

LM35 temperature sensor

Overview



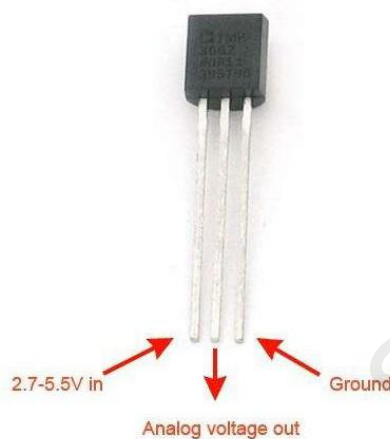
This lesson will teach you how to use the LM35 sensor. You will see the current temperature.

Specification




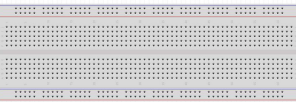

Please view "LM35-datasheet.pdf"

Path: \Public_materials\Datasheet\ LM35-datasheet.pdf

Pin definition

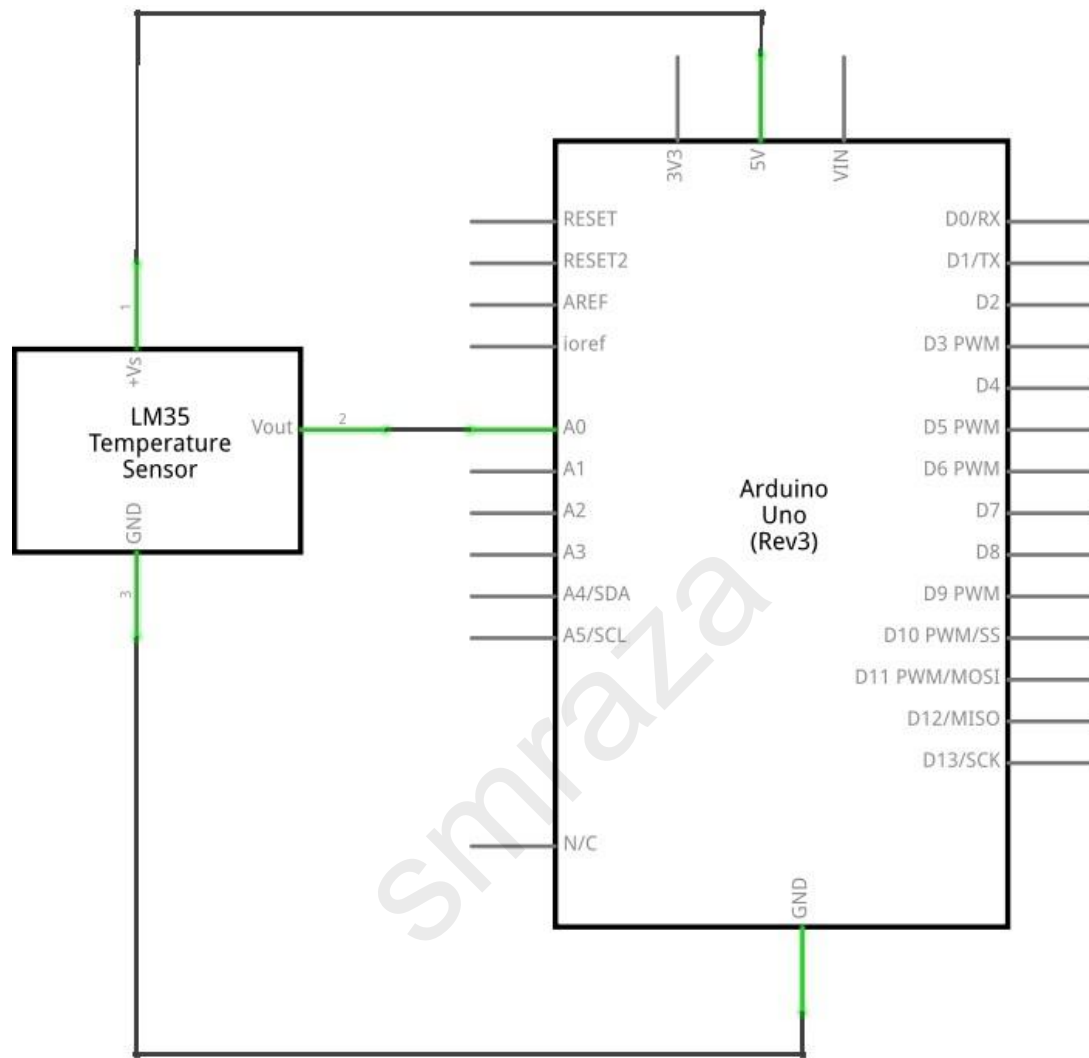


Hardware required

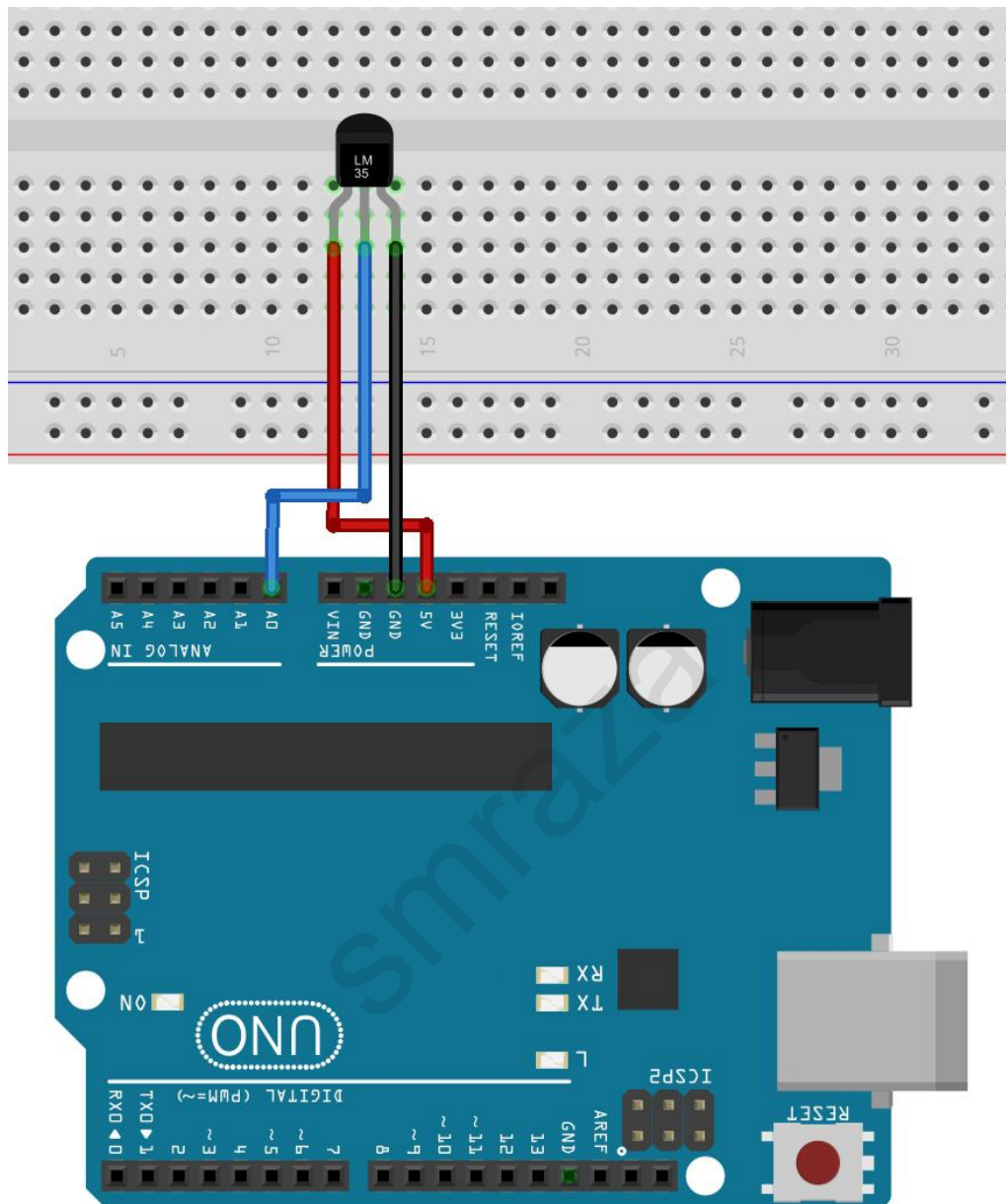
Material diagram	Material name	Number
	LM35	1
	USB Cable	1
	UNO R3	1
	Breadboard	1
	Jumper wires	Several

Connection

Schematic



Connection diagram



Connection:

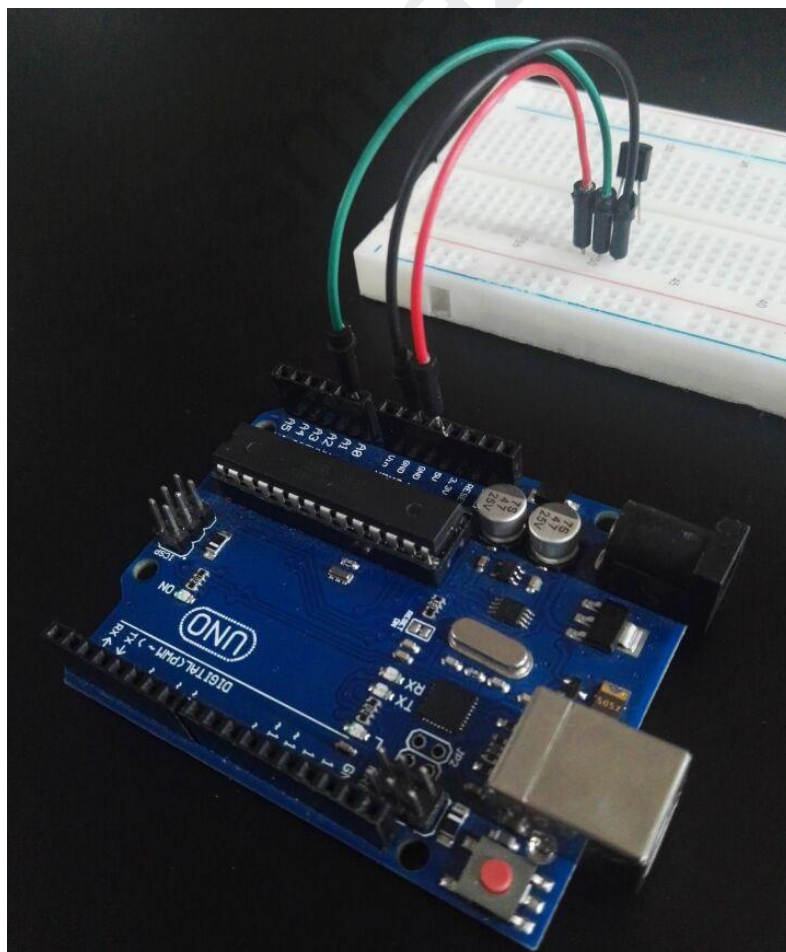
LM35	Arduino
GND	-> GND
OUT	-> A0
VCC	-> +5V

Sample code

Note: sample code under the **Sample code** folder

```
int potPin = A0;    // initialize analog pin 0 for LM35 temperature sensor
void setup()
{
    Serial.begin(9600); // set baud rate at "9600"
}
void loop()
{
    int val;    // define variable
    int dat;    // define variable
    val=analogRead(0); // read the analog value of the sensor and assign it to val
    dat=(125*val)>>8; // temperature calculation formula
    Serial.print("Tep:"); // output and display characters beginning with Tep
    Serial.print(dat); // output and display value of dat
    Serial.println("C"); // display "C" characters
    delay(500);        // wait for 0.5 second
}
```

Example picture



Language reference

Tips : click on the following name to jump to the web page.

If you fail to open, use the Adobe reader to open this document.

[serial](#)

Application effect

Open the serial port monitor, you will see the current temperature.

Application effect

After uploading the program, open the serial port monitor, you will see a series of temperature values

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