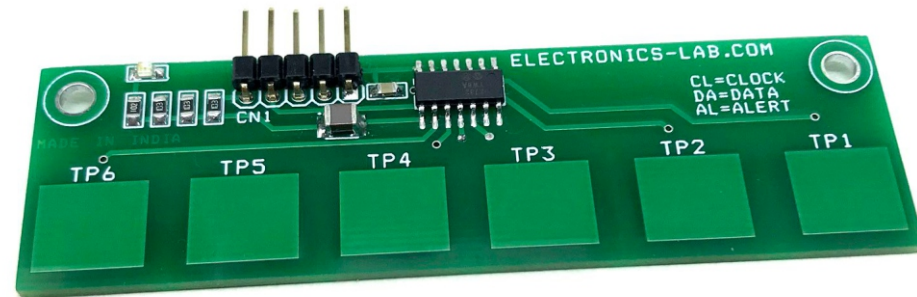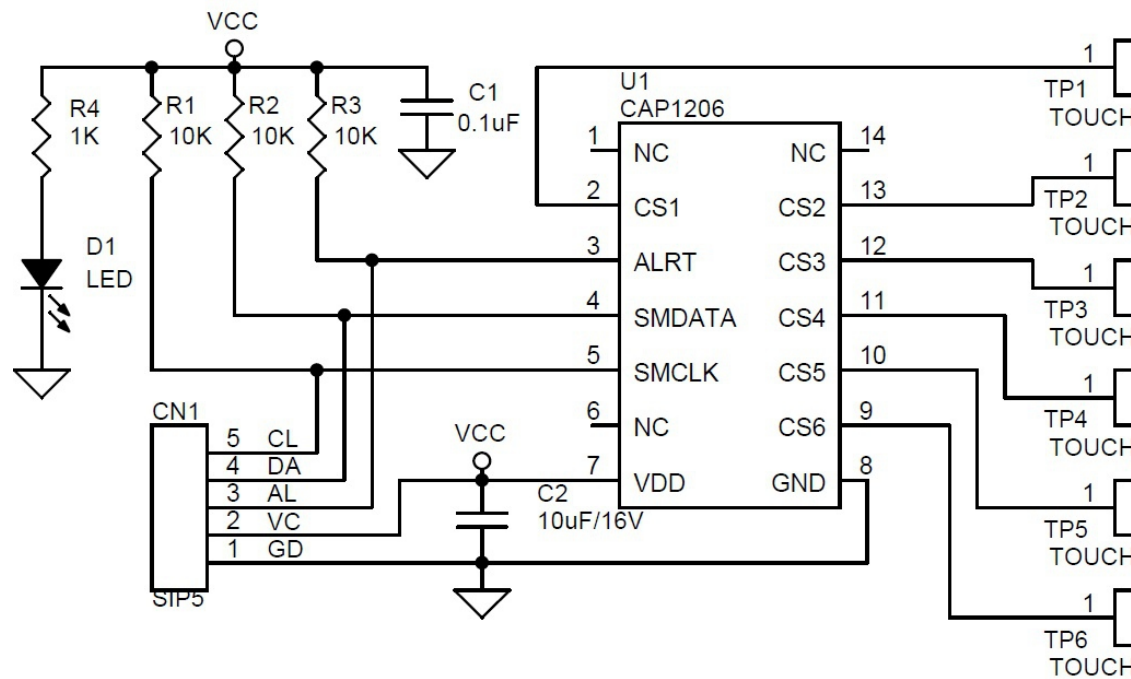# 6-Channel Capacitive Touch Sensor Module

The module described here is a 6-channel capacitive touch sensor. The project is based on CAP1206 IC which contains six (6) individual capacitive touch sensor inputs with programmable sensitivity for use in touch sensor applications. Each sensor input is calibrated to compensate for system parasitic capacitance and automatically recalibrated to compensate for gradual environmental changes. The CAP1206 features Multiple Pattern Touch recognition that allows the user to select a specific set of buttons to be touched simultaneously. If this pattern is detected, a status bit is set and an interrupt is generated. The CAP1206 has Active and Standby states, each with its own sensor input configuration controls. Power consumption in the Standby state is dependent on the number of sensor inputs enabled as well as averaging, sampling time, and cycle time. Deep Sleep is the lowest power state available, drawing 5µA (typical) of current. In this state, no sensor inputs are active, and communications will wake the device.
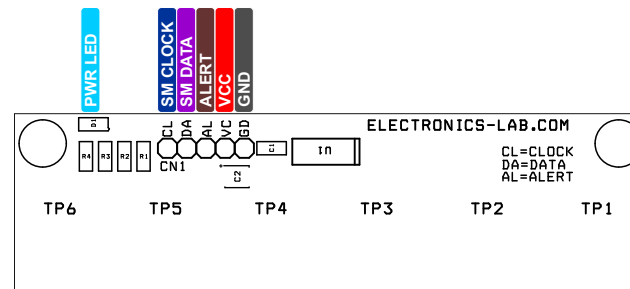
Refer to the datasheet of CAP1206 for more information on configuration and controlling the module using a microcontroller, Arduino, or Raspberry Pi.

Features
- Operating Supply 3.3V to 5V DC
- Onboard SMBUS/I2C Interface
- Onboard Power LED
- 6 PCB Touch Pads
- I2C ADDRESS 0x28

07005

VCC

R4
1K

R1
10K

R2
10K

R3
10K

C1
0.1uF

U1
CAP1206

1	NC	NC	14	
2	CS1	CS2	13	
3	ALRT	CS3	12	
4	SMDATA	CS4	11	
5	SMCLK	CS5	10	
6	NC	CS6	9	
7	VDD	GND	8	

D1
LED

CN1

5 CL
4 DA
3 AL
2 VC
1 GD

SIP5

VCC

C2
10uF/16V

1
TP1
TOUCH

1
TP2
TOUCH

1
TP3
TOUCH

1
TP4
TOUCH

1
TP5
TOUCH

1
TP6
TOUCH

BOM						
NO.	QNTY.	REF.	DESC	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	1	CN1	5 PIN MALE HEADER 2.54MM PITCH	ADAM TECH	DIGIKEY	2057-PH1RA-05-UA-ND
2	1	C1	0.1uF/50V SMD SIZE 0805	MURATA/YAGEO		
3	1	C2	10uF/16V SMD SIZE 1210 OR 1206	MURATA/YAGEO		
4	1	D1	LED RED SMD SIZE 0805	OSRAM	DIGIKEY	475-1415-1-ND
5	3	R1,R2,R3	10K 5% SMD SIZE 0805	MURATA/YAGEO		
6	1	R4	1K 5% SMD SIZE 0805	MURATA/YAGEO		
7	6	TP1-TP6	PCB TOUCH			
8	1	U1	CAP1206 14SOIC	MICROCHIP	DIGIKEY	CAP1206-1-SL-CT-ND

SILK SCREEN TOP

TOP LAYER

BOTTOM LAYER

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CL=CLOCK
DA=DATA
AL=ALERT

TP1
TP2
TP3
TP4
TP5
TP6

U1

CN1

PCB DIMENSIONS 83.82MM X 24.13MM