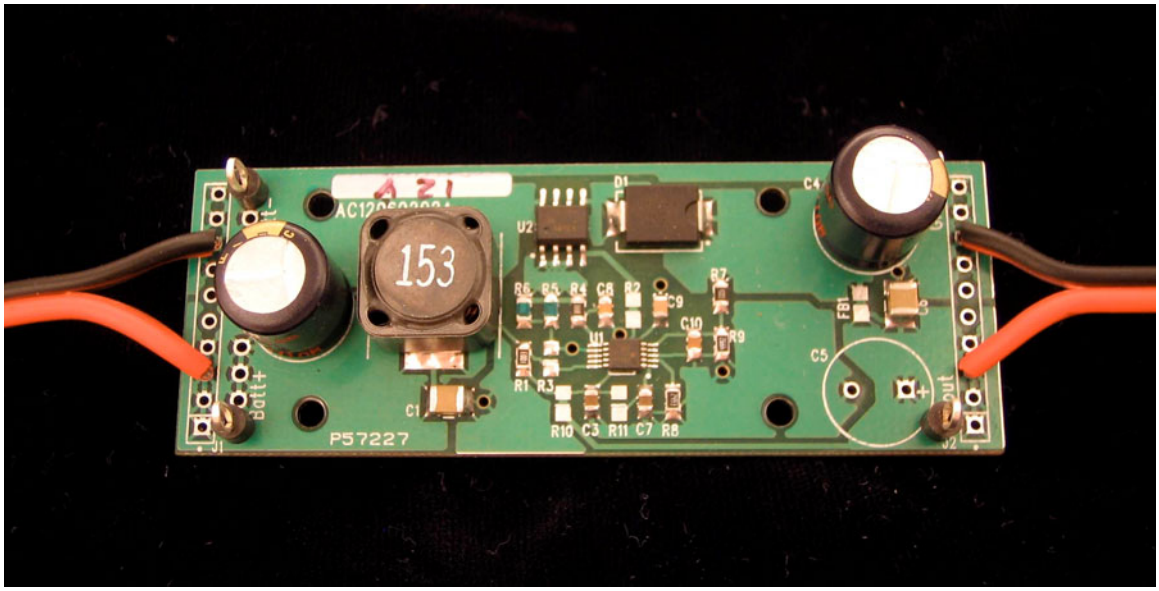
Advantage Circuits, Ltd.

Datasheet AC12060202A

DC/DC Conversion Power Supply



Features:

- Designed for Polymer-Lithium-Ion battery voltage conversion
- 3.3V – 4.5V Input Range
- 5V and 12V output available
- 10W output
- Can be placed in parallel configuration for higher output power
- High efficiency – up to 92.2%

The AC12060202A power supply is designed exclusively for boosting polymer-lithium-ion battery voltage (3.7V nominal) up to 15V. The standard configuration is 5V and 12V output. Customization is available at the factory from 5V to 15V.

Advantage Circuits, Ltd.
3512 Industry Rd.
Rootstown, OH 44272
mailto:sales@advantagecircuits.com

330-357-6074

http://www.advantagecircuits.com/

Advantage Circuits, Ltd.

Mechanical Data:

Weight	0.7 ounces
Dimensions	1.1” x 3.0” (Max. Component Height = 0.5”)

Part Numbering: **AC12060202A –XX**

-XX Options:

-05 DC 5V Output. Maximum supply of **2000mA**.

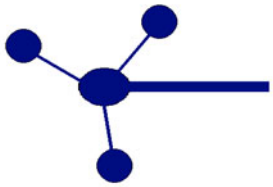
-12 DC 12V Output. Maximum supply of **830mA**.

Advantage Circuits, Ltd.
3512 Industry Rd.
Rootstown, OH 44272
mailto:sales@advantagecircuits.com

330-357-6074

http://www.advantagecircuits.com/

Advantage Circuits, Ltd.



Technical Data:

5V Version

Voltage Input	Input Current	Output Load	Voltage Output	Voltage Output Ripple	Power Out	Efficiency
3.94 VDC	1.5A	1.09A	5.0V	80mV	5.45W	92.2%

12V Version

Voltage Input	Input Current	Output Load	Voltage Output	Voltage Output Ripple	Power Out	Efficiency
3.75 VDC	250mA	70mA	12.2V	80mV	854mW	91.1%

Operating Instructions

- Connect the supply input (labeled “Batt+”) to a 3V – 5V input supply. Typically this would be a single or parallel combination of Polymer-Lithium-Ion batteries. The positive input is labeled “Batt+” on the board and has options for a ten-pin .1” header, wire leads or test points. Similarly, the ground input is labeled “Batt-“ and has the same through hole connection options.
- The power supply will automatically start regulating when input power is applied. The output positive is provided by a through hole labeled “Vout” or by connection to the optional ten-pin header output on pins 1-5. The output ground connection is provided by a through hole labeled “GND” or by connection to the optional ten-pin header output on pins 6-10.
- The input supply (batteries) can have a user switch placed in series as a ON/OFF switch to the system.

Advantage Circuits, Ltd.
3512 Industry Rd.
Rootstown, OH 44272
mailto:sales@advantagecircuits.com

330-357-6074

http://www.advantagecircuits.com/

Parallel Operation:

It is a common application of polymer-lithium-ion batteries to replace lead acid or other traditional battery technologies. In this process, it is often found that it is necessary to step-up the battery voltage to achieve the desired regulated system voltage. However, traditional switching DC/DC power supplies are limited in their output power to around 10W. The AC12060202A power supply is specially designed exclusively for parallel operation so that multiple supplies can be used to achieve the desired output power. Figure 1 demonstrates the usage of two AC12060202A power supplies to generate a 1666mA output at 12VDC.

Commonly many polymer-lithium-ion batteries are placed in parallel to achieve high energy storage capacity. These parallel cell configurations should be made with cells of equal capacity and charge condition. Please see the litterature for the family of Advantage Circuits polymer-lithium-ion chargers for additional charging information.

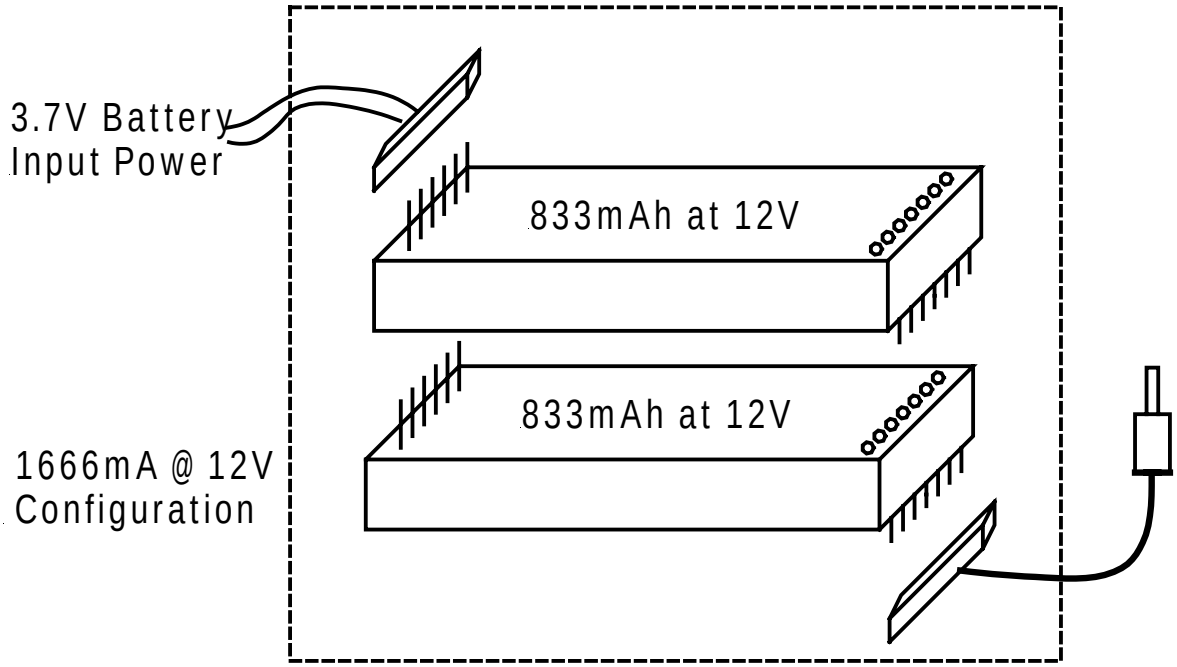


Figure 1. *Example of two AC12060202A power supplies in parallel to achieve 1666mA output capability. The input battery configuration will typically be multiple polymer-lithium-ion batteries in parallel of matched capacity and charge.*

Advantage Circuits, Ltd.
3512 Industry Rd.
Rootstown, OH 44272
mailto:sales@advantagecircuits.com

330-357-6074

http://www.advantagecircuits.com/