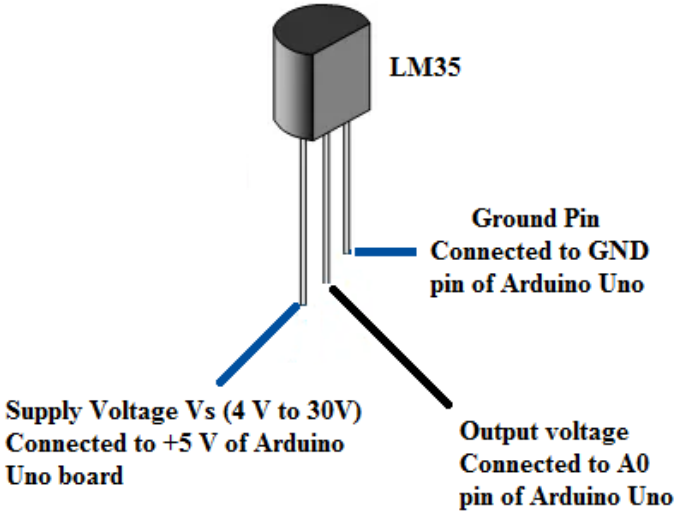
LM35 Temperature Sensor Interfacing with Arduino

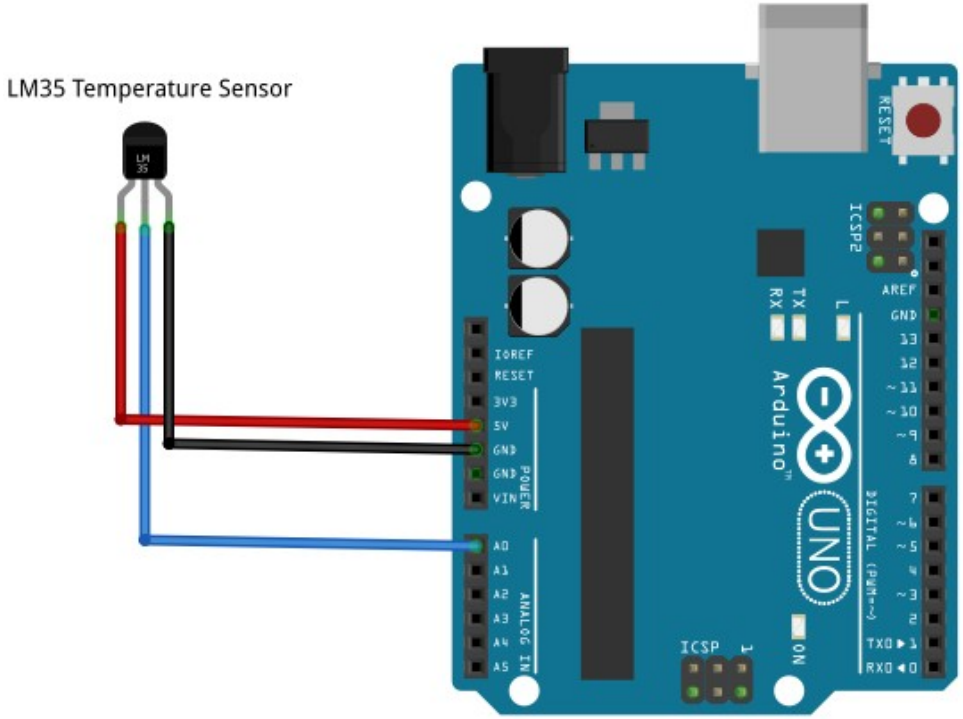
Pin Diagram



The output voltage of LM35 sensor changes by 10 mV for every 1 degree Celsius rise or fall in temperature.

Temperature Range:
-55 degree Celsius to 150 degree Celsius.

Circuit Connections



Sensor output is connected to Analog channel A0

Formula:
temp1 = (temp*500.0)/1023.0

Code

```
float temp;
// variable to hold the analog voltage equivalent value
float temp1;
// variable to store temperature in degree celsius
void setup() {
// put your setup code here, to run once:
Serial.begin(9600);
// initialize serial communication at 9600 bps baud rate
}
```

```
void loop() {
// put your main code here, to run repeatedly:
temp = analogRead(A0);
/* convert analog voltage on channel A0 to its equivalent decimal value and store in temp */
// convert temp value on degree celsius scale
temp1 = (temp*500.0)/1023.0;
Serial.print("Temperature is:");
Serial.println(temp1,2);
// print temp1 on serial port with 2 digits after decimal point
delay(500); // give delay of 0.5 sec
}
```

Output on Serial Monitor