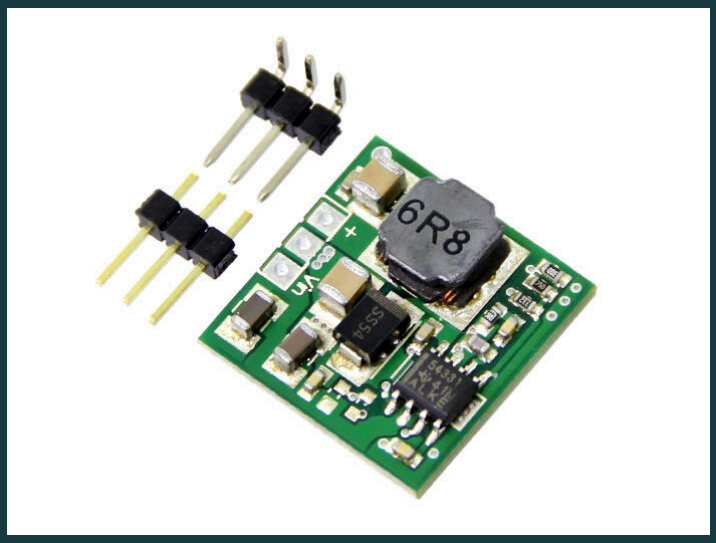
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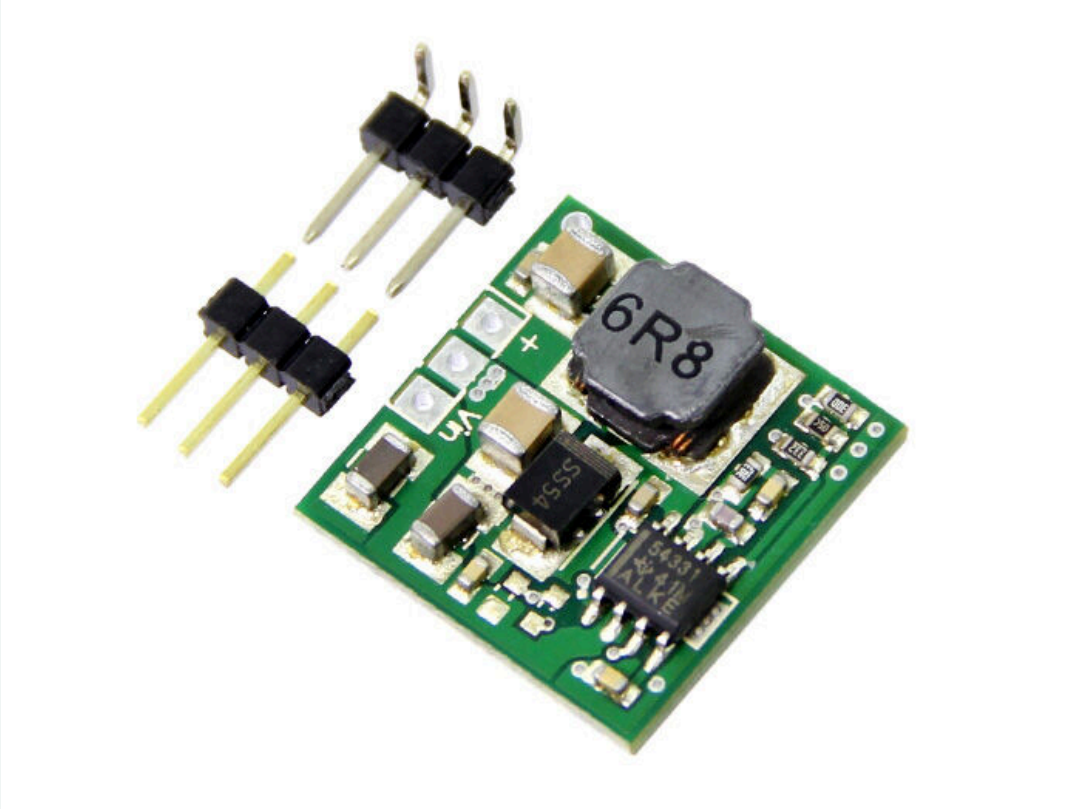
PNMini 2A - Mini Power module for DIY Electronic Projects

PNMini 2A: a compact, high-efficiency power module delivering up to 2A with no external components for DIY electronic projects and portable/consumer applications.

SKU	UPDATED	PRICE
106990019	2024-08-09 02:29:18	$15.00(Excl. VAT)



Overview



The PNMini 2A is a high-efficiency (up to 92%) mini power module capable of driving up to 2A continuous output current without a heat sink. It supports positive or negative output configurations and requires no external components, making it ideal for DIY electronic projects, portable electronics, and consumer/industrial power supplies.

Key Features

PNMini2A is part of a **kickstarter campaign**.

The PNMini2A power module is a high efficiency converter (up to 92%) capable of Driving up to 2A load without using heat sink. The PNMini2A is available in an innovative small PCB that enhances thermal performance and allows for hand soldering or plugin use. It requires no external components. It is a reliable, robust and allows startup into a pre--biased output. Other Significant features like better output accuracy (±1%) And lower standby current of 0.3mA Makes this module an ideal solution for many applications.

Features

- One module supports positive / negative output
- High efficiency at light loads 85%@Vin=7v
- 3.5V to 28V for positive input voltage range
- 2.7V to 27V for negative input voltage range
- Supports up to 2A continuous output current (no heat sink required)
- Typical 5μA shutdown quiescent current
- Slow start limits inrush currents UVLO protection
- Overvoltage transient protection
- Thermal shutdown protection
- Cycle-by-cycle current limit enables short circuit protection
- Simple configuration

Applications

- Consumer applications such as set-top boxes, CPE equipment, LCD Displays, peripherals, and battery chargers
- Portable electronics with sleep mode
- Industrial and car audio power supplies
- DIY electronic projects

How do I use it?

Supply Rail Configuration

PNMini is extremely easy to use. There is no external component required. The three terminals of PNMini are input voltage VIN, output voltage VOUT, and ground connection GND. The VIN pin is always fixed as Pin 3. Depending on the system requirements, Pin 1 can be positive output VOUT(+) or GND; Pin 2 can be GND or negative output VOUT(-).

Input Range

The input range of the PNMini family is very wide to cover more DIY electronics applications. For PNMini-2A, the input range for positive output is 3.5V to 27V. The input range for negative output is 2.7V to 27V.

Output Programming

The output voltage is programmable through three feedback resistors connected from VOUT terminal to GND terminal.

Application Examples

PNMini can be used in all kinds of DIY electronics projects. Below are two application examples:

1. Arduino drone with longer battery life

PNMini can be used to power your Arduino drone. A miniature Arduino board is usually powered by 3.3V. The motors and sensors are usually 5V. You can use 3 li-ion battery stack and two PNMini to get the voltage you want! It's more efficient than LDO. PNMini provides up to 92% efficiency while LDOs can hardly achieve more than 50% efficiency. That's a 40% longer battery life for your design!

2. A simple ECG amplifier

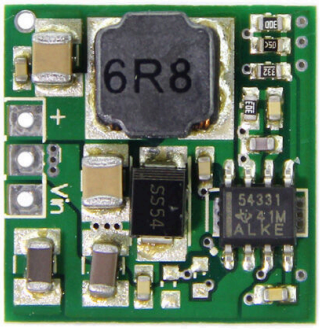
Another application example is a simple ECG amplifier which can display your ECG waveform on a oscilloscope. For sensor or amplifier applications, dual supply is often preferred. Positive supplies are everywhere, but sometimes it's difficult to find a negative power supply. PNMini solves the problem by generating both positive and negative supply from a single source.

Resources

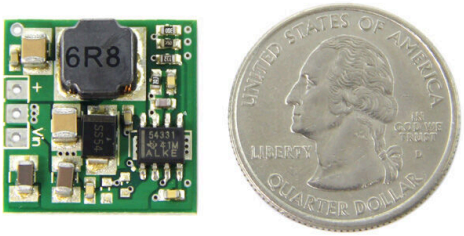
- **kickstarter campaign**
- **Datasheet**

See more information at **Speedy-Lab**.

Product Gallery







Resource Links

- https://www.seeedstudio.com/PNMini-2A-Mini-Power-module-for-DIY-Electronic-Projects-p-1914.html

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