

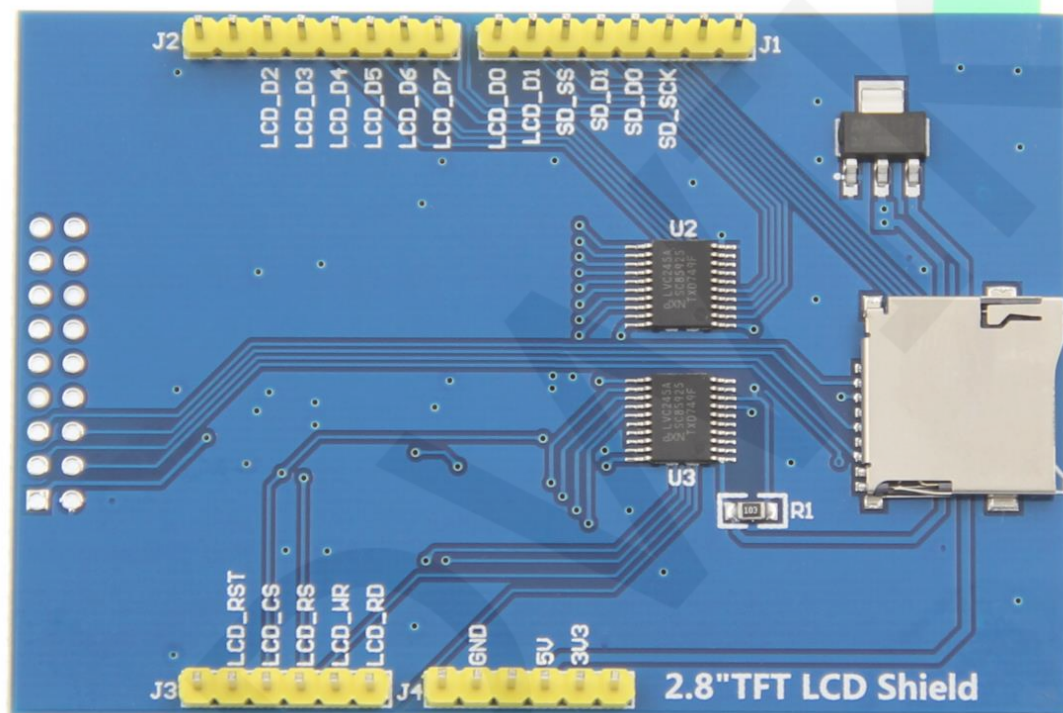
C51 Test platform introduction:

Development board: STC89/STC12 development board

MCU : STC12C5A60S2

Crystal frequency : 12MHZ

Wiring instructions:



Pin silk screen picture

Note: Pins that are not marked with silkscreen are not used.

STC12C5A60S2 microcontroller test program wiring instructions

Number	Module Pin	Corresponding to STC12 development board wiring pin	Remarks
1	5V	5V	Power positive 5V pin
2	3V3	3V3	Power positive 3.3V pin

3	GND	GND	Power ground pin
4	LCD_D0	P20	8-bit data bus pin
5	LCD_D1	P21	
6	LCD_D2	P22	
7	LCD_D3	P23	
8	LCD_D4	P24	
9	LCD_D5	P25	
10	LCD_D6	P26	
11	LCD_D7	P27	
12	LCD_RST	P33	LCD reset control pin
13	LCD_CS	P13	LCD chip select control pin
14	LCD_RS	P12	LCD register / data selection control pin
15	LCD_WR	P11	LCD write control pin
16	LCD_RD	P10	LCD read control pin
17	SD_SS	No need to connect	Extended function: SD card selection control pin
18	SD_DI	No need to connect	Extended function: SD card input pin
19	SD_DO	No need to connect	Extended function: SD card output pin
20	SD_SCK	No need to connect	Extended function: SD card clock control pin

Demo function description:

1. This module needs GPIO strong push-pull output to work normally, so this set of test program can only be used for C51 microcontroller with push-pull output function, so it is suitable for STC12C5A60S2 platform;
2. This module uses 8-bit parallel port to transfer data, so the test program needs to be set to 8-bit mode. For details, see the mode switching instructions;
3. Please follow the wiring instructions above to find the corresponding development board and MCU for wiring;
4. This set of tests supports display switching in four directions. For details, see the

display direction switching instructions

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

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

Mode switching instructions:

Find the macro definition `LCD_USE8BIT_MODEL` in `lcd.h`, as shown below:

```
#define LCD_USE8BIT_MODEL 1 //定义数据总线是否使用8位模式 0,使用16位模式.1,使用8位模式  
////////////////////////////////////
```

```
LCD_USE8BIT_MODEL 0 // Use 16-bit mode
```

```
LCD_USE8BIT_MODEL 1 // Use 8-bit mode
```

Note: Different hardware corresponds to different modes. If the mode is switched on the software, the hardware should be modified accordingly. Otherwise, the module will not work properly if the hardware and software modes do not match.

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`