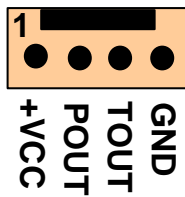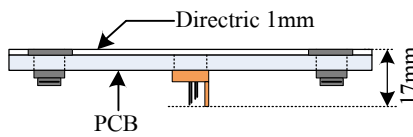## ET-TOUCH PAD 1x1

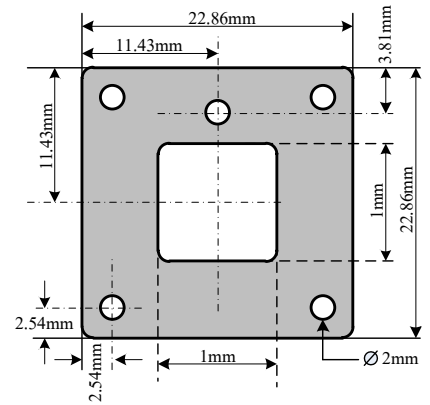## Specifications of ET-TOUCH PAD 1x1

- Be 1-Key Touch (Capacitive Sensing Key)

- Use Chip IQS127D to be Sensor to detect Capacitive from touching

- Key Touch Pad that is made from plastic normally should be 1mm. thick (it is adjustable, depending on humidity in the air).

- Have LED to display status of touching (Status Touch); it is connected through Connector 4 PIN that is Pin VDD, POUT, TOUT, and GND.

- Have 2 Signal OUTPUT at Pin POUT (Proximity Output) and TOUT (Touch Output)

- Both Signal Output are Digital TTL. It is Logic 1 at Pin POUT, TOUT if no any state of Prox or Touch; but it is Logic 0 at Pin POUT, TOUT due to state of Prox or Touch,.

- Use Power Supply 3.3V or 5V for Module ET-TOUCH PAD 1x1

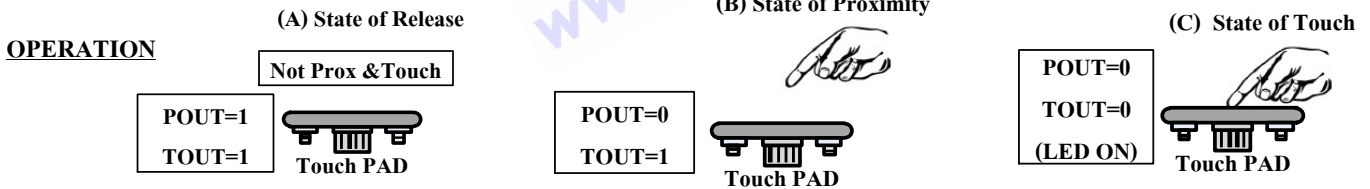**Connector4 Pin**

Size of PCB LAOUT

+VCC,GND = Power Supply for Module is 3.3V or 5V, depending on the connected MCU.

POUT = Proximity Output when it is in Release Key (Default), POUT=1; when Prox or Touch occurred, POUT=0
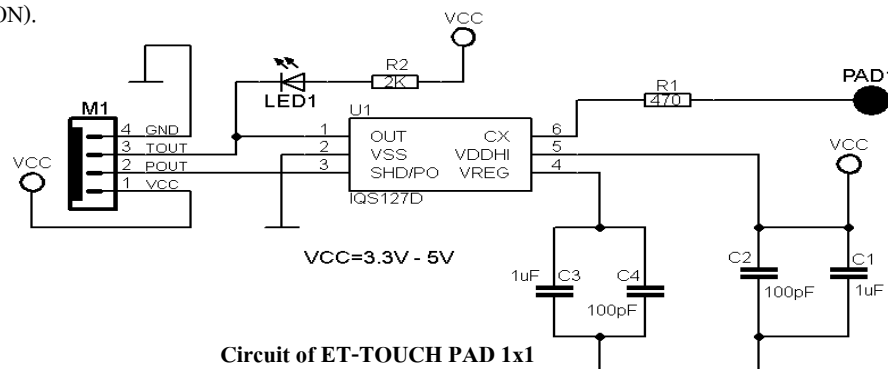
TOUT = Touch Output when it is in Release Key (Default) or State of Prox occurred, TOUT=1; when state of Touch occurred, TOUT=0 and LED on Touch PAD is lit up (ON) (please read more information of states from the description below).

*** *User can choose either Output or both Outputs, depending on the actual state that will be used.*

 NOTE: *If Key is high sensitivity (touch by its own), please touch and hold Key for a while until LED that shows the state of touching on Module turns off, it takes approximately 20 seconds. Next, touch Key again, the sensitivity of Key is automatically adjusted to circumstance properly.*

OPERATION

(A) State of Release

Not Prox &Touch

POUT=1
TOUT=1
Touch PAD

(B) State of Proximity

POUT=0
TOUT=1
Touch PAD

(C) State of Touch

POUT=0
TOUT=0
(LED ON)
Touch PAD

- **State of Release**: It is the normal state when no any Prox & Touch Key at Pin POUT, TOUT, it is Logic '1' as shown in the figure (A).

- **State of Proximity**: This state of finger is near Touch PAD but it doesn't touch any Key yet. This state happens before state of touching and the sensitivity is higher; so, it makes POUT=0 but TOUT=1 as shown in the figure (B). The distance between Touch Pad and touching is inconsistent.

- **State of Touch**: This state of finger touches the Touch Pad or it might not touch any Key yet but it almost touches the Touch Pad than state of Prox. This state happens after state of Prox and it makes POUT and TOUT become "0" as shown in the figure (C). Moreover, LED that shows state of touching on Touch PAD is lit up (ON).

Circuit of ET-TOUCH PAD 1x1