Mini Touch Sensor

PIC-116 Touch Sensor

1. Description

PIC-116 is a miniature touch sensor module which can be integrated with any device that accept input. The light weight module allows itself to be stick to surface using adhesive material.

2. Features

- Sensitive to touch
- Longer operating lifespan (no moving mechanical parts, no wear and tear)
- Can be easily conceal/hidden behind surface.
- Easy to install in tight spaces. Small, flat (low profile).
- Easy to deploy and use. Stick it on the surface, to deploy your touch sensitive button.
- Robust against moisture, water resistance
- Works with a lot of material. Through glass, plastic and metal surface.
- Works through gloves
- Braille friendly
- Power up with a wide range of input voltage 1.8V, 3.3V, 5V.
- NPN output drive drive load up to 40V 0.5A.
- Mini size, light weight module, easy to hide and mount.

3. **Application Notes**

Example 1: The module can be used to drive a dc load up to 40V 500mA. The following example illustrate the connection to a 3mA LED load. When the sensor sense a touch, the LED will light up. The sensor is sensitive and may start to trigger when the touch is near. The sensitive can be change by changing the value of the capacitor, Cs. Cs value range from 2nF – 50nF. High capacitance Cs will make the touch circuit more sensitive.

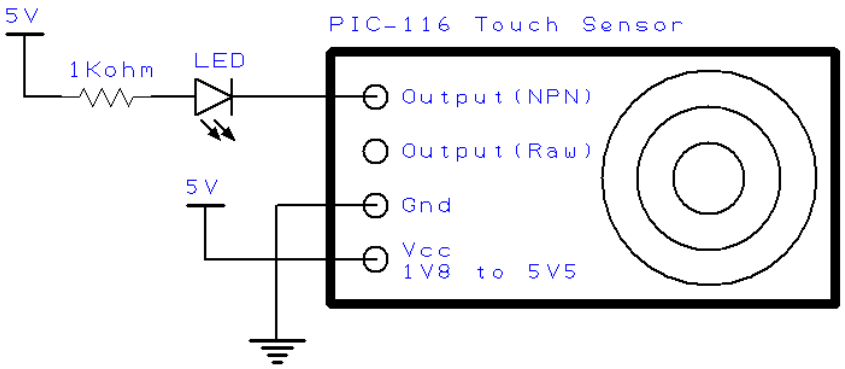

Fig: Connection to a LED indicator

Example 2: The module can be connected directly to the micro-controller through a pull up resistor value from 1KΩ – 10KΩ.

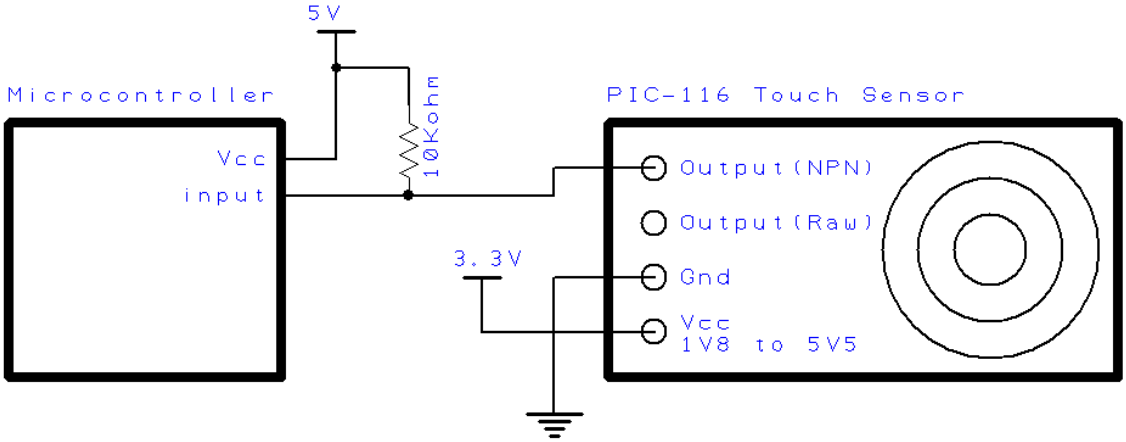

Fig: Connection to a microcontroller input

Example 3: The module is capable of driving a mechanical relay up to a 0.5A load. The connection is as shown in the following diagram using the Output (npn). Note that a diode is place across the coil of the relay. This is commonly known as a flyback diode, which protects the npn transistor output from being destroyed by the high voltage generated from switching of the coil load (inductance load).

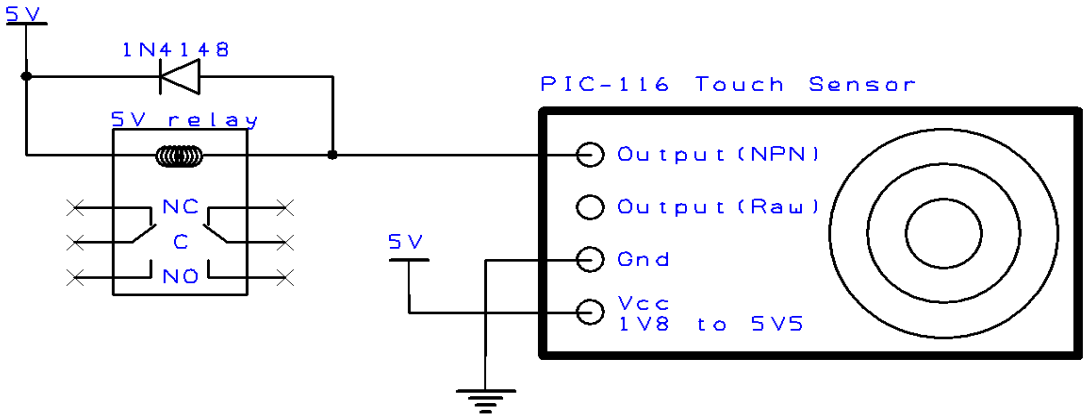

Fig: Connection to a mechanical relay

Sensor Sensitivity:

- Touch sensitivity can be increase by with a higher capacitance Cs. Cs value can range from 2 – 50nF.
- Touch surface can be extend to an external surface by soldering the interface to H1 pad.

4. Schematic & Mechanical Dimension

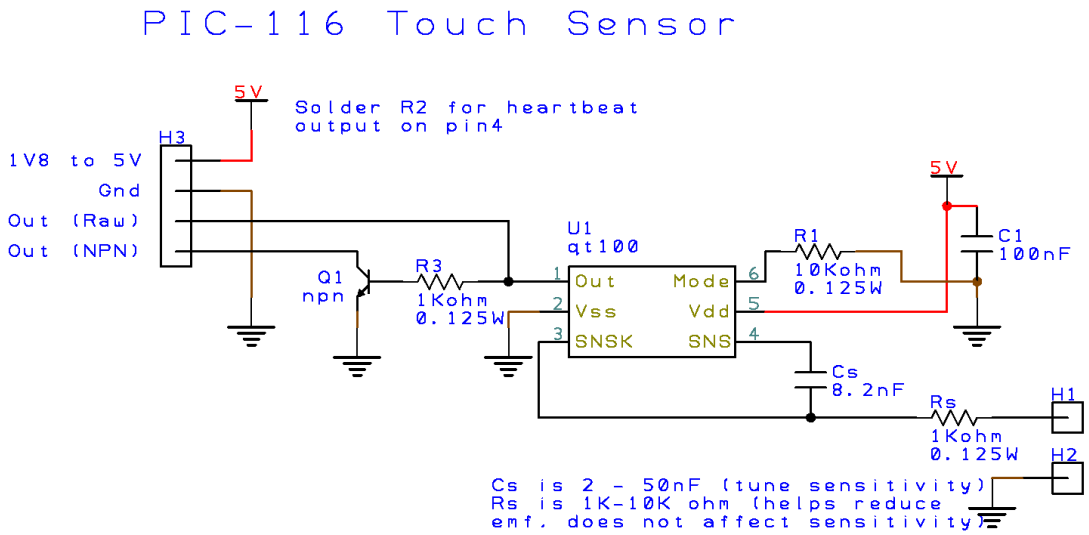

Fig: Schematic

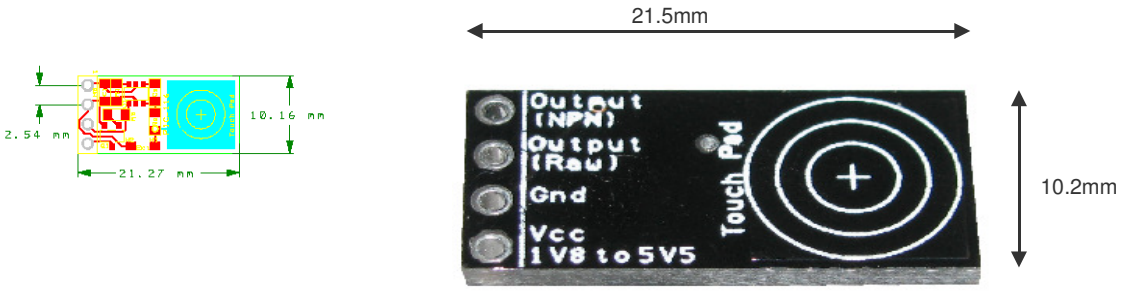

Fig: Dimension

5. **Specifications & Features**

Interface	
Connection	2.54mm pitch header mounting
Output (Raw)	Logic 0 (floating) / Logic 1, touch detected (Vcc)
Output (NPN)	Able to drive up to 40V 0.5A (max)
Power Source	
Input Voltage	**1.8Vdc to 5.5Vdc**
Power	5mW (5V) 1mW (1.8V)
Environment	
Operating Temperature	**-40˚C to 85˚C**
Storage Temperature	**-55˚C to 125˚C**
Size	**21.5 x 10.2 x 3 mm** L x W x H
Weight	**1g** (±0.25g)
Accessories	---

www.pic-control.com
PIC-CONTROL
sales@pic-control.com