

TOUCH



Touch Capacitive Sensor

Professional electronic component

v1.0

2025-07-29

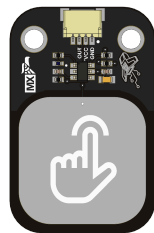
Rev. A

PRODUCT OVERVIEW

The UNIT Touch Capacitive Sensor transforms a simple touch into a precise digital signal—no buttons, no moving parts. Powered by the TTP223B capacitive sensing chip, this board continuously monitors its flat electrode pad and instantly reports “touch detected” via a clean HIGH logic output. Whether you’re building a sleek control panel, a wearable interface, or a touch-activated lamp, this sensor delivers reliable, debounce-free touch detection with minimal wiring and virtually zero power draw at rest.

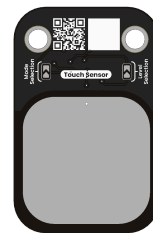
PRODUCT VIEWS

TOP VIEW



Component placement and connectors

BOTTOM VIEW



Underside components and connections

KEY TECHNICAL SPECIFICATIONS



CONNECTIVITY

Primary Interface: **GPIO (Interrupt)**
Connector Type: **JST 4-pin 1.0mm**
Logic Levels: **VCC-referenced (2V – 5.5V tolerant)**

KEY FEATURES

- Touch-only sensing**
No physical press required – reacts to proximity of a finger.


Auto-calibration
Compensates for environmental changes and drift.

On-board pull-up/down
Ensures clean digital output.

JST PH-2.0 connector
Quick-disconnect cable interface.
- Fast response**
< 80 ms touch detection time.

Selectable modes
Momentary or toggle output (via solder-jumper on the board).

Mounting holes
Two M3 screw holes for easy panel integration.

 **Key Applications**
User interfaces for wearables and handheld devices, Touch-activated lamps, buzzers or relays, Capacitive keyboards and remote controls and more

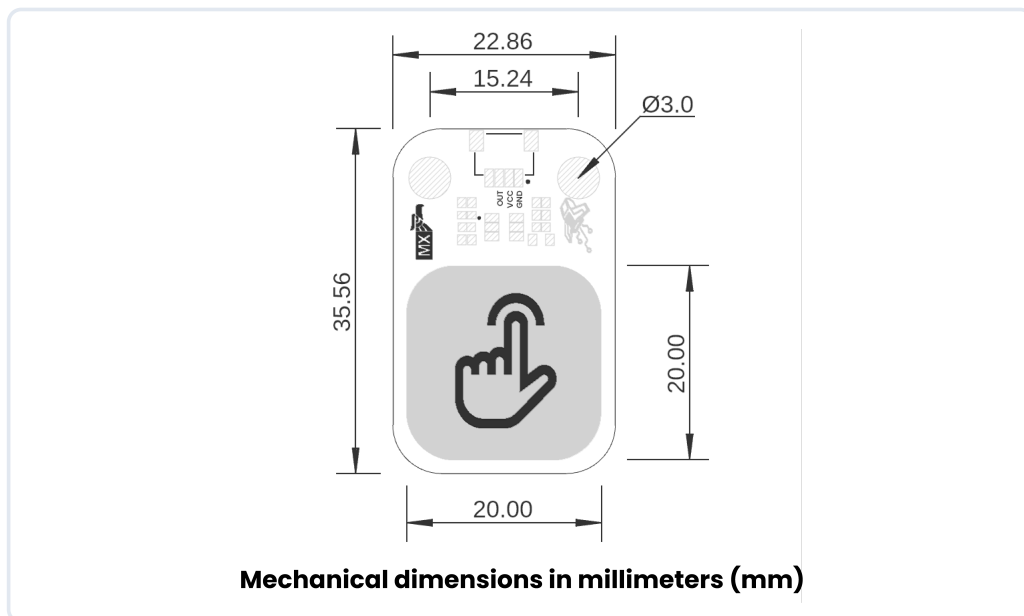
ADDITIONAL TECHNICAL INFORMATION

SUPPORTS

SYMBOL		I/O	DESCRIPTION
VCC		Input	
GND		GND	
IO		Bidirectional	

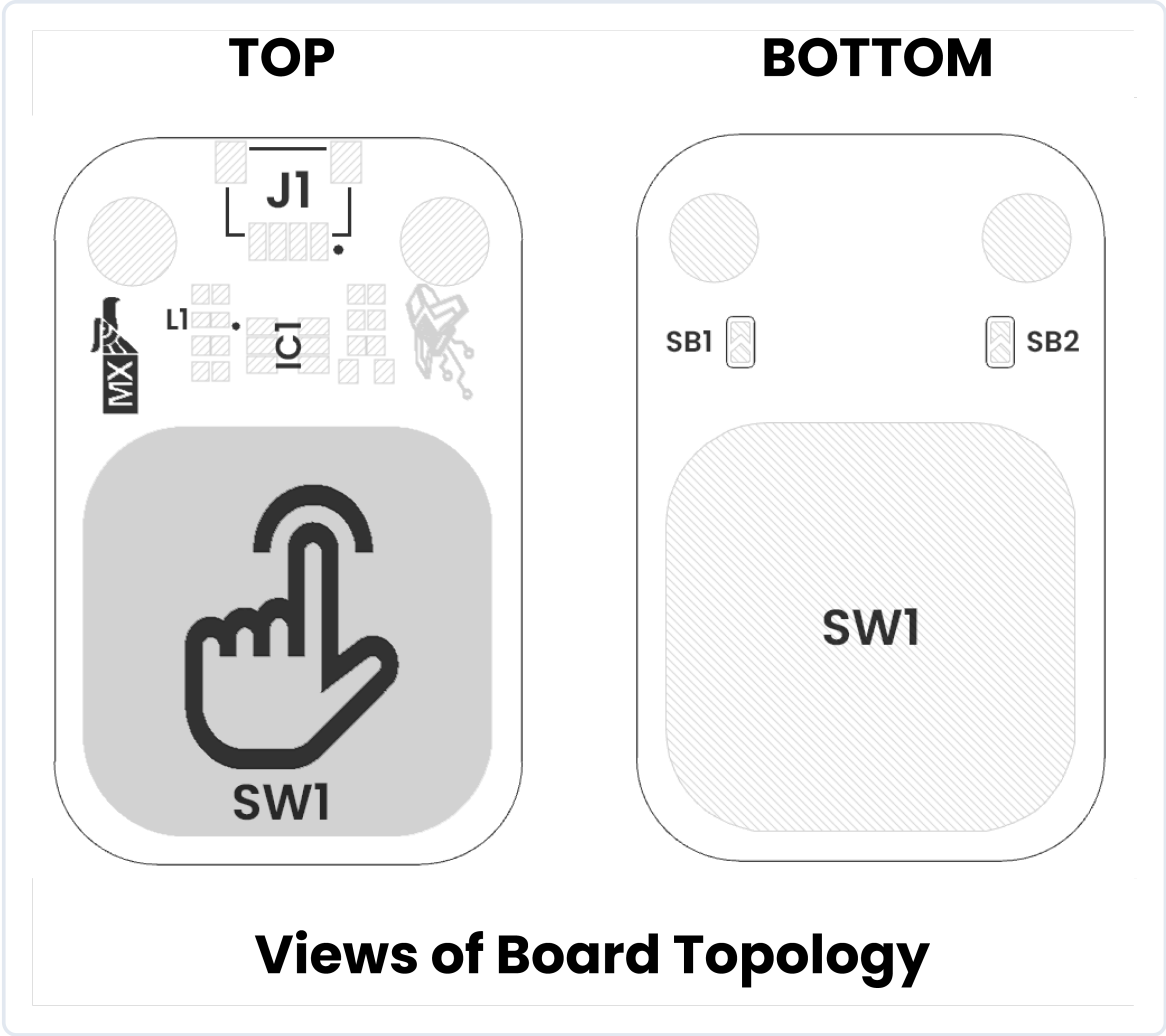
HARDWARE DOCUMENTATION

MECHANICAL DIMENSIONS



Physical dimensions and mounting specifications (measurements in millimeters)

SYSTEM TOPOLOGY



Connection topology and system integration diagram

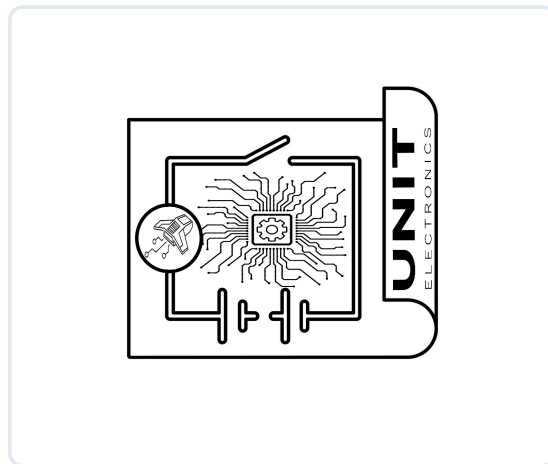
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COMPONENT REFERENCE

REF.	DESCRIPTION
SW1	Capacitive Touch Button
L1	Built-In LED
IC1	TTP223-BA6-TD Touch Detector
J1	QWIIC Connector (JST 1 mm pitch) for I2C
SB1	Solder Bridge for Mode Selection
SB2	Solder Bridge for Logic Level Selector

INTERFACE	SIGNALS / PINS	TYPICAL USE
UART		
I2C		
SPI		
USB		

CIRCUIT SCHEMATIC



Complete circuit schematic showing all component connections

[View Complete Schematic PDF](#)

PIN DESCRIPTION

Detailed pin assignment and electrical specifications

SIGNAL DESCRIPTION

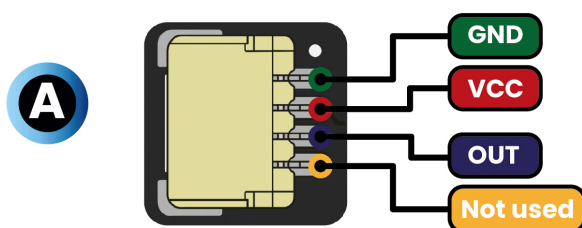
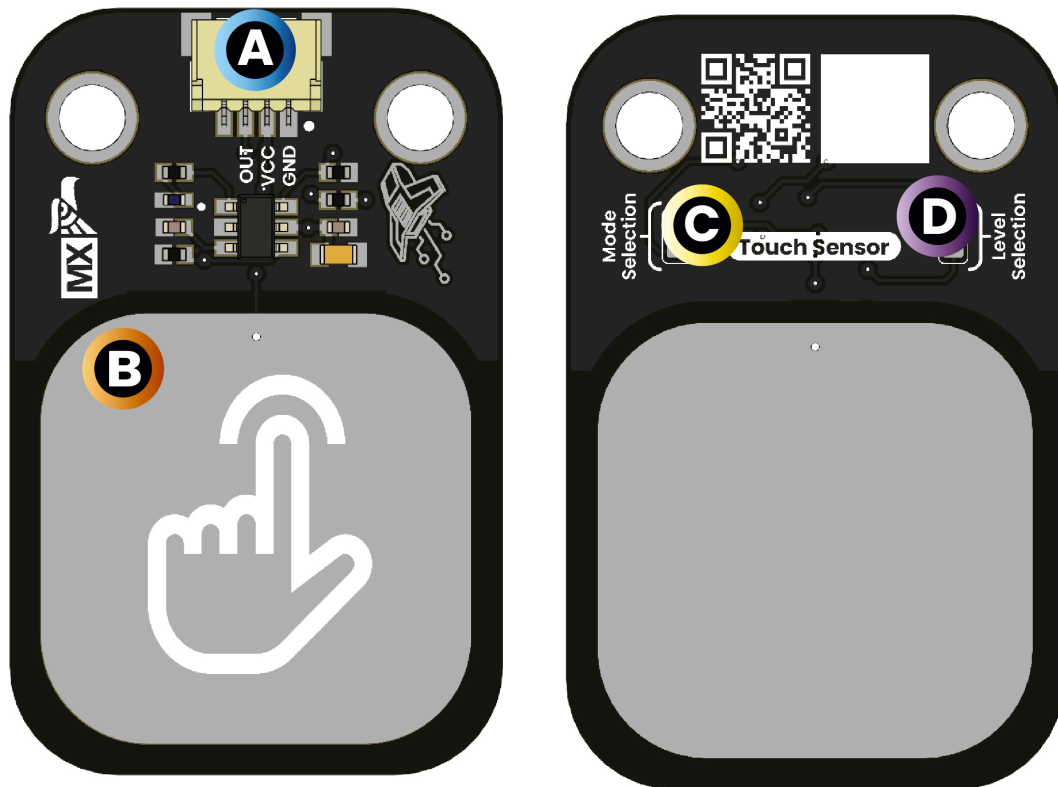
FUNCTION	NOTES
Power Supply	3.3V or 5V, depending on design
Ground	Common ground reference
Data Signal	Digital input/output signal

GROUP	AVAILABLE PINS	SUGGESTED USE
GPIO		
UART		
TouchPad		
Analog		
SPI		

PIN CONFIGURATION LAYOUT

Physical connector layout and pin positioning

PINOUT



Description:

 Supply voltage

 GND

 Output

 Touch Pad

 Mode selection

 Level selection

Complete pin configuration diagram showing all connectors, pin assignments, and electrical connections for proper integration