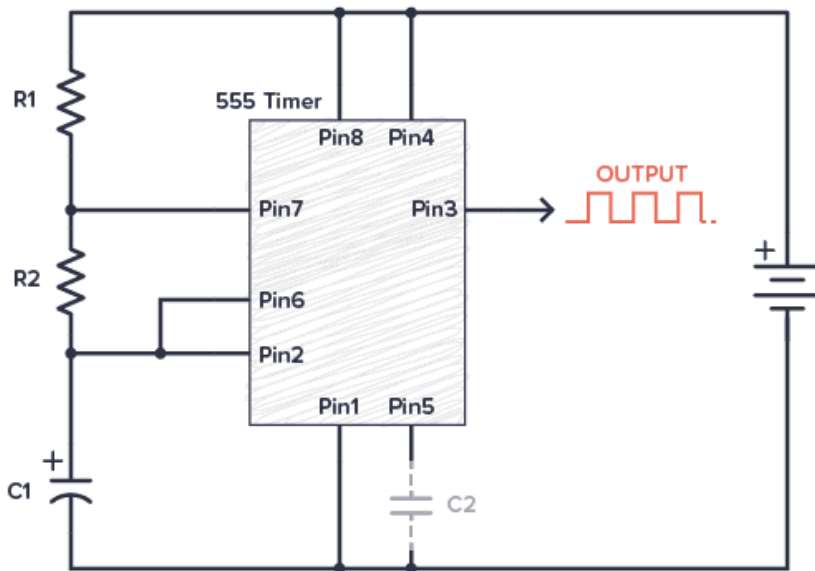


# 555 Timer Cheat Sheet

(Get the complete tutorial at [build-electronic-circuits.com/555-timer](http://build-electronic-circuits.com/555-timer))

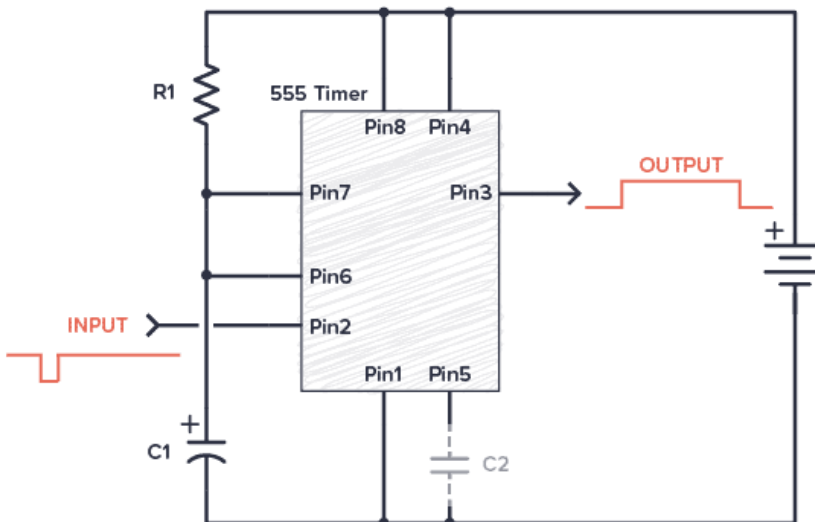
## Astable Mode (Oscillator)



Oscillator mode to blink a light, create sound, generate a clock, and much more.

Use the [555 Timer Calculator tool](#) to calculate the output frequency, or do it manually from the following formula:

## Monostable Mode (One-shot)

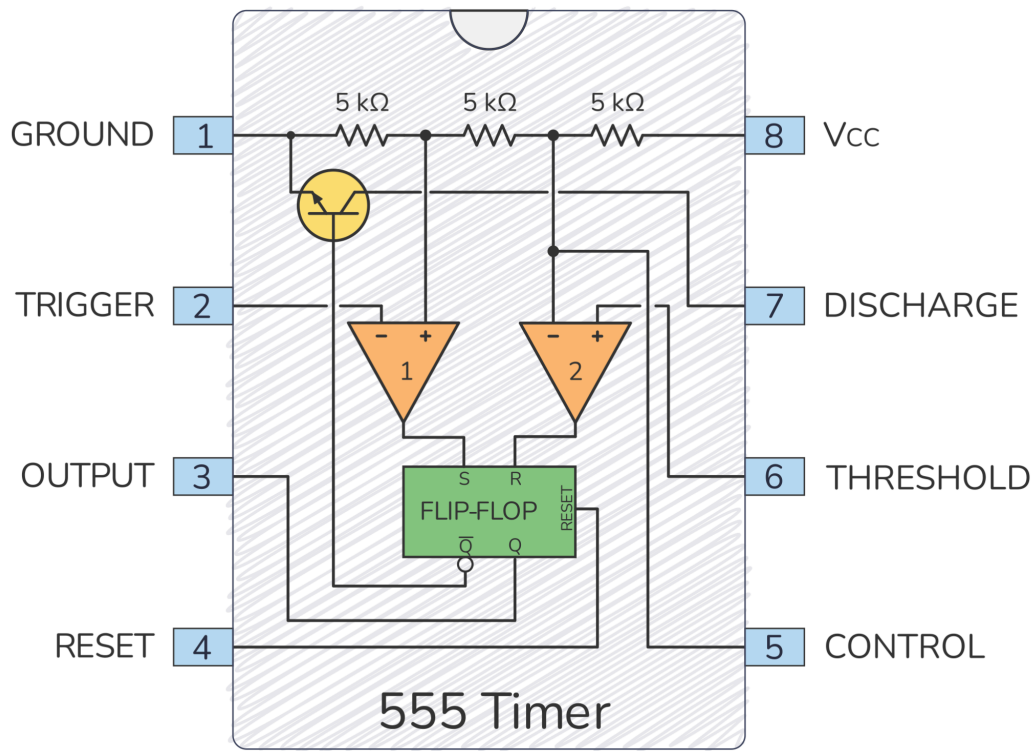


One-shot mode to create a pulse of a specific length. Can convert the negative edge of one tiny pulse, or a series of short pulses, into one pulse.

Use the [555 Timer Calculator tool](#) to calculate the output pulse length, or do it manually from the following formula:

$$T = 1.1R_1C_1$$

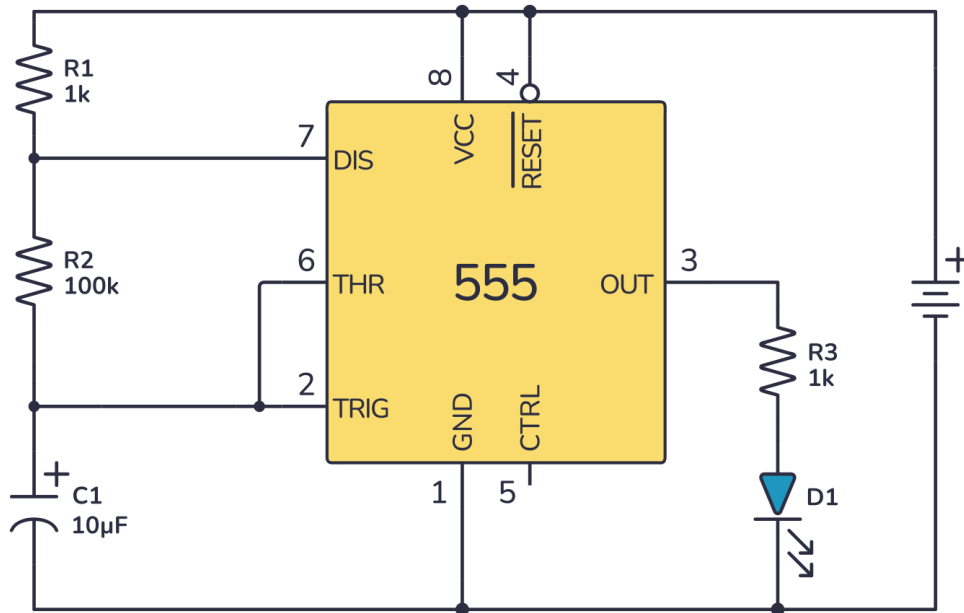
# 555 Timer Pin Description



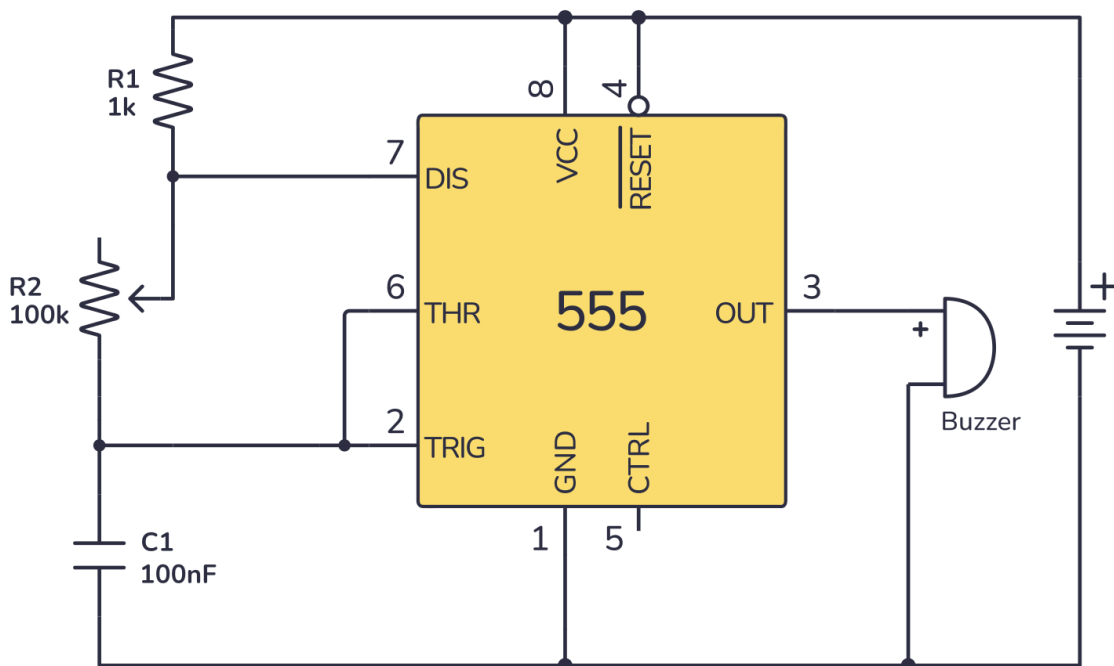
#	Name	Pin Description
1	Ground	Connection for the negative terminal of the battery.
2	Trigger	When this pin is set low, it "triggers" the output to go high.
3	Output	The output pin is either high or low and can provide current of up to 200 mA.
4	Reset	This pin resets the whole circuit. It's an active low pin, which means it resets when the pin goes low. So normally, this pin must be kept high.
5	Control	This pin is used to control the threshold voltage of the Threshold pin. Can be for adjusting the timing of the circuit on-the-fly. Use a capacitor (10-100 nF) to ground if you need to avoid noise from influencing the timing.
6	Threshold	When this pin is set high, it resets the output back to low.
7	Discharge	This pin depends on the output (pin 3). When output is high, this pin is disconnected. When output is low, it's connected to ground so that the external capacitor can discharge through it, hence the name.
8	VCC	Connection for the positive terminal of the battery. Usually supports a voltage between 5 and 15 V.

# Example Circuits

## Blinking an LED



## Creating Sound



# Resources

## Misc:

[555 Timer Calculator](#)

[Complete 555 Tutorial](#)

[Learn How a 555 Timer Works](#)

## 555 Timer Projects:

[Atari Punk Console](#)

[The Useless Machine](#)

[Knight Rider LED Bar](#)

[Blinking Christmas Lights](#)

[Police Siren Circuit](#)

[Metronome](#)

[PWM Motor Control](#)