ground
2	GND	
3	ADJ	Brightness control signal
4	BLON	Backlight switch signal
5	12V	Backlight 12V power supply output
6	12V	

Remote and Key

PIN	Symbol	Description
1	KEY	Key input
2	GND	Ground
3	IR	Remote control input
4	G	Power-on status indicator light control signal
5	R	Shutdown status indicator light control signal
6	3V3	3.3V power supply output

Speaker

PIN	Symbol	Description
1	R+	Right channel output +
2	R-	Right Channel onput -
3	L-	Left channel output -
4	L+	Left channel output +

Serial Port/VGA-IN

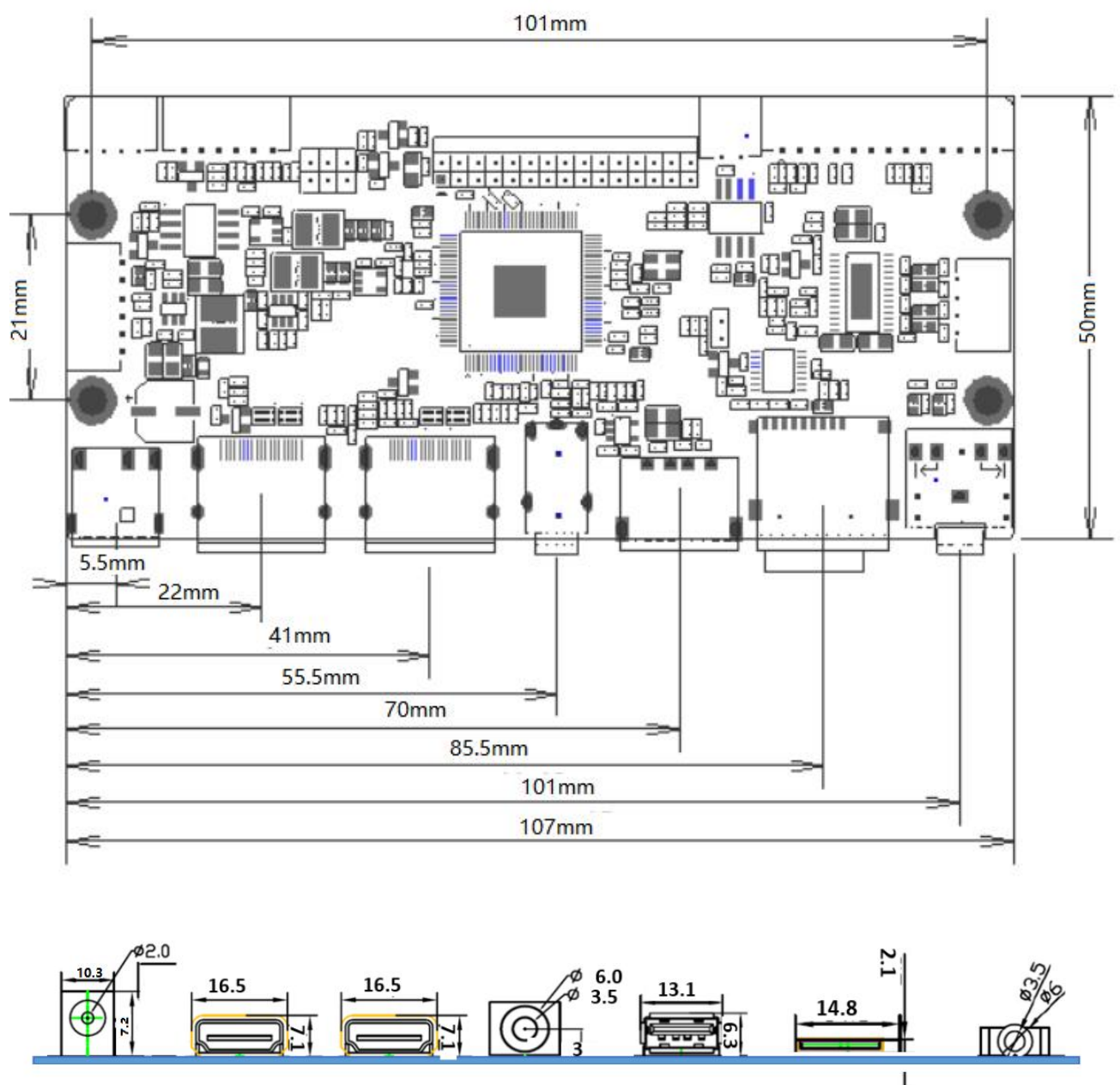
PIN	Symbol	Description
1	HS	VGA channel horizontal synchronization signal
2	VS	VGA channel field synchronization signal
3	B	VGA channel B video signal
4	G	VGA channel G video signal
5	R	VGA channel R video signal input
6	GND	Ground
7	GND	Ground
8	LINE R	VGA channel right channel audio signal input
9	LINE L	VGA channel left channel audio signal input
10	GND	Ground
11	SDA	VGA channel SDA signal/serial port data receiving signal
12	SCL	VGA channel SCL signal/serial port data receiving signal
13	GND	Ground

LVDS

PIN	Symbol	Description
1	VCC	Screen power supply
2	VCC	
3	VCC	
4	GND	Ground
5	GND	Ground
6	GND	Ground
7	O0N	LVDS second channel first group data negative signal
8	O0P	LVDS second channel first group data positive signal
9	O1N	LVDS second channel second group data negative signal
10	O1P	LVDS second channel second group data positive signal
11	O2N	LVDS second channel third group data negative signal
12	O2P	LVDS second channel third group data positive signal
13	GND	Ground
14	GND	Ground
15	OCN	LVDS second channel clock negative signal
16	OCP	LVDS second channel clock positive signal
17	O3N	LVDS second channel fourth group data negative signal
18	O3P	LVDS second channel fourth group data positive signal
19	E0N	LVDS first channel first group of data negative signal
20	E0P	LVDS first channel first group of data positive signal
21	E1N	LVDS first channel second group data negative signal
22	E1P	LVDS first channel second group data positive signal
23	E2N	LVDS first channel third group data negative signal

24	E2P	LVDS first channel third group data positive signal
25	GND	Ground
26	GND	Ground
27	ECN	LVDS first channel clock negative signal
28	ECP	LVDS first channel clock positive signal
29	E3N	LVDS first channel fourth group data negative signal
30	E3P	LVDS first channel fourth group data positive signal

4. Structural dimensions (unit:mm)

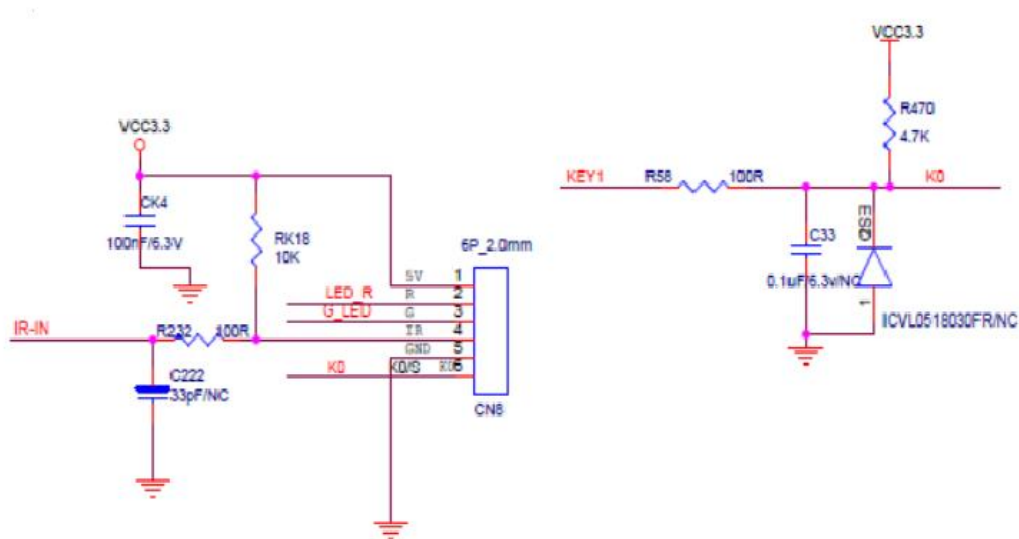


5. Precautions

- 5.1 The motherboard should be packed in bubble bags during storage and transportation to prevent damage to components caused by collision
- 5.2 Connect all wires before powering on. Turn off the power before unplugging wires to prevent damage to the motherboard or peripherals caused by live operation
- 5.3 When driving the screen, pay attention to the screen voltage and plug the screen power supply jumper into the corresponding voltage level to avoid screen burn
- 5.4 Keep away from conductors when the motherboard is working to prevent short circuits from burning the motherboard
- 5.5 Do not press heavily or bend the motherboard during installation

Appendix I

Mainboard button interface circuit



Remote control

(not included by default, if required, please tell us)

