

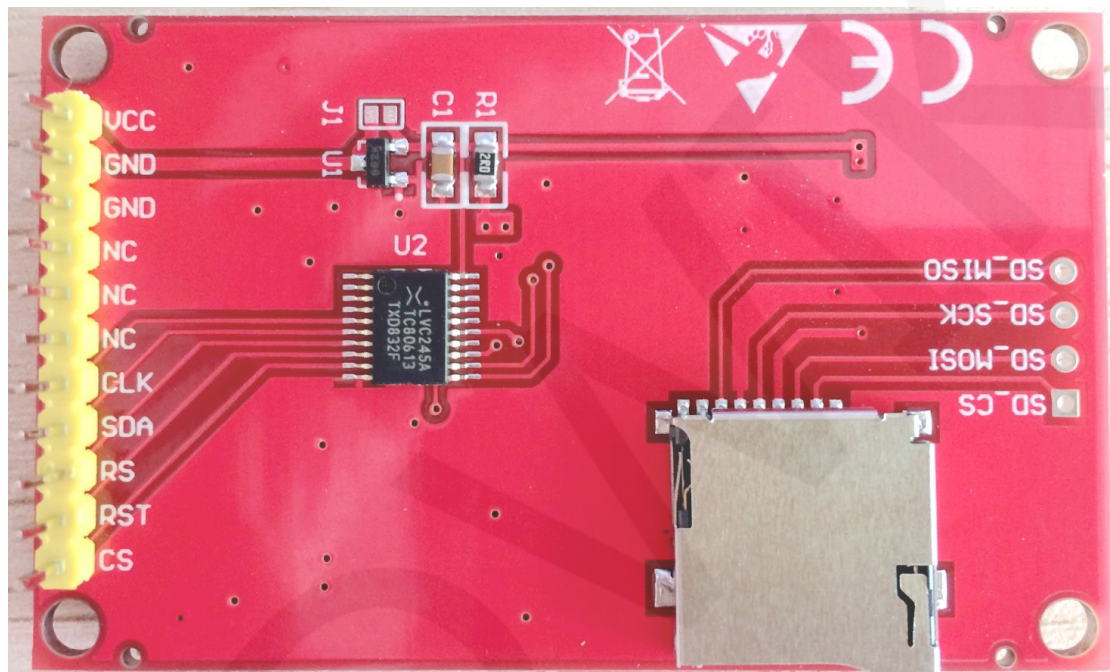
Test platform introduction:

Development board: STC89/STC12 development board

MCU : STC89C52RC、STC12C5A60S2

Crystal frequency : 12MHZ

Wiring instructions:



Picture1. Pin silkscreen picture

STC89C52RC and STC12C5A60S2 microcontroller test program wiring instructions

Number	Module Pin	Corresponding to STC89/STC12 development board wiring pin	Remarks
1	VCC	5V/3.3V	LCD power supply positive pin
2	GND	GND	LCD Power ground pin pin
3	GND	GND	LCD Power ground pin pin
4	NC	no need to connect	Not defined, reserved

5	NC	no need to connect	Not defined, reserved
6	NC	no need to connect	Not defined, reserved
7	CLK	P17	LCD SPI bus clock pin
8	SDA	P15	LCD SPI bus write data pin
9	RS	P12	LCD data / command selection control pin (low level: command; high level: data)
10	RST	P33	LCD reset control pin (reset at low level)
11	CS	P13	LCD chip select control pin (enabled at low level)

Description:

1. When manually wiring, reduce the occupied IO port of the development board as follows:
 - A. When the SPI multiplexed chip is not selected, ground the **CS** pin of the module to save 1 IO port;
 - B. Connect the **RST** pin of the module to the reset end of the MCU to save 1 IO port;
2. Short-circuit the J1 pad on the PCB backplane, then **VCC** is connected with 3.3V voltage at this time. Never connect it to 5V, it will burn out;

Demo function description:

1. This set of test program procedures is applicable to the STC89C52RC and STC12C5A60S2 platforms;
2. This set of test program uses the software SPI and hardware SPI function of the single-chip platform (STC89C52RC only software SPI function);
3. When using the software SPI function or the hardware SPI function, the wiring pin definition is the same, but the initialization is different;
4. Please follow the above wiring instructions to find the corresponding development board and MCU for wiring;
5. STC89C52RC microcontroller RAM is only 25KB, so only a simple brush test, other

test items can not be tested;

6. This set of tests supports display switching in four directions. For details, see the display direction switching instructions.

7. STC12C5A60S2 microcontroller test program contains the following test items:

- A. The main interface displays the test;
- B. simple brush test;
- C. rectangular drawing and filling test;
- D. circular drawing and filling test;
- E. triangle drawing and filling test;
- F. English display test;
- G. Chinese display test;
- H. picture display test;
- I. rotating display test;

Display direction switching instructions:

Find the macro definition `USE_HORIZONTAL` in `lcd.h` as shown below:

```
////// 用户配置区 //////////////////////////////////////  
#define USE_HORIZONTAL 0 // 定义液晶屏顺时针旋转方向 0-0度旋转, 1-90度旋转, 2-180度旋转, 3-270度旋转
```

```
USE_HORIZONTAL 0 //0° Rotate  
USE_HORIZONTAL 1 //90° Rotate  
USE_HORIZONTAL 2 //180° Rotate  
USE_HORIZONTAL 3 //270° Rotate
```