

C51 Test platform introduction:

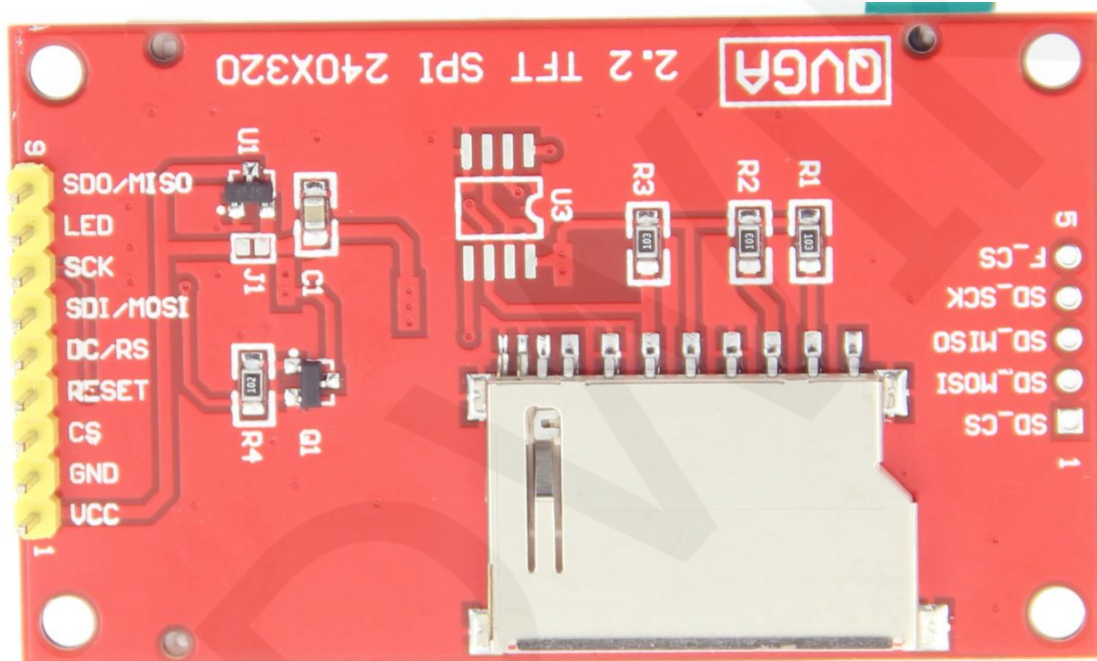
Development board: STC89/STC12 development board

MCU : STC89C52RC、STC12C5A60S2

Crystal frequency : 12MHZ

Wiring instructions:

The wiring pins of STC89C52RC and STC12C5A60S2 are identical, as follows:



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 is positive (3.3V~5V)
2	GND	GND	LCD Power ground

3	CS	P13	LCD selection control signal
4	RESET	P33	LCD reset control signal
5	DC/RS	P12	LCD register / data selection control signal
6	SDI/MOSI	P15	LCD SPI bus write data signal
7	SCK	P17	LCD SPI bus clock signal
8	LED	P32	LCD backlight control signal (high level lighting, if you do not need control or use STC89C52RC, please connect 3.3V)
9	SDO/MISO	P16	LCD SPI bus read data signal (can not be connected if not needed)

Note: If you use the hardware SPI function of STC12C5A60S2, the pins of the LCD screen need an external level conversion module (5V to 3.3V) for normal operation.

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;

8. this module does not have a touch function, please remove the touch screen handwriting test items;

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
```