
Interfacing TMP36 Temperature Sensor with ATtiny85

Objective:
Measure ambient temperature using the **TMP36 analog temperature sensor** and display or process the data with an ATtiny85.

Components Required:

- ATtiny85 microcontroller
- TMP36 temperature sensor
- Resistor (optional, for filtering)
- Power supply (3.3V or 5V)
- Breadboard & jumper wires

Circuit Overview:

- TMP36 has **three pins**:
    - **VCC** (3.3V–5V)
    - **GND**
    - **VOUT** (analog voltage proportional to temperature)
- The **VOUT** pin is connected to an **analog input pin** of the ATtiny85.

Working Principle:

- TMP36 outputs **750 mV at 25°C**, with a **scale of 10 mV/°C**.
- ATtiny85 reads the analog voltage using its **ADC**.
- The raw ADC value is converted to voltage and then to temperature in Celsius using a simple formula.
- The result can be used for triggering fans, alarms, or displaying on LCD/OLED.

Use Cases:

- Room or device temperature monitoring
- Battery temperature regulation
- Portable thermometer project with minimal components

Note:

Calibrate for better accuracy, and ensure stable power for precise readings.
