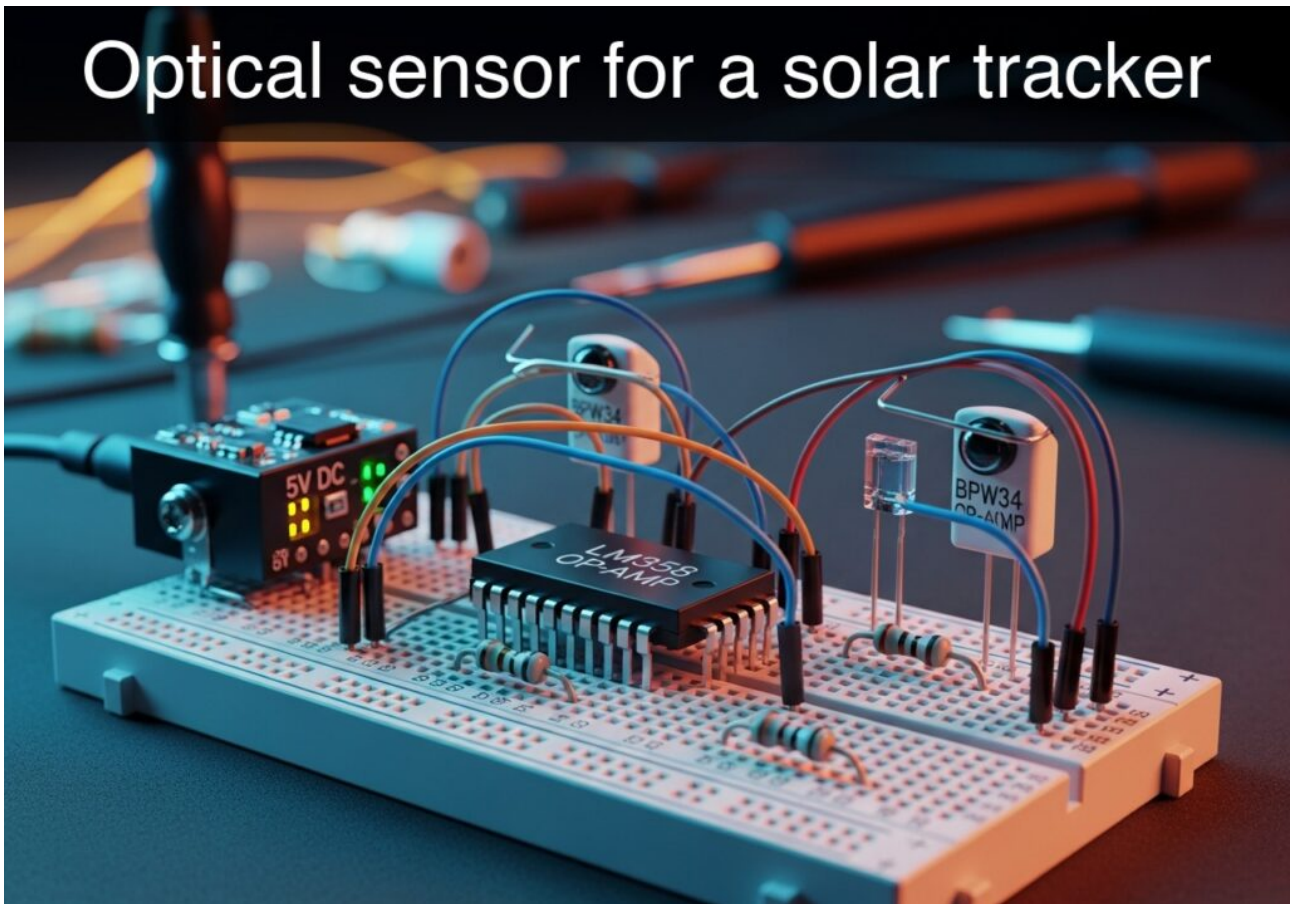


Practical case: Optical sensor for a solar tracker

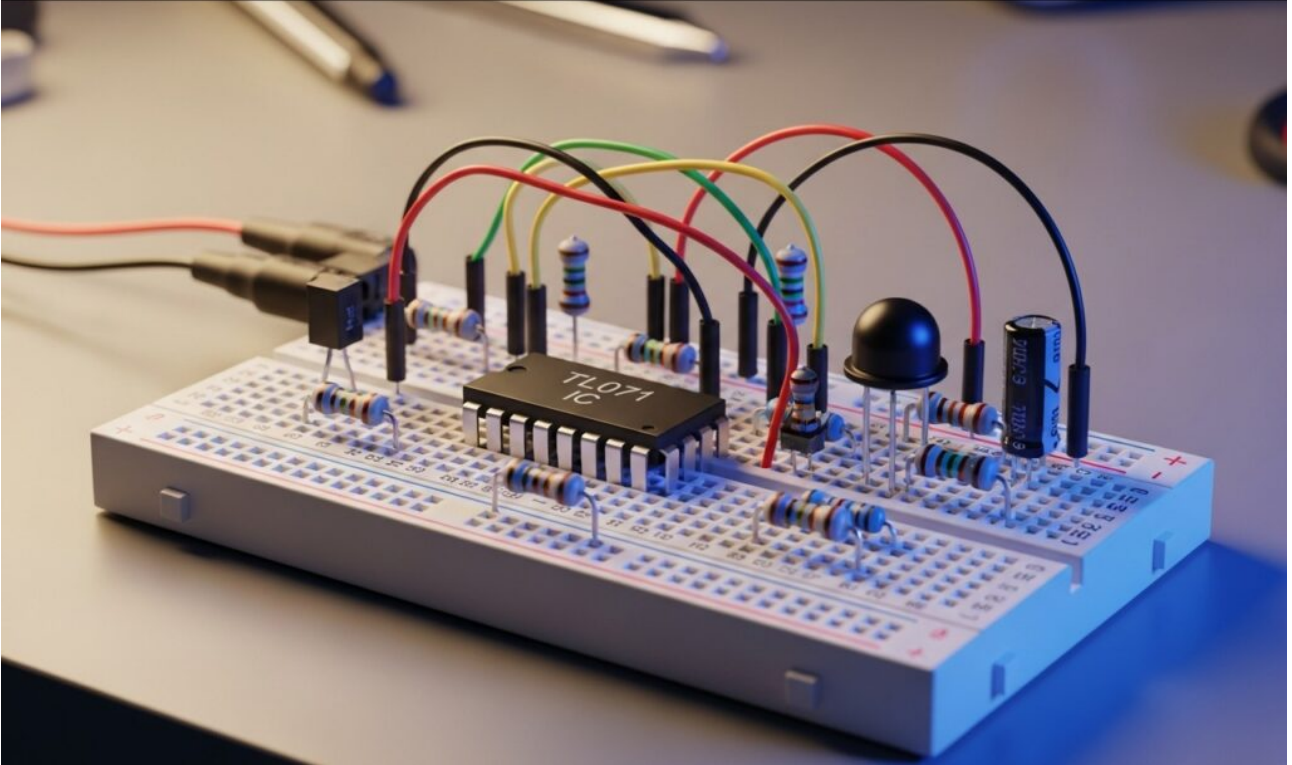


Level: Medium - Design a circuit with two photodiodes in a differential configuration to detect the direction of the highest intensity light source.

##...

Practical case: Transimpedance amplifier

Transimpedance amplifier

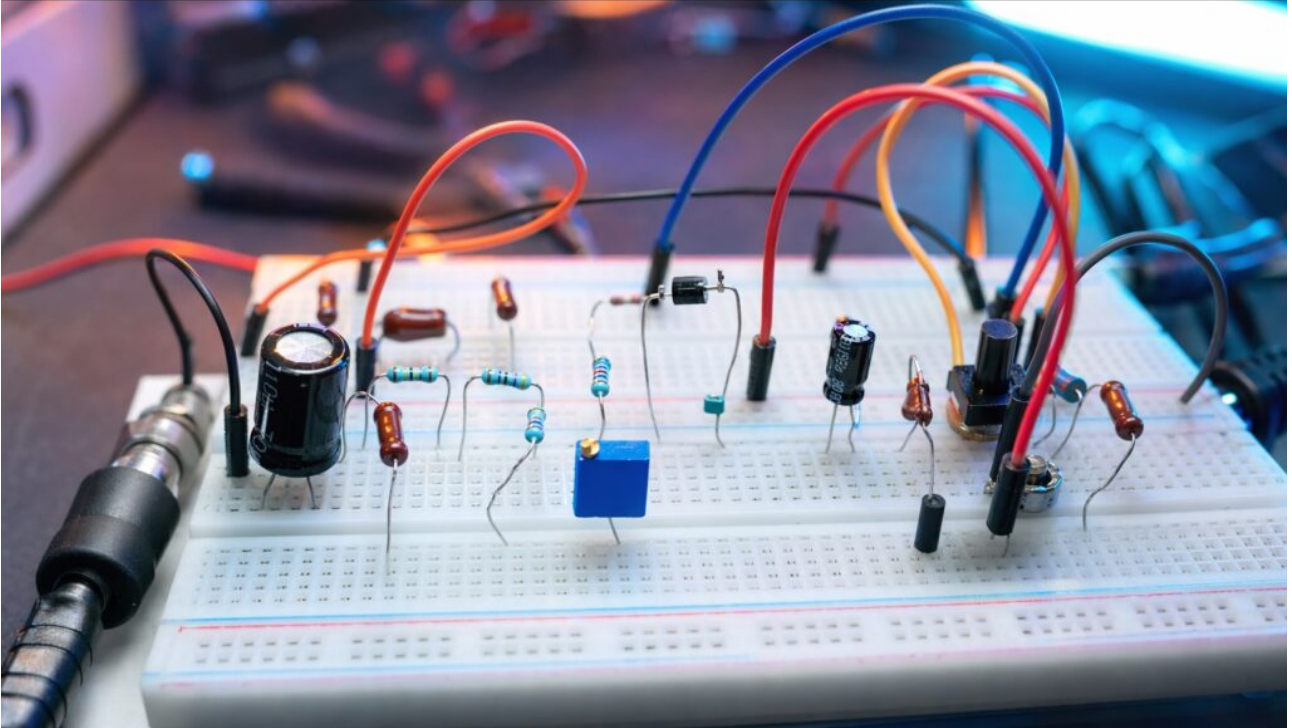


Level: Medium - Design an OPAMP transimpedance amplifier to convert the small photodiode current into a measurable voltage.

Objective and use case
You...

Practical case: DC level clamper circuit

DC level clamper circuit

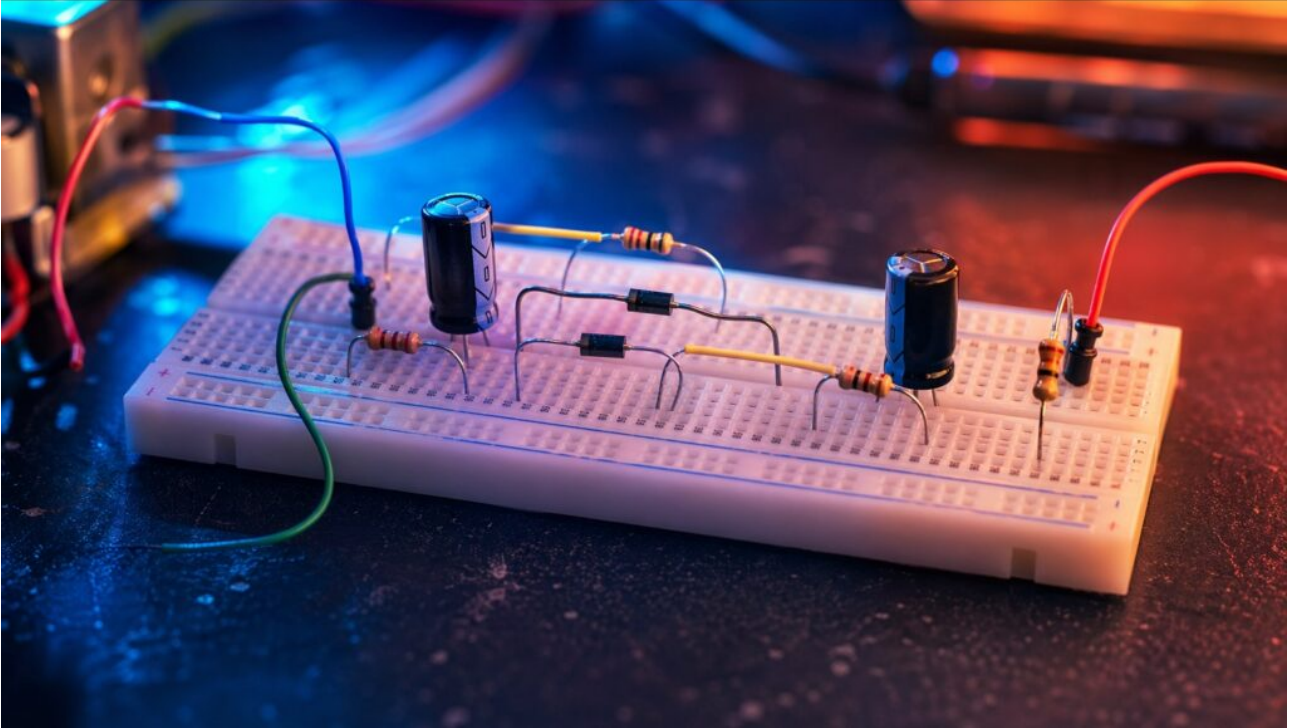


Level: Medium | Understand the shifting of the DC level of an AC signal using a diode and a capacitor.

Objective and use case
You will build a positive...

Practical case: Half-wave voltage doubler

Half-wave voltage doubler

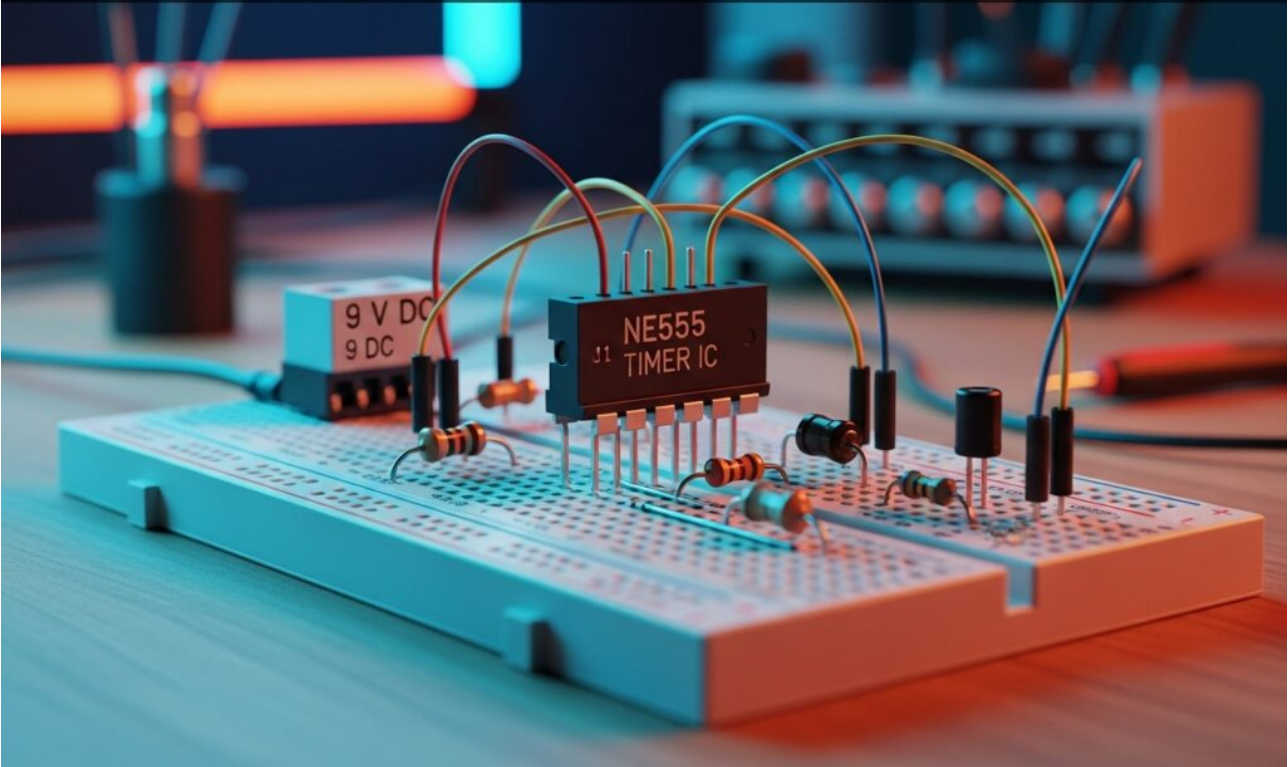


Level: Medium | Objective: Analyze and assemble a voltage doubler circuit to increase the peak voltage of an AC signal.

Objective and use case
In this...

Practical case: Light-controlled oscillator

Light-controlled oscillator



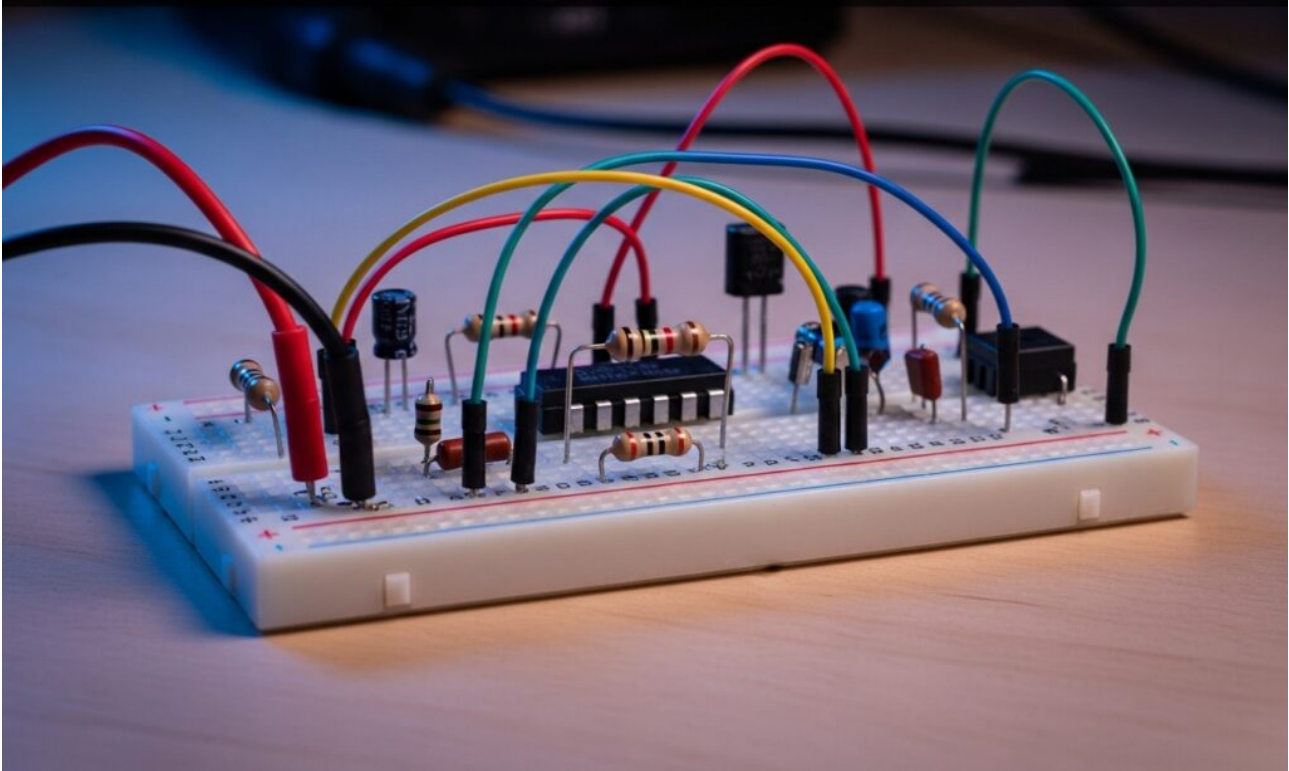
Level: Medium. Design an astable NE555 oscillator where an LDR modulates the output frequency based on ambient light.

Objective and use case

In this...

Practical case: Current measurement with shunt

Current measurement with shunt



Level: Medium - Use a very low-value resistor to indirectly measure a DC load's current via voltage drop.

Objective and use case
You will build a direct...