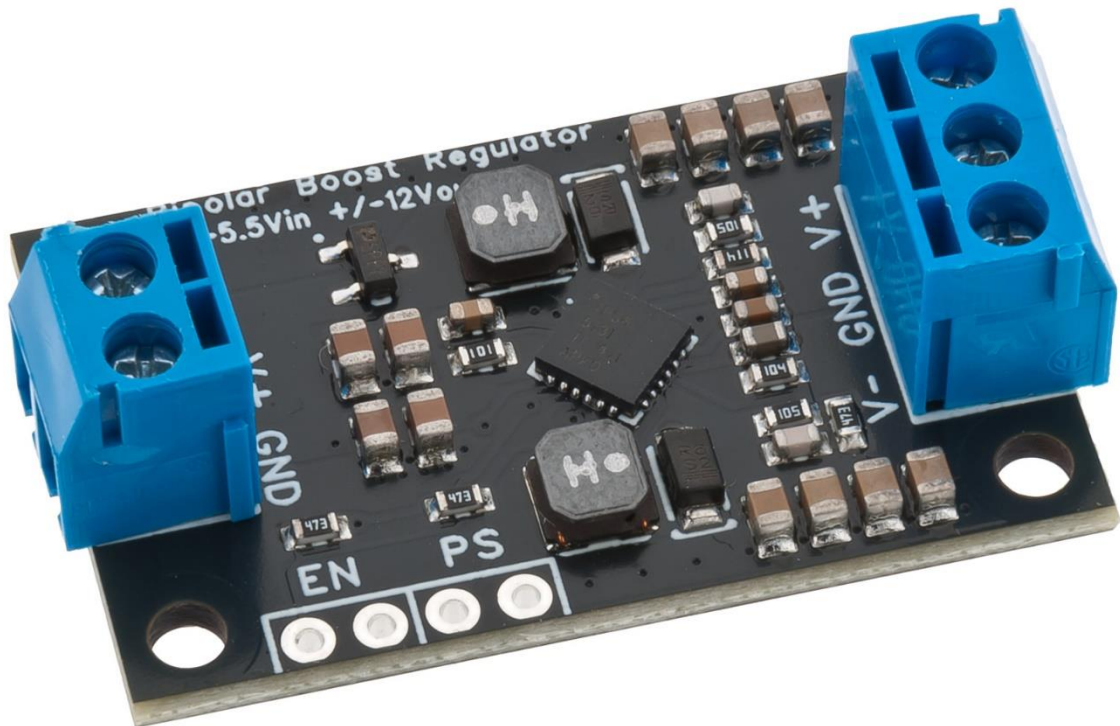


Bipolar Boost Regulator $\pm 12V$

Part.no 41024396



Power supply module based around a dual output switching voltage regulator, to provide a bipolar output voltage of -12V and +12V. Very useful for powering OP-amplifiers, ADCs, DACs, and other analog circuits that require both positive and negative voltages.

The module will both boost, or step-up, an incoming voltage between 2.7V and 5.5V to +12V and invert the voltage to -12V, with a typical efficiency of around 80%. Maximum load is approximately 300mA on each rail (VIN=5V) with up to 400mA for short periods of time. When the maximum output current is exceeded, the regulator will produce more heat and eventually enter overtemperature shutdown and restart as soon as the temperature drops.

Other functions include an undervoltage lockout, overvoltage protection and soft-start to avoid high peak currents on startup.

The input and output connections have patterns for both 3.5mm screw terminals and 2.54mm pin headers. Pins for Enable and Power-Save are also broken out for easy access.

The board comes with all components assembled and connectors included (unsoldered).

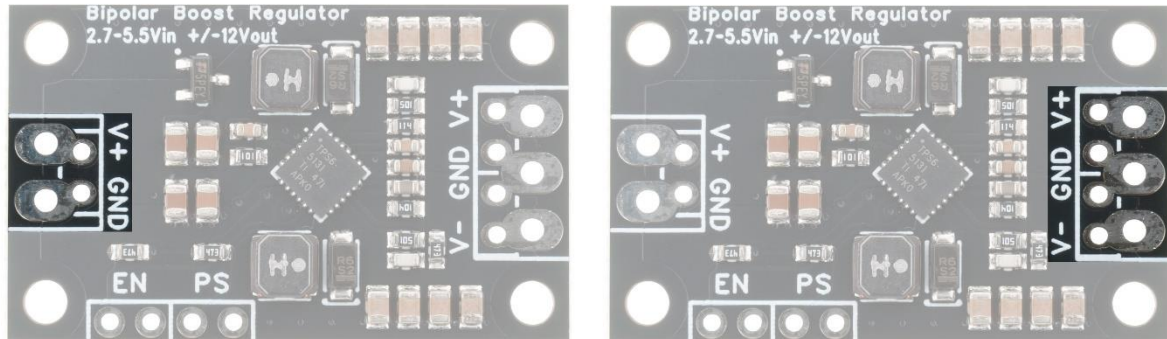
Functions

- Power analog circuitry from USB or batteries
- Low ripple and precise regulation
- Highly efficient switching design
- Easy to use

Specifications

- Supply voltage: 2.7 - 5.5 VDC
 - Output voltage: +12.2 V / -12.2 V
 - Output current: ~300 mA (switch limit 2 A)
 - Output ripple: ~20 mVpp
 - Efficiency: up to 89%
 - Shutdown current: 1 uA
 - Switching frequency: 1.4 MHz
 - Dimensions: 35 x 21 x 3.4 mm
 - Mounting holes: c-c 30 x 16 mm / ø2.5 mm
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Connections



Input:

Supply the input pins with 2.7 - 5.5 VDC to start the regulator. Do not exceed the maximum voltage. Observe the polarity markings. If the supply voltage drops below 2.4V, the undervoltage lockout (UVLO) will engage and shutdown the regulator.

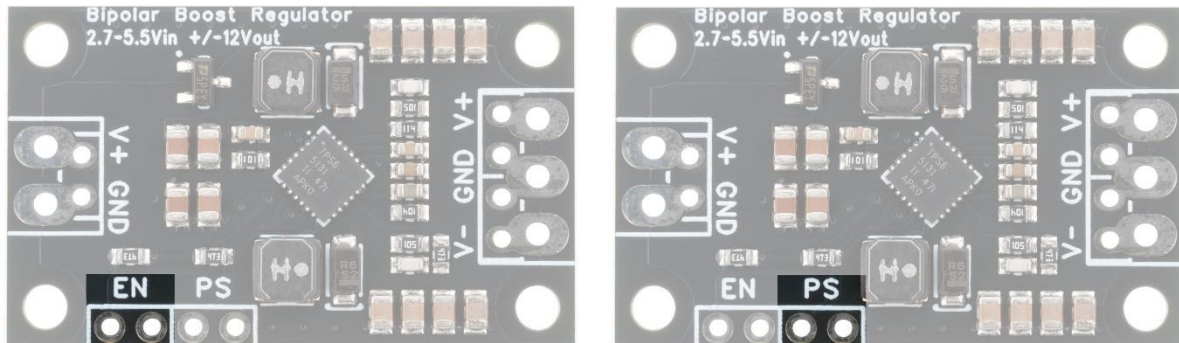
Two different patterns to fit either a 2-pin 3.5 mm pitch screw terminal (included), a 2-pin 2.54mm pitch header or wires soldered directly to the board.

Output:

This module has two separate voltage rails, +12V and -12V. Both will be enabled by default and both can be shut down by bridging the "EN" pins.

Two different patterns to fit either a 3-pin 3.5 mm pitch screw terminal (included), a 4-pin 2.54mm pitch header or wires soldered directly to the board.

Controls:



Bridge the two "EN" pins to disable the regulator and reduce the quiescent current to 1uA.

To improve efficiency and improve battery life when operating light loads, the "PS" pins can be bridged. The power save mode will have little to no effect when the output current reaches 20mA and above, but will significantly improve efficiency with loads below 20mA.

Mechanical dimensions

