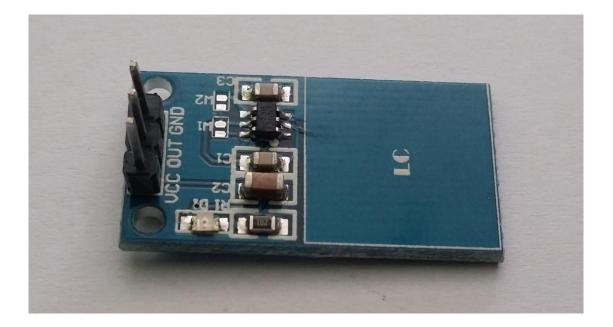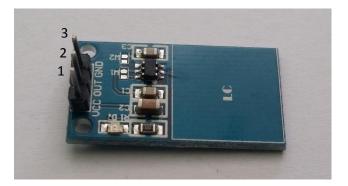# TTP223 CAPACITIVE TOUCH SENSOR MODULE

Description

The TTP223 is a touch pad detector IC which offers 1 touch key. The touching detection IC is designed for replacing traditional direct button key with diverse pad size. Capacitive touch allows electronics to sense when your finger is within a few millimetres of a surface to simulate a button "press" just like how the pushbutton works. Capacitive sensing may be used in any place where low to no force human touch sensing is desirable.
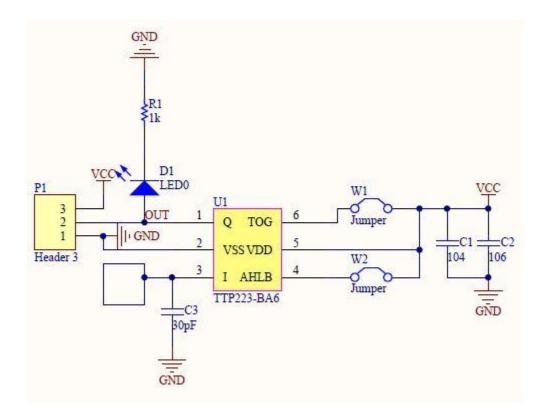
Specifications

- On-board TTP223 capacitive touch a single bond induction IC;
- Board level indicator;
- Working voltage: 2.0 V to 5.5 V;
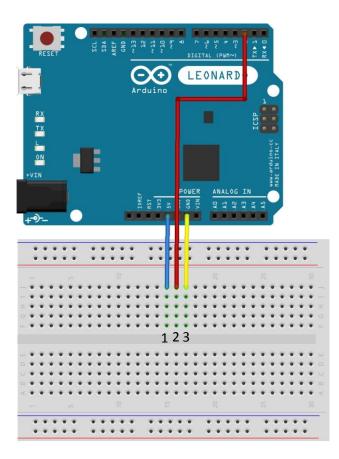- Size of the PCB board: 29mm x 16mm.

Pin Configuration

1. VCC: 2V to 5.5V DC
2. OUT: high/low output
3. GND: ground

Schematic Diagram

Wiring Diagram

Sample Sketch

```
void setup(){
  pinMode(2, INPUT);
  Serial.begin(9600);
}

void loop(){
  if(digitalRead(2) == HIGH) Serial.println("tap");
  else Serial.println(" ");
  delay(100);
}
```
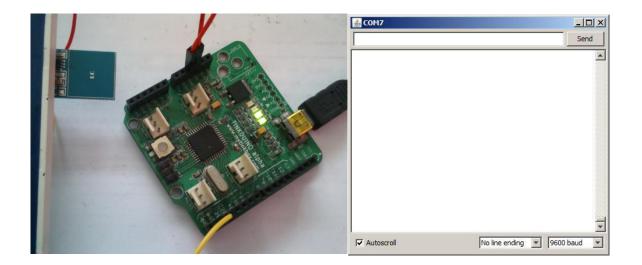
How to test

The components to be used are:
- – Microcontroller (any compatible arduino)
- – TTP223 capacitive touch sensor module
- – 1 Pin M-M connectors
- – Breadboard
- – USB cable

1. Connect the components based on the figure shown in the wiring diagram using a M-M pin connector. VCC pin is connected to the 5V power supply, GND pin is connected to the GND, and the OUT pin is connected to the digital I/O pin. Pin number will be based on the actual program code.
2. After hardware connection, insert the sample sketch into the Arduino IDE.
3. Using a USB cable, connect the ports from the microcontroller to the computer.
4. Upload the program.
5. See the results in the serial monitor.

Testing results

The serial monitor shows the results on tapping the module.

The figure below shows when the module was tapped. A red LED should also flash simultaneously. Note that the number of 'tap' lines depends on how long the module was tapped and on the delay in the sample sketch.