

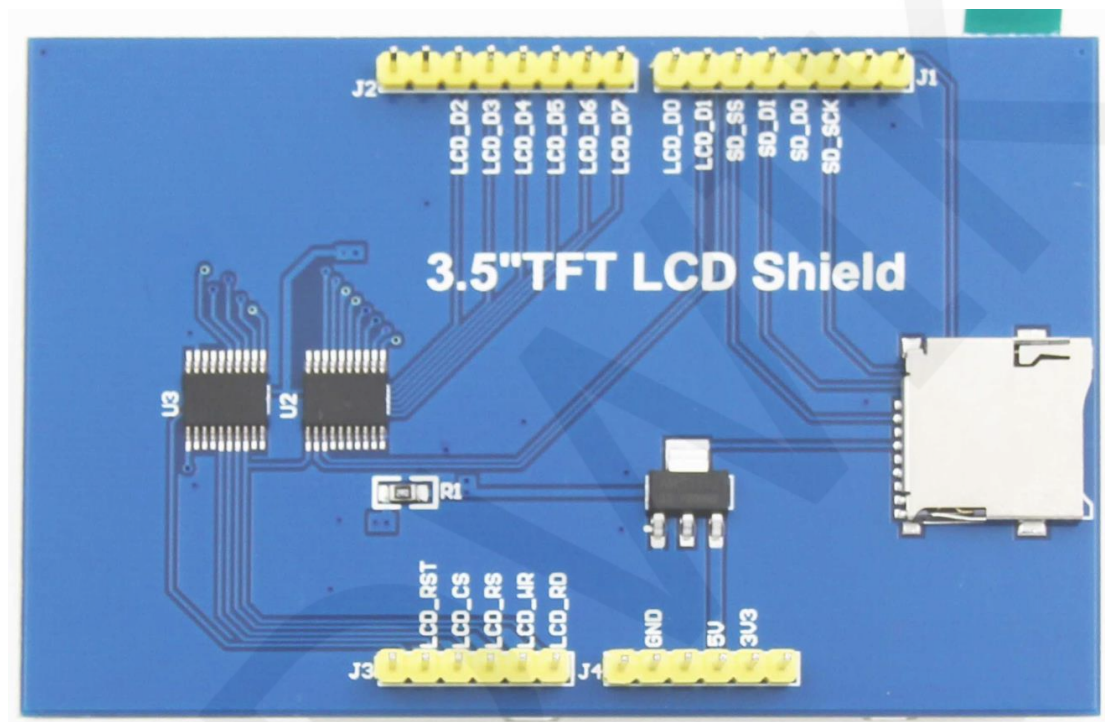
C51 Test platform introduction:

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