# 2.8inch IPS SPI Module ILI9341

## Product Picture



## Product Description

- 2.8inch color screen with 320x480 resolution of 65K colors and rich display colors
- The upgrade adopts IPS full view panel, with good visual angle
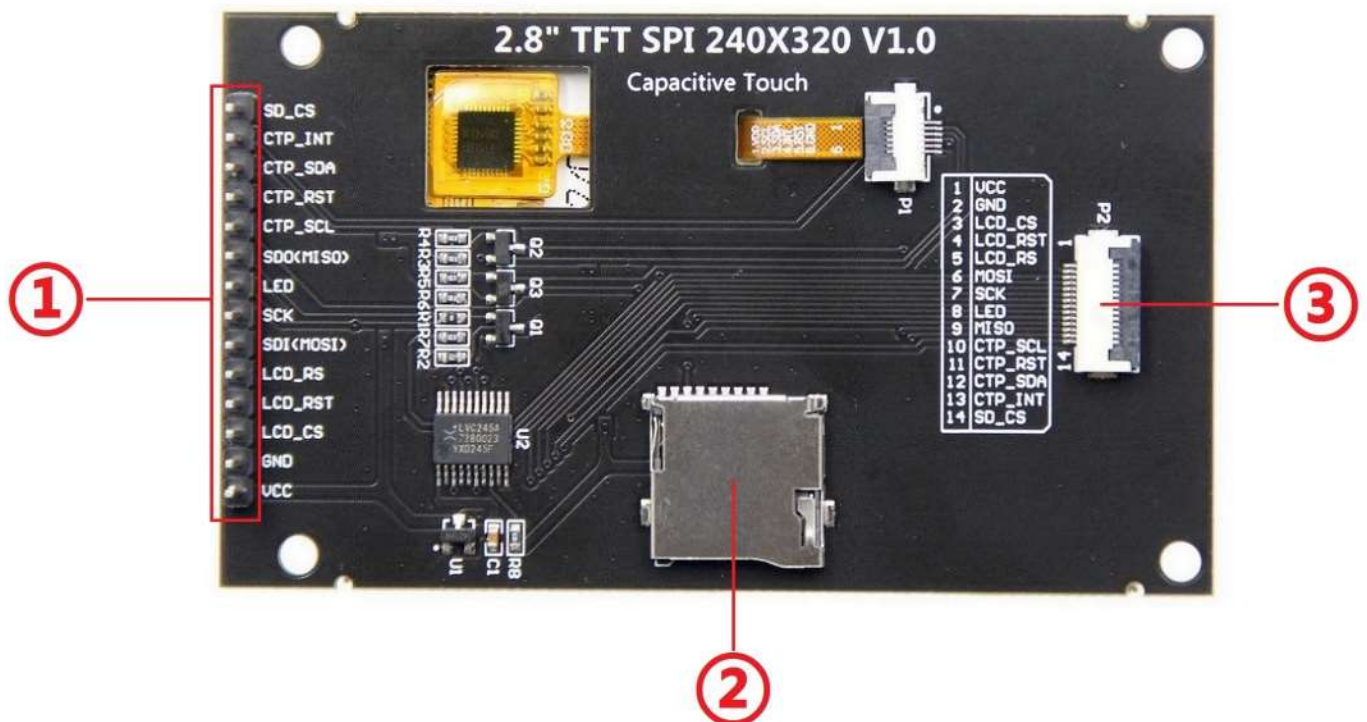- On board level conversion circuit, compatible with 5V and 3.3V MCU

- Adopting a 4-wire SPI serial bus to save I/O pins
- Optional capacitive touch/no touch function for modules
- Module input supports 2.54 pin interface and FPC extension interface
- Equipped with micro TF card slot for easy storage expansion
- Provide rich example learning programs (ESP32/STM32/Arduino UNO&Mage2560/C51/CH32)
- Provide low-level driver technical support
- Multiple tests for module aging can meet military level standards, supporting long-term stable work

# Product Paramete

| Name | |
|:---:|:---:|
| **LCD Parameters** | |
| Screen Size | 2.8 inch |
| Screen Type | IPS |
| Resolution | 240xRGBx320 (pixels) |
| Active Area (AA area) | 43.20(W)x57.60(H)(mm) |
| Number of Colors(Max) | 262K |
| Driver IC | ILI9341V |
| Display Interface | 4-Line SPI |
| Pixel Size | 0.153(H)x0.153(V)(mm) |
| View Angle | ALL 0' CLOCK |
| Brightness(TYP) | $280(cd/m^2)$ |
| Backlight Type | White LED*4 |
| Operation Temperature | -10~50(℃) |
| Storage Temperature | -20~60(℃) |
| **Touch Screen Parameters** | |
| Touch Active Area | 2.8 inch |
| Touch Screen Type | Capacitive Touch Screen |
| Touch Screen Resolution | 240x320(pixels) |
| Driver IC | FT6336G |
| Touch Screen Visual Area | 43.60±0.15(W)x58.05±0.15(H)(mm) |
| Communication Interface | IIC |
| Operation Temperature | -20~70(℃) |
| Storage Temperature | -30~80(℃) |

| Size Parameters | |
|---|---|
| TFT Outline Size | 50.0±0.2(W)x69.20±0.2(H)x2.30±0.1(D)mm)(Excluding cables and adhesive backing) |
| Touch Screen Outline Size | 50.0±0.1(W)x69.20±0.1(H)x1.0±0.1(D)(mm)(Excluding cables and adhesive backing) |
| Module Outline Size | Have Touch Screen:50.0(W)x86.0(H)x12.78(D)(mm)(including Pin Header)<br><br>NO Touch Scre |
| Electric | |
| Working Voltage | |
| Backlight Current | |
| Power | 0.4 W |
| Other Parameters | |
| SKU | NO Touch Screen : MSP2833<br><br>Have Touch Screen : MSP2834 |
| Interface | 14P 2.54mm spacing Header and 0.5mm spacing FPC seat |
| Weight(including package) | MSP2833: 59g<br><br>MSP2834: 67g |

# Interface Definition

## ■ Interface Function Description

| Number | Interface | Function Description |
|--------|-----------|----------------------|
| ① | **14 Pin Header** | 2.54mm spacing row pins, module signal input pins |
| ② | **Micro SD Slot** | Insert a Micro SD card to expand storage space, such as storing big data content such as fonts and images |
| ③ | **14P FPC** | 0.5mm FPC ter<br>same function |

## ■ Pin Function Description

| Number | Pin Label | |
|--------|-----------|---|
| 1 | **VCC** | Power positive |
| 2 | **GND** | Power ground |
| 3 | **LCD_CS** | LCD selection control signal, Low level active |
| 4 | **LCD_RST** | LCD reset control signal, Low level reset |
| 5 | **LCD_RS** | LCD command / data selection control signal<br><br>High level: data, low level: command |
| 6 | **SDI(MOSI)** | SPI bus write data signal(SD card and LCD screen used together) |
| 7 | **SCK** | SPI bus clock signal(SD card and LCD screen used together) |
| 8 | **LED** | LCD backlight control signal (If you need control, please connect the pins. If you don't need control, you can skip it) |
| 9 | **SDO(MISO)** | SPI bus read data signal (SD card and LCD screen used together) |
| 10 | **CTP_SCL** | Capacitive touch screen IIC bus clock signal (modules without touch screens do not need to be connected) |
| 11 | **CTP_RST** | Capacitor touch screen reset control signal, low-level reset (modules without touch screens do not need to be connected) |
| 12 | **CTP_SDA** | Capacitive touch screen IIC bus data signal (modules without touch screens do not need to be connected) |
| 13 | **CTP_INT** | Capacitor touch screen IIC bus touch interrupt signal, when generating touch, input low level to the main control (modules without touch screens do not need to be connected) |
| 14 | **SD_CS** | SD card selection control signal, low level active (without SD card function, can be disconnected) |