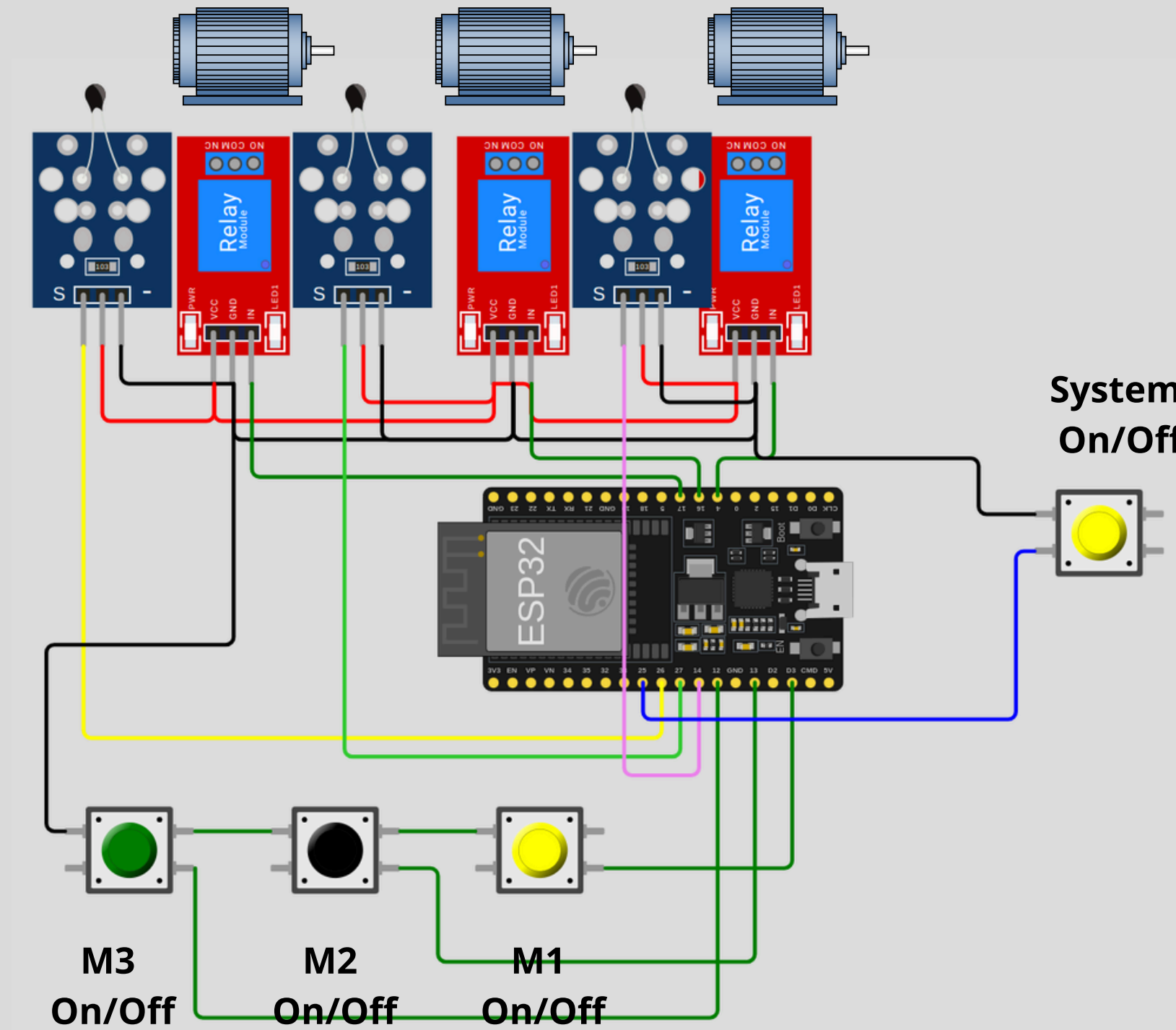


PROJECT 2: MOTOR CONTROLLING SYSTEM

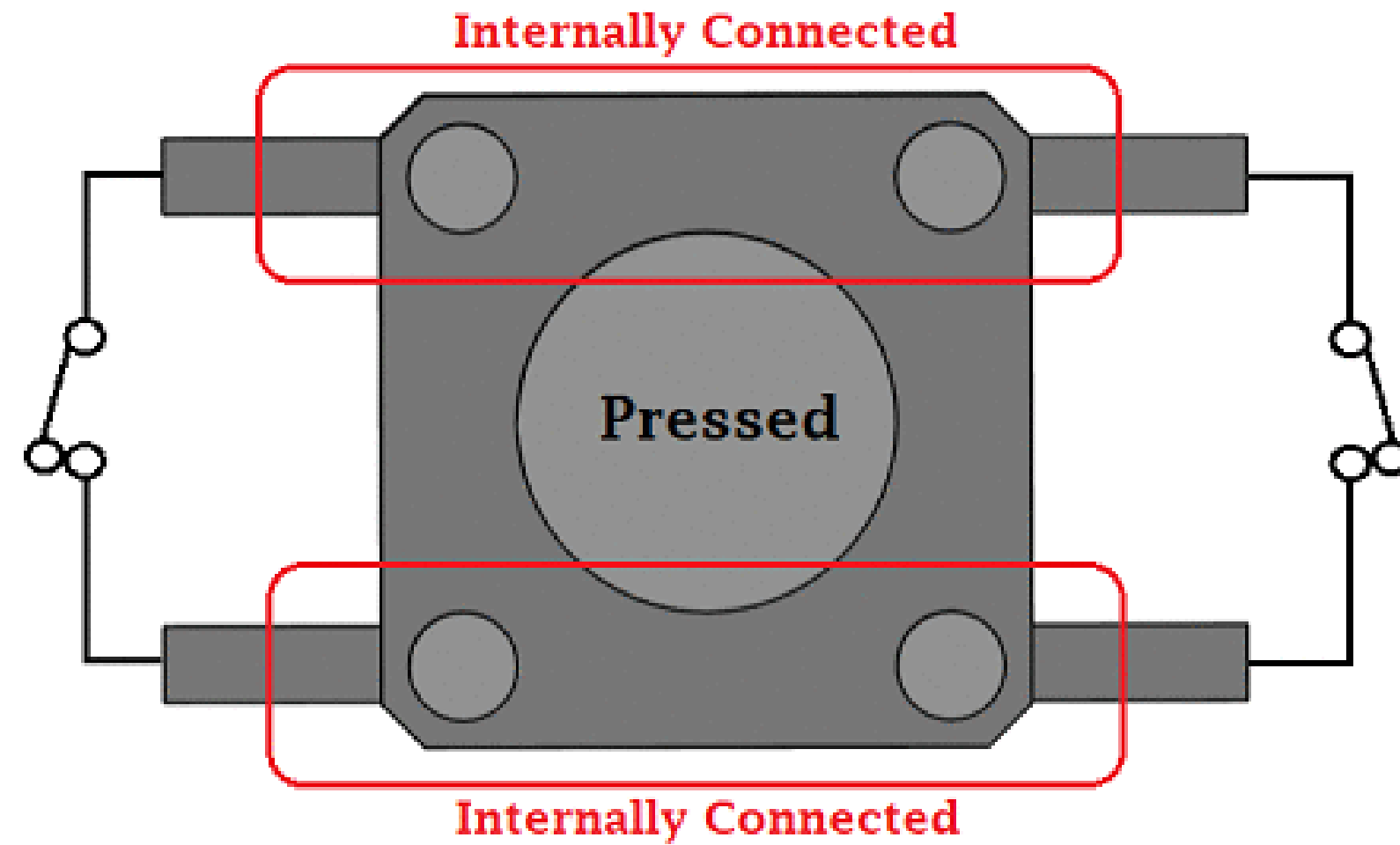
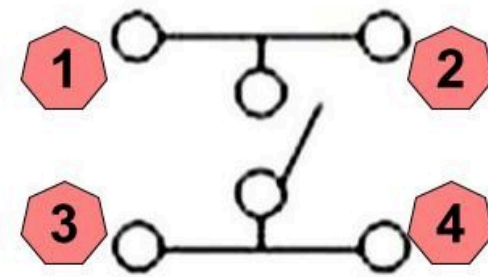
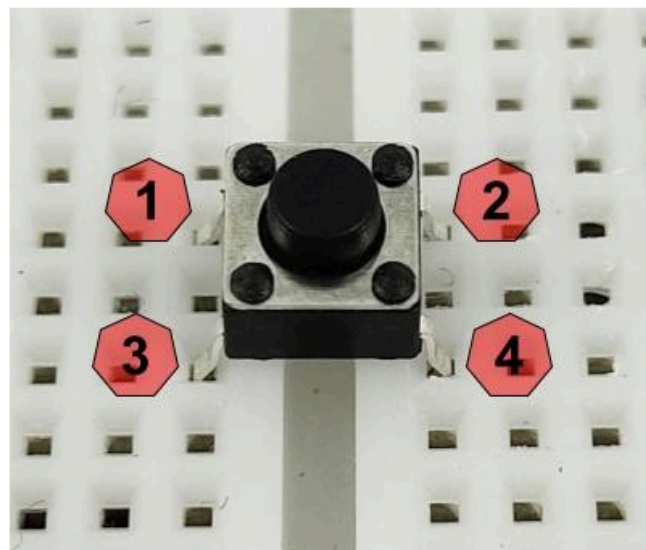


Safe Mode

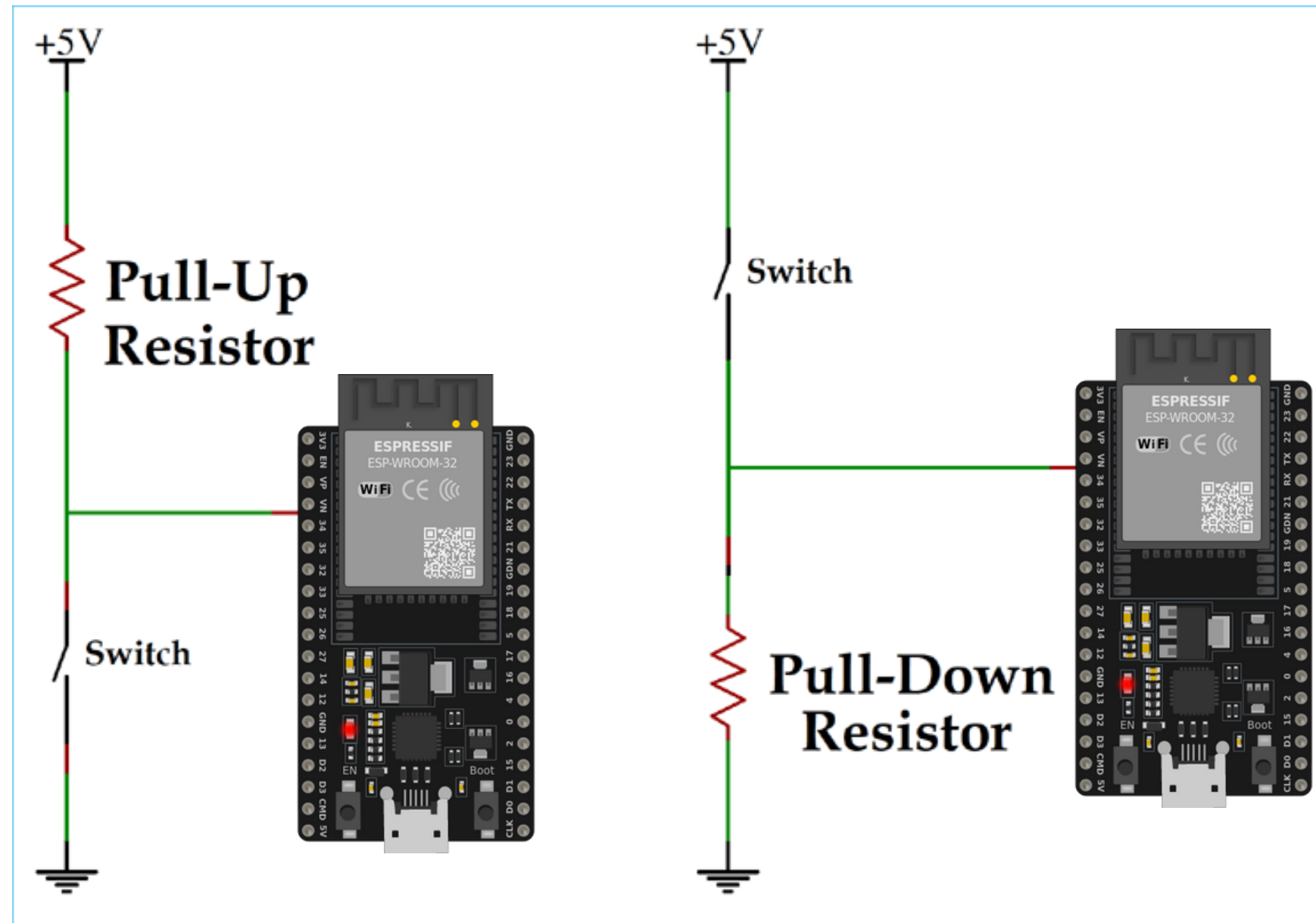
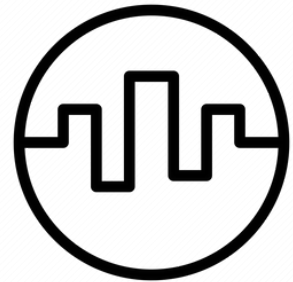
Danger mode



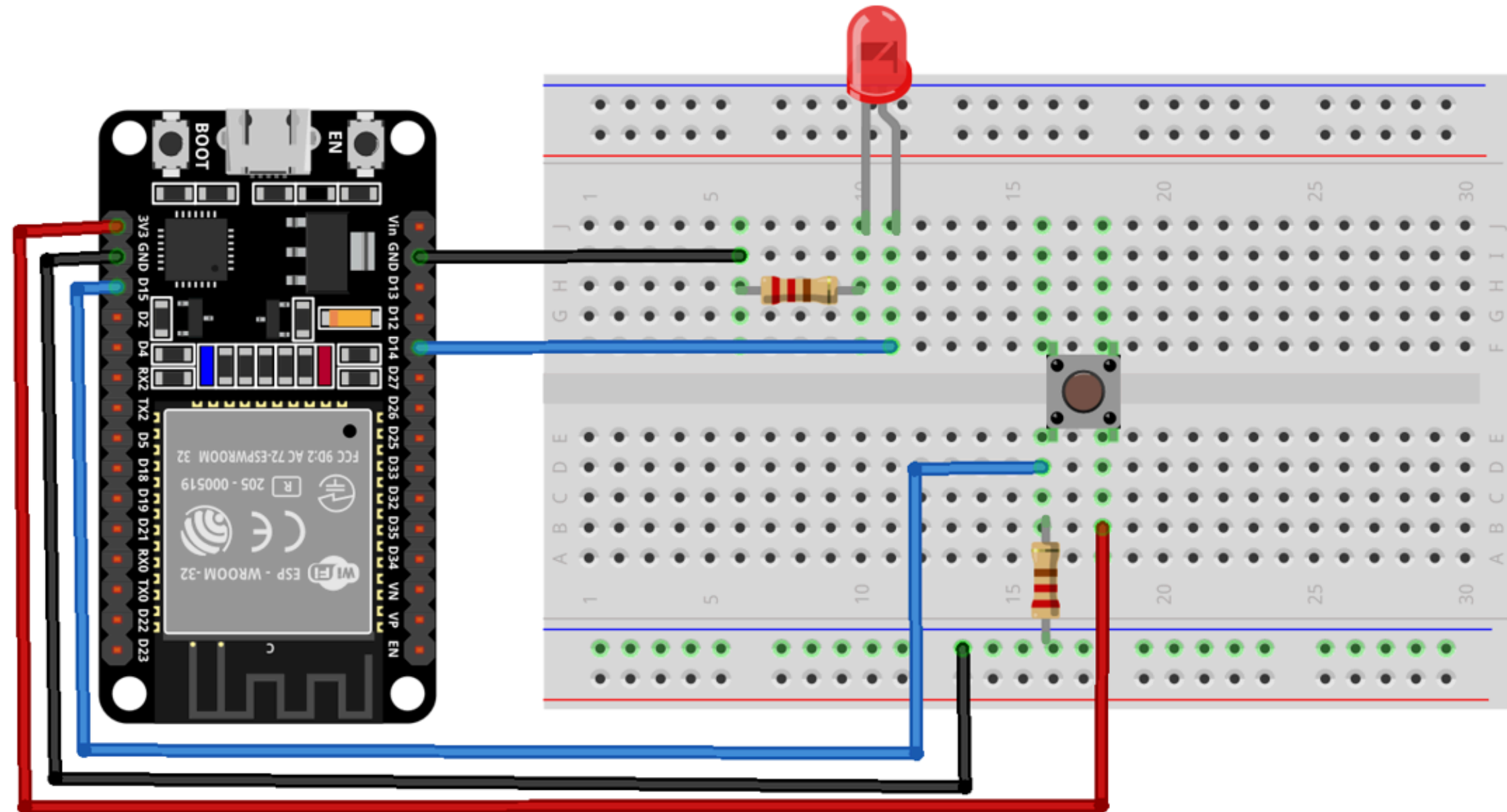
PUSH BUTTON INTERNAL CIRCUIT



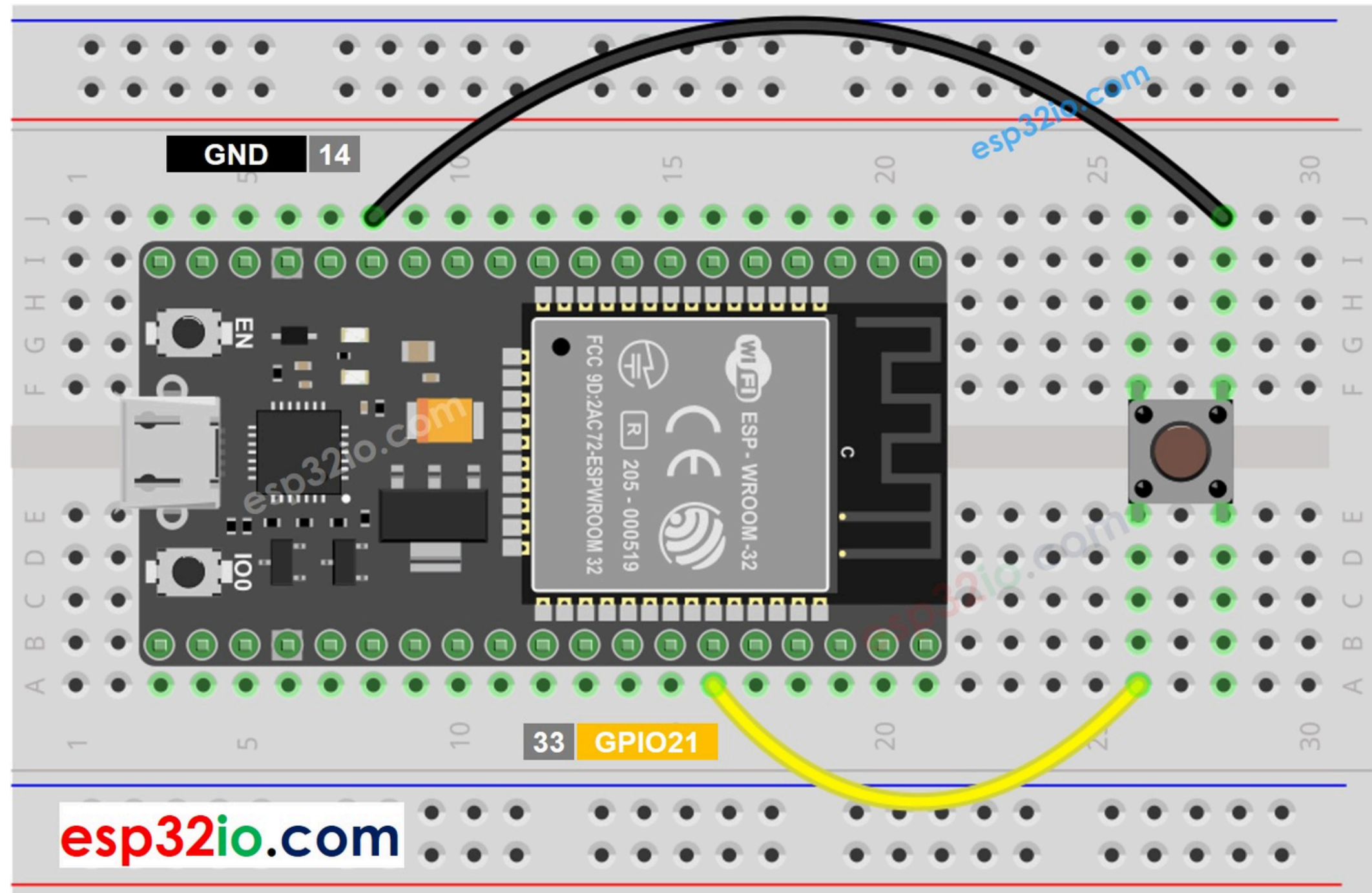
PULL UP AND PULL DOWN RESISTOR



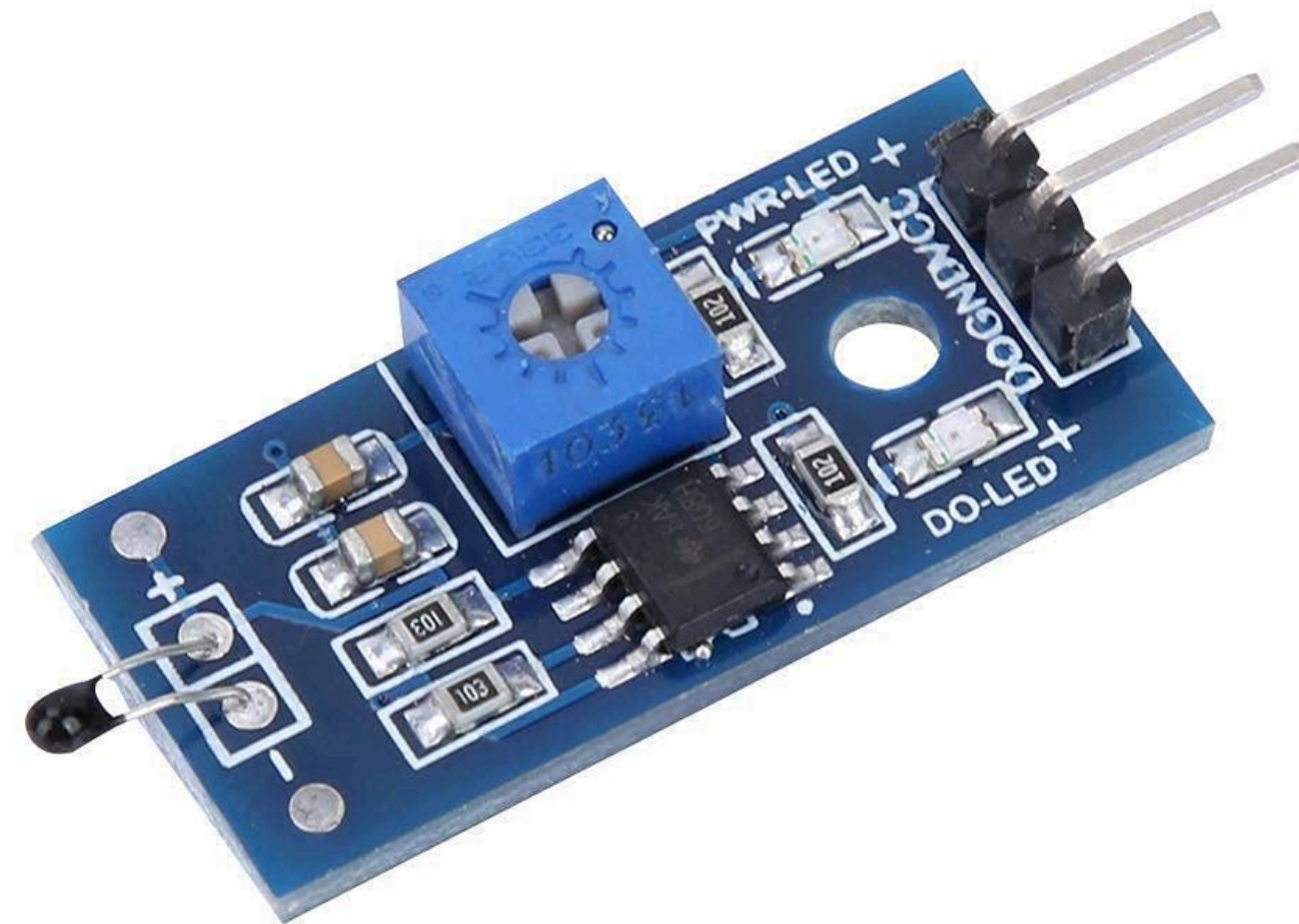
ESP32 PULL DOWN RESISTOR



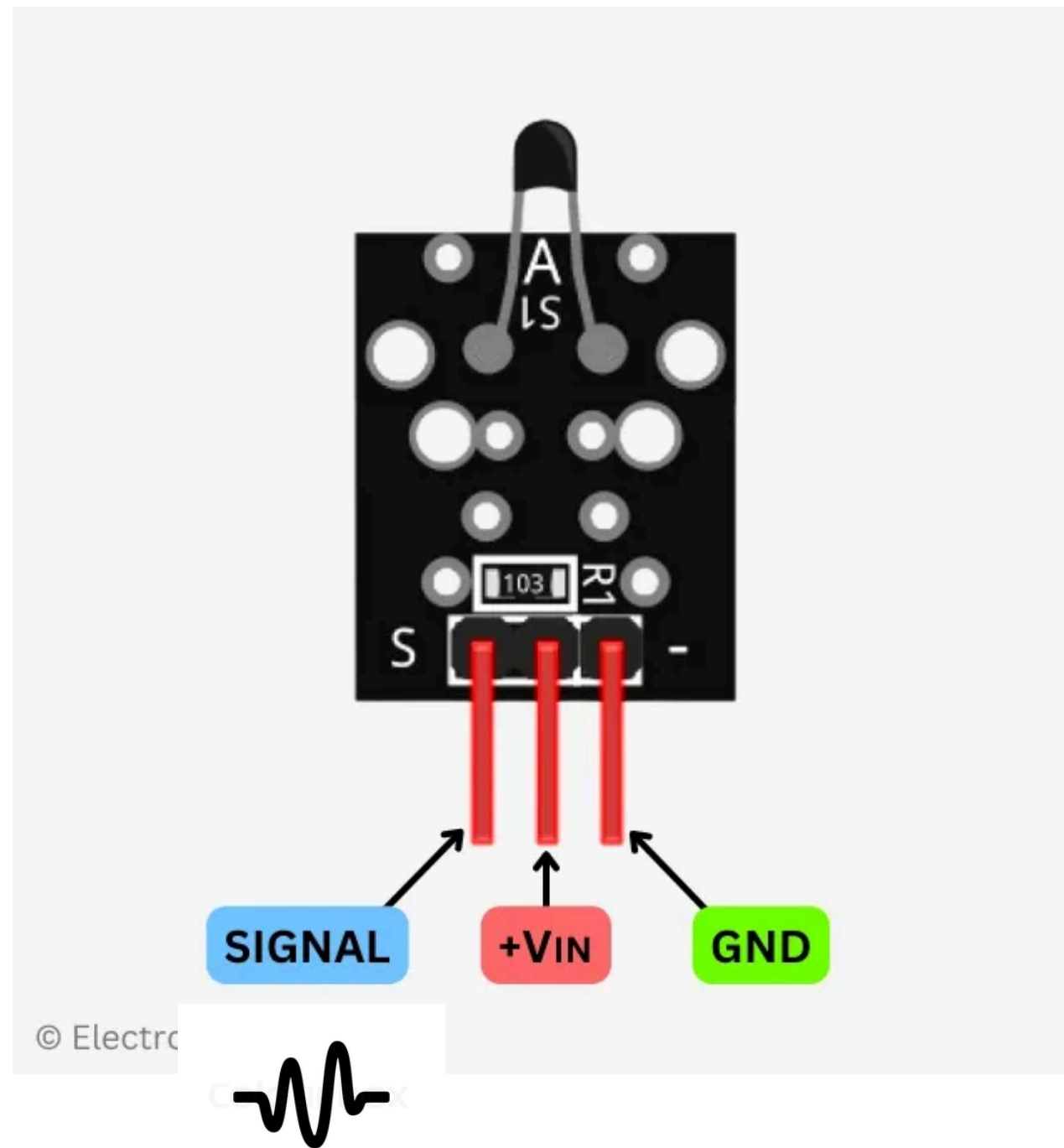
ESP32 PULL UP RESISTOR



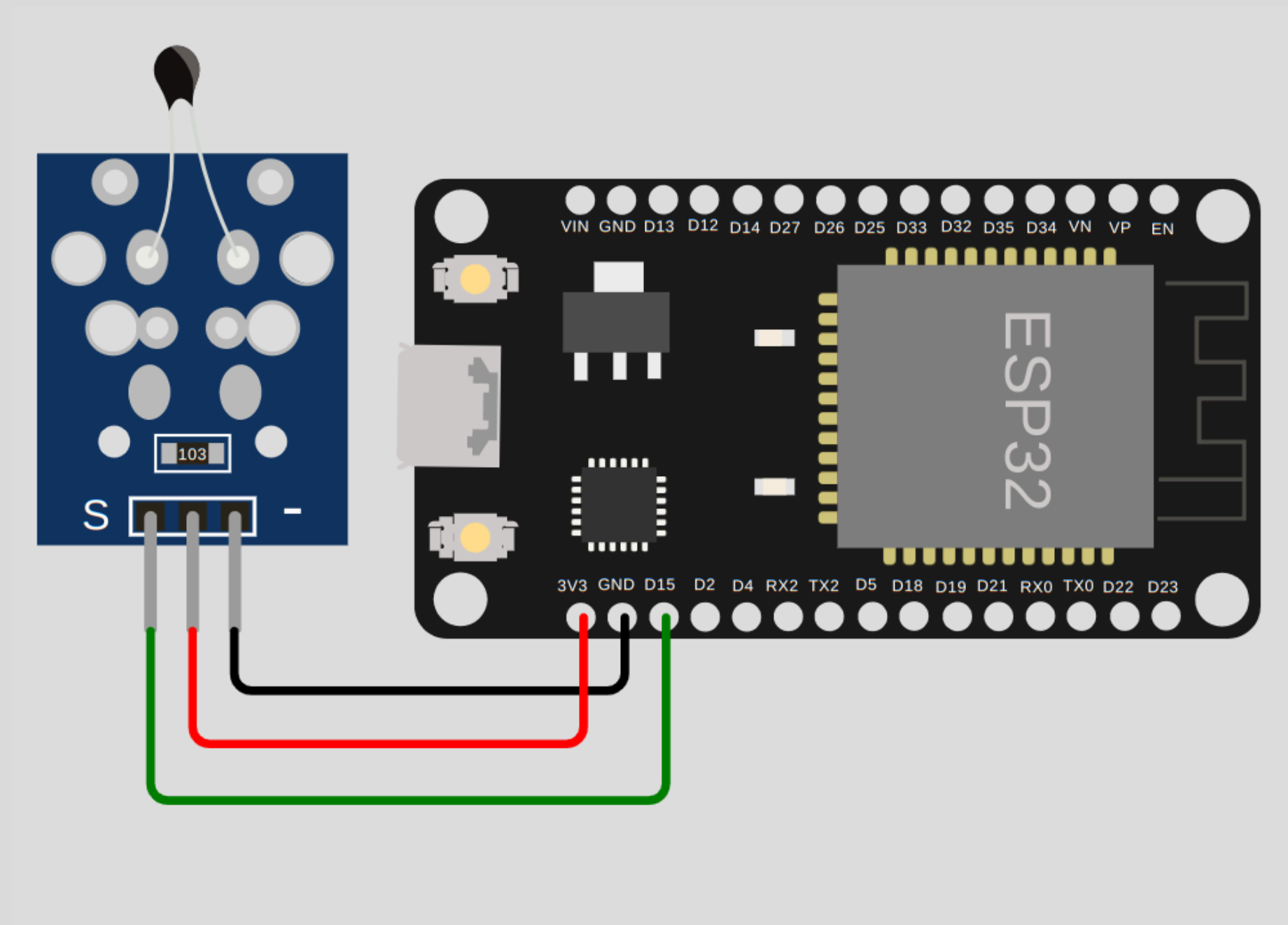
NTC THERMISTOR MODULE



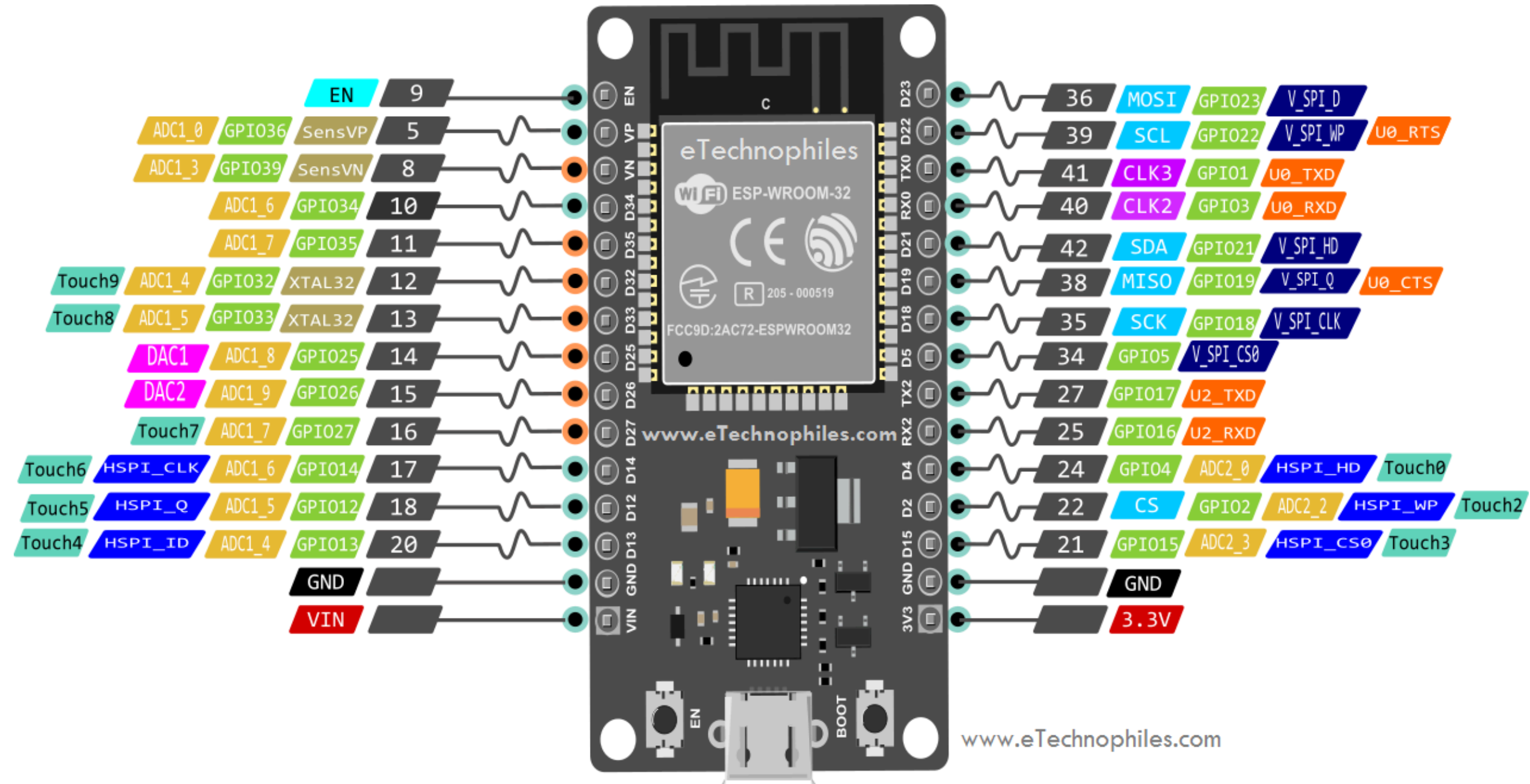
NTC THERMISTOR MODULE PINOUT



ESP32 + NTC MODULE



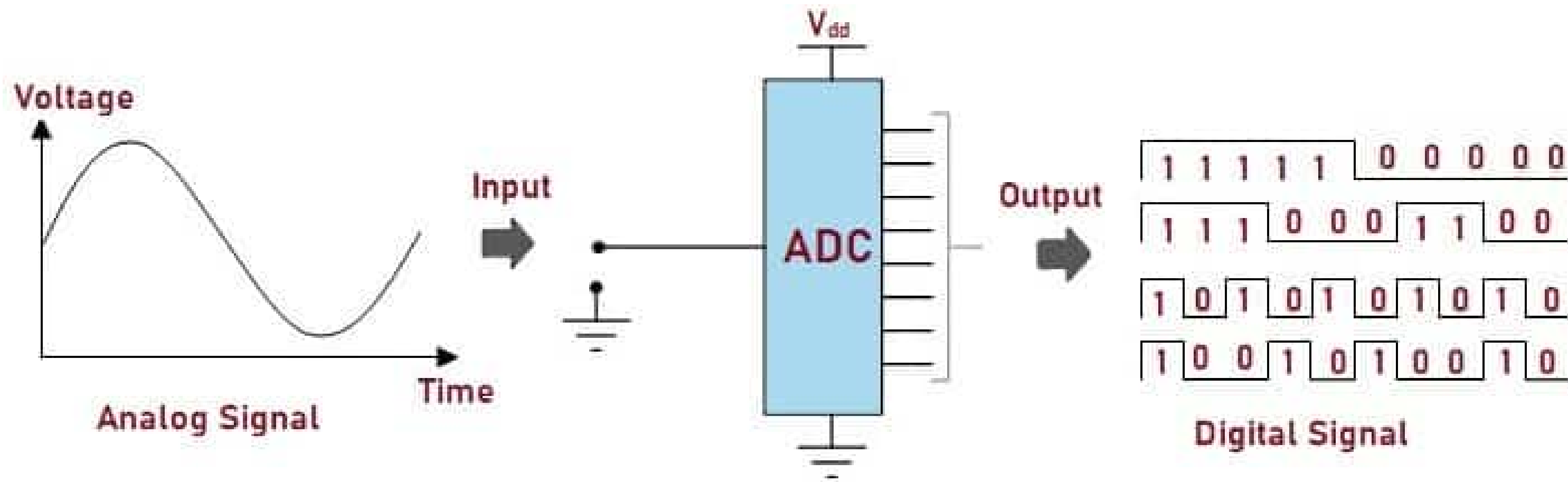
ESP32 ADC PINS



- Power
- Control
- Arduino
- Touch Sensor
- SPI
- EN
- Ground
- ADC
- UART
- SPI
- DAC
- GPIO

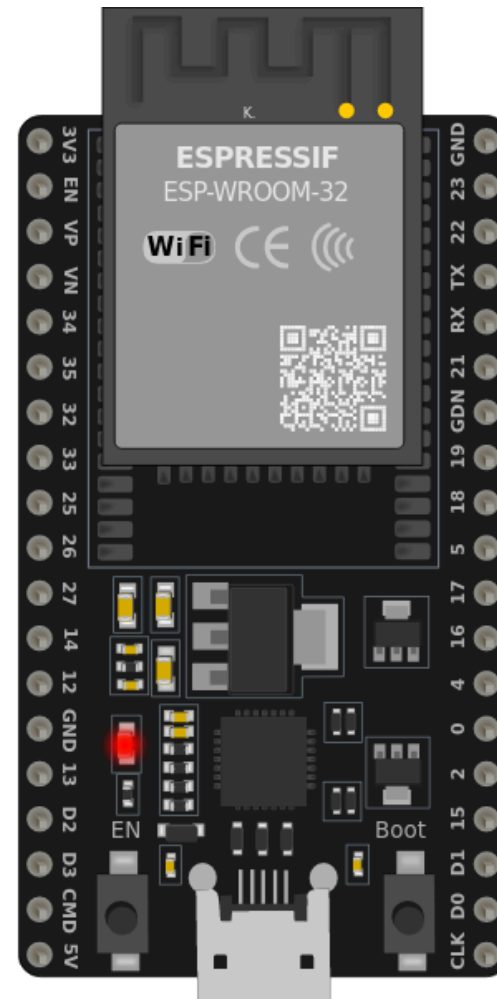


ADC ? HOW IT WORKS



ESP32 ADC RESOLUTION

3.3 Volt



65535



0 Volt

0

TEMPERATURE CONVERTING

Our signal

$$T_{\text{Celsius}} = T_{\text{min}} + \left(\frac{\text{Signal} - \text{Signal}_{\text{min}}}{\text{Signal}_{\text{max}} - \text{Signal}_{\text{min}}} \right) \times (T_{\text{max}} - T_{\text{min}})$$

Minimum threshold for sensor temperature. Maximum ADC signal Minimum ADC signal Maximum threshold for sensor temperature.

