



## Introduction

In the application of large capacity and high visibility products, such as portable media player and mobile handheld terminal, touch buttons have been widely used. Because of its convenience, fashion and low cost, more and more electronic products are produced. Products began to shift from traditional mechanical buttons to touch buttons.

## Application

Range hood operation panel;

Touch switch;

Hand held home air environment detector;

Industrial control equipment keyboard with waterproof function;

On board equipment;

Bluetooth test rack information display.

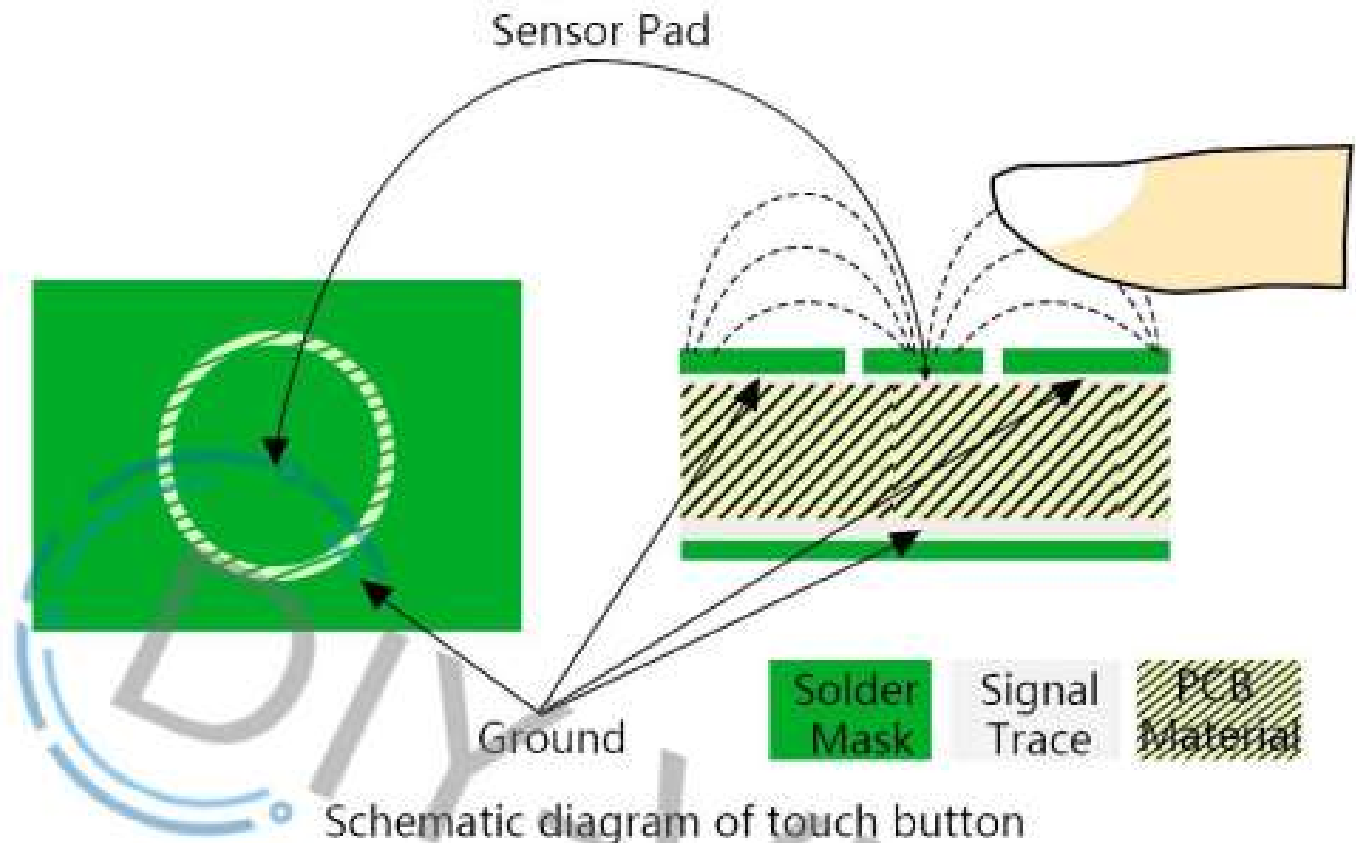
## Features

- No mechanical parts, no wear and tear, unlimited life, reduce the cost of later maintenance;
- The sensing part can be placed behind any insulating layer (usually glass or plastic material), so it is easy to manufacture. The keyboard is sealed with the surrounding environment to prevent moisture and water;
- The panel pattern is arbitrary, the key size and shape are arbitrary, and the characters, trademarks and perspective windows are arbitrary, making the overall sense of the product stronger;
- Compared with physical buttons, touch buttons are not easy to be damaged;
- The output of signal can be adjusted to latch or level hold output by modifying the resistance on the back;
- +2.7V~+6V wide voltage input range, +3.3V signal output, can be directly used to drive relay, optical switch;
- Working temperature range: -30~+70°C;
- Sensitive touch, no delay flicker and other adverse reactions;
- Built in anti-jamming algorithm, with excellent anti-jamming performance.

## Technical description

Brief introduction of touch key principle

The capacitive touch sensitive button is actually just a small "copper clad pad" on the PCB, and the touch button is connected with the peripheral. When the finger is close to the area above the capacitor, it will interfere with the electric field, so as to reduce the interference. The capacitance changes accordingly. According to the change of the capacitance, it can detect whether there is a human body approaching or touching the touch button Key.

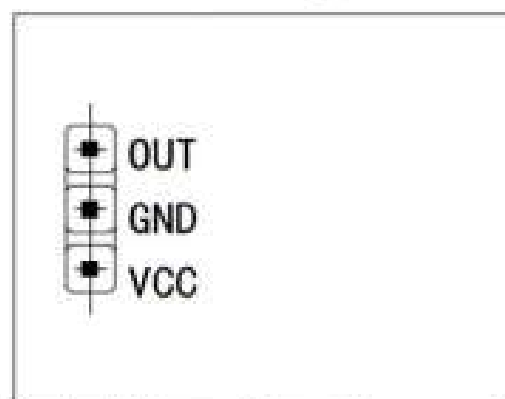


Schematic diagram of touch button

The ground plate is usually placed under the key board to shield the interference of other electronic products. This kind of design Due to the parasitic capacitance, temperature, humidity and other environmental factors on PCB, the detection system needs continuous monitoring and control Track this change and make baseline adjustment.

The reference capacitance value is generated by the PCB with specific structure. When the medium changes, the capacitance also changes.

## Pin definition and technical parameters



Pin definition of single key module

Working voltage: 2.7~6V

Working temperature: 30~+70°C

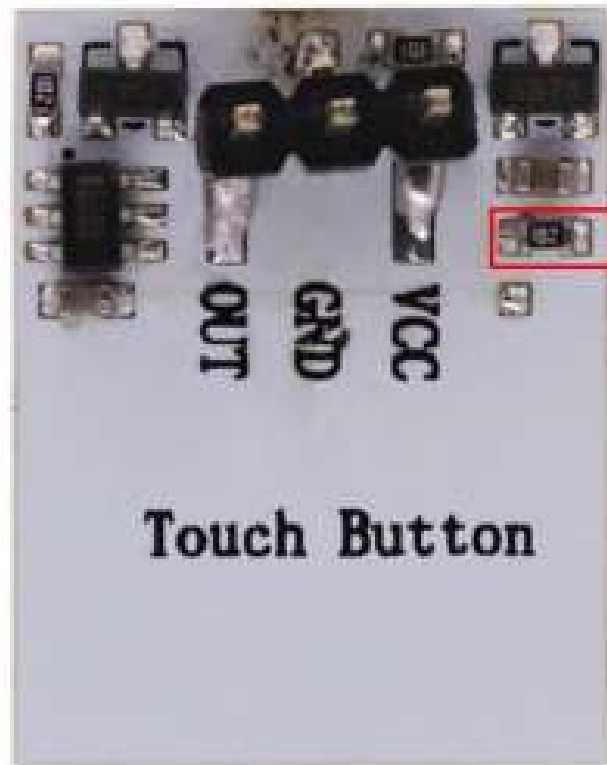
The output voltage of out pin is + 3.3V±0.1V

Maximum output current of out pin: 500mA

## Precautions for use

Output mode selection

You can modify the "mode selection resistor" on the back to adjust whether the output of the signal is latch output or level hold output



(Default) solder this resistor-latch mode:

after touching,the out pin outputs and maintains a high level,the backlight of the touch panel is turned on,and the touch again turns to a low level;

Do not solder the resistor-hold mode:

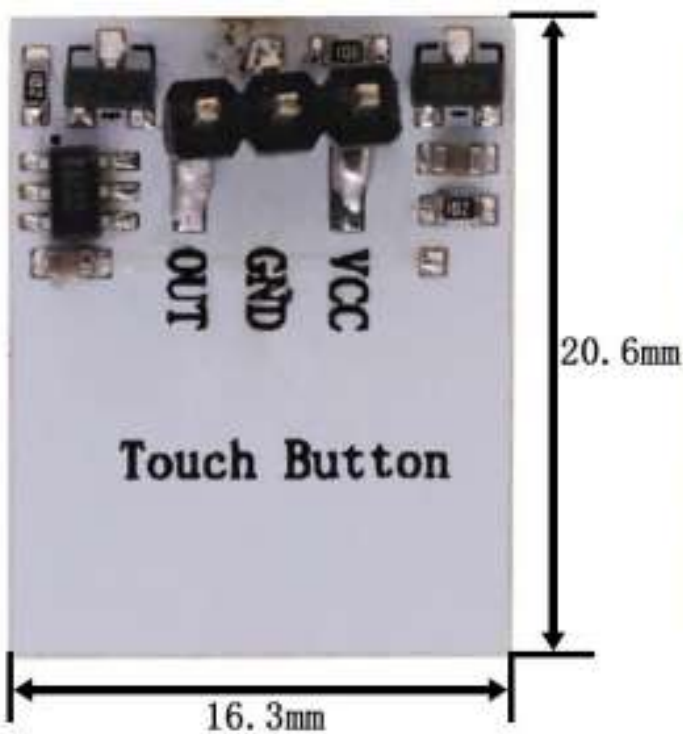
Remove the red resistor shown in the figure.When the touch panel detects the touch,the out pin will output high level and the backlight will be on.Otherwise,the out pin will output low level and the backlight will be off.

The resistance is welded by default,that is,the default is latch mode.

### **Adaptive process**

In this module,an excellent adaptive algorithm is integrated,that is, every time the touch chip is powered on,it will detect the change of the capacitance of the touch pad (temperature,humidity,the type of shelter and other factors will change the size of the capacitance),and then automatically correct the touch sensitivity and anti-interference level.

This process will be completed automatically every time the power is turned on,and it will take about 70ms,so When the cover of the touch module changes,it is normal that the touch button may not be sensitive,or the touch button may malfunction.You only need to power on the module again.



DIY-Victor

Product Photos

