

circuitikz Op Amp Examples

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1 Introduction

In this \LaTeX document, I provide examples of circuit drawings.

2 Ideal Op Amps

Op amp circuits can be *very* tricky to draw. Here are a few examples.

2.1 Op amp only

Figure 1 provides an example of a circuit with an op amp, disconnected from any other circuit.

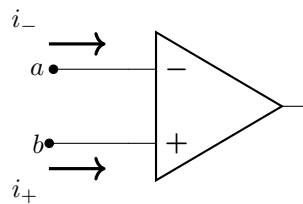


Figure 1: Basic op amp.

2.2 Buffer Op Amp

Figure 2 shows a basic buffer circuit.

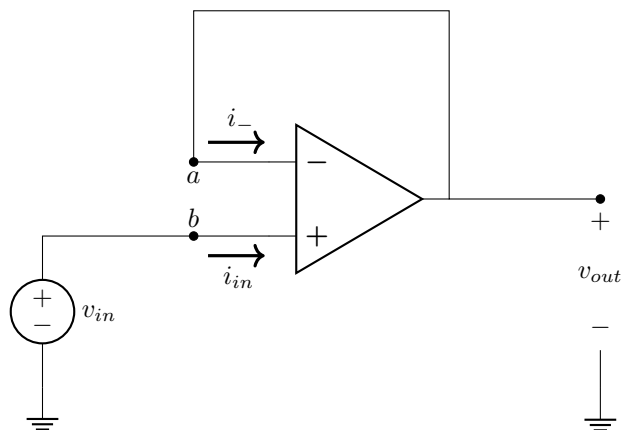


Figure 2: This circuit is a basic buffer circuit. No feedback or input resistance is included.

2.3 Non-inverting Op Amp

Figure 3 shows a basic inverting op amp circuit.

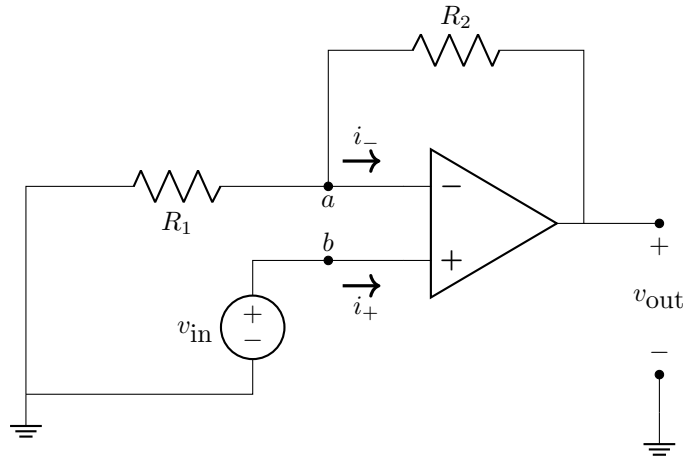


Figure 3: Non-inverting op amp.

2.4 Inverting op amp

To make an inverting op amp, you can use the same techniques as before. If you wish to swap the inverting and non-inverting terminals, you can use the `yscale=-1` optional argument for the op amp (StackExchange thread link).

3 Quantum Circuits

This is a system I worked out to draw quantum circuits before I learned about the `quantikz` package. A basic circuit is shown in Figure 4.

4 Tips for Circuits

4.1 The “Ohms” Symbol

To get the “Ohms” symbol (capital omega), use `\Omega` in a math environment.

4.2 Impedance Blocks

To get an impedance block, use the `generic` element. See Figure 5. Example: Let $\hat{Z}_C = -j45\ \Omega$.

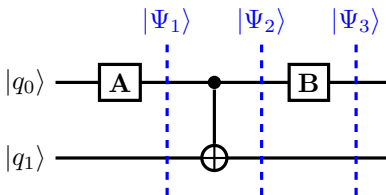


Figure 4: This is a basic quantum circuit.

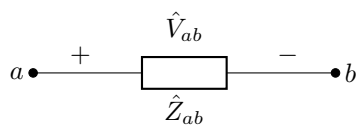


Figure 5: A generic circuit element.