

Switching Breadboard Power Supply

Description

This is a compact, high-efficiency switching power supply for general-purpose breadboard projects. It's designed to plug directly into the power/ground rails and to not block any central pins. It has just the basics: a standard 5.5 × 2.1 mm barrel-jack receptacle, all of the regulator IC's necessary external components (inductor, capacitors, resistors), an easy-to-toggle power switch, and a hard-to-accidentally-toggle voltage selection (3.3V or 5V) switch. An efficient switching regulator makes this power supply great for battery-powered circuits, but it'll also work beautifully with an AC adapter.

Since this board uses a step-down (buck) voltage regulator, you'll need to put at least as much voltage in as you want out. For example, the following power sources will work great: a 9V battery, two (or more) alkaline or lithium cells (in series), a standard 5V or 12V AC adapter, or power from a USB connection. A single lithium-ion cell will get you regulated 3.3V output, but not 5V. The thermal dissipation and layout of the PCB has been designed according to the IC manufacturer's detailed recommendations. Comes with all components fully assembled and is ready to use right away.

Detailed Specs

- **Output** — 3.3V or 5V DC, 3A maximum
- **Input** — 3.3-17V DC (5-17V DC for 5V out)
- **Efficiency** — up to 95% (varies with voltage)
- **Dimensions** — 1.1 in (28 mm) × 0.83 in (21 mm)
- **Surface Area** — 0.91 in² (5.88 cm²)
- **Barrel Size** — 0.22 in (5.5 mm) OD × 0.08 in (2.1 mm) ID
- **Barrel Polarity** — center-positive (standard)
- **Indicator Light** — green power-on LED (SMD)
- **Connection to Breadboard** — 10 pins (2 rows × 5 pins)
- **Pin Header Spacing** — 0.1 in (2.54 mm)
- **Regulator IC** — Texas Instruments **TPS62130**
 - Digi-Key part number **296-37682-1-ND**

→ **If you enjoy using this board** please consider leaving me a positive review on Tindie!

→ **If you have any concerns or problems** please contact me at the email address below.

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