



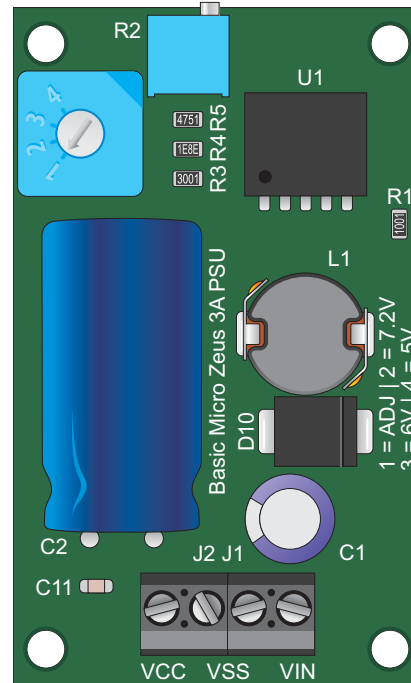
BASIC MICRO

TECHNOLOGY AT WORK

**B0045 - Zeus 3A Switching Regulator
Data Sheet**

Feature Overview:

- Built-In Voltage Presets
- 3 Amp Switching Regulator
- High Efficiency Regulation
- Thermal Protection Built-In
- Up To 30V Input
- Output From 2V to 13V
- Pin Compatible With 78xx Regulators
- Worm Screw Adjustable Pot
- Access To All I/O From Header
- BEC (Battery Eliminator)
- Screw Terminal For Direct Battery Input

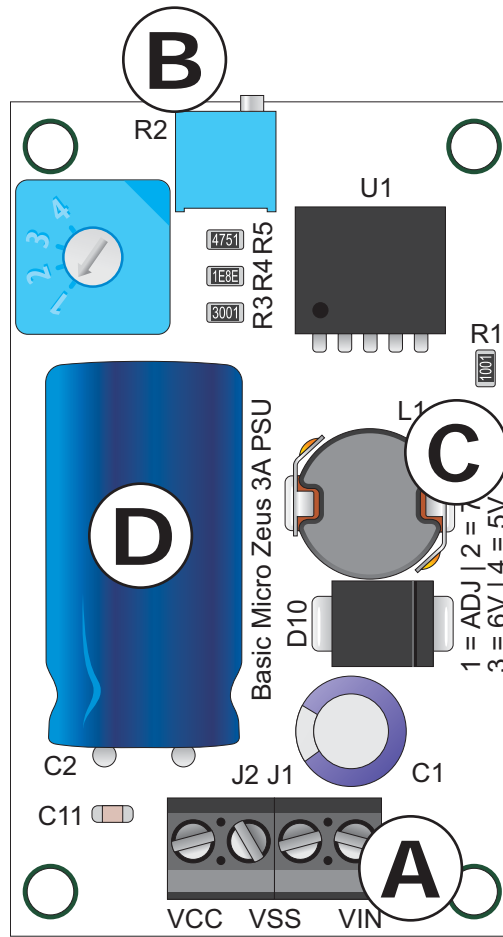
**Description**

Light weight and compact the Zeus is the ideal low cost 3A Switching Regulator. Its the perfect solution to eliminate a second battery or power source. Now you can power your robots, servos, microcontroller and electronics from a single battery or power source up to 30VDC. The Zeus requires no electronics experience. It has 3 built in presets of 5V, 6V and 7.2V or an adjustable setting from 2V to 13V and anywhere in between.

Applications

The Zeus makes a great servo power source. With built in surge capacitor the Zeus can supply the inrush current to keep up with just about any servo. Zeus can also be used to power all the electronics in your next robot.

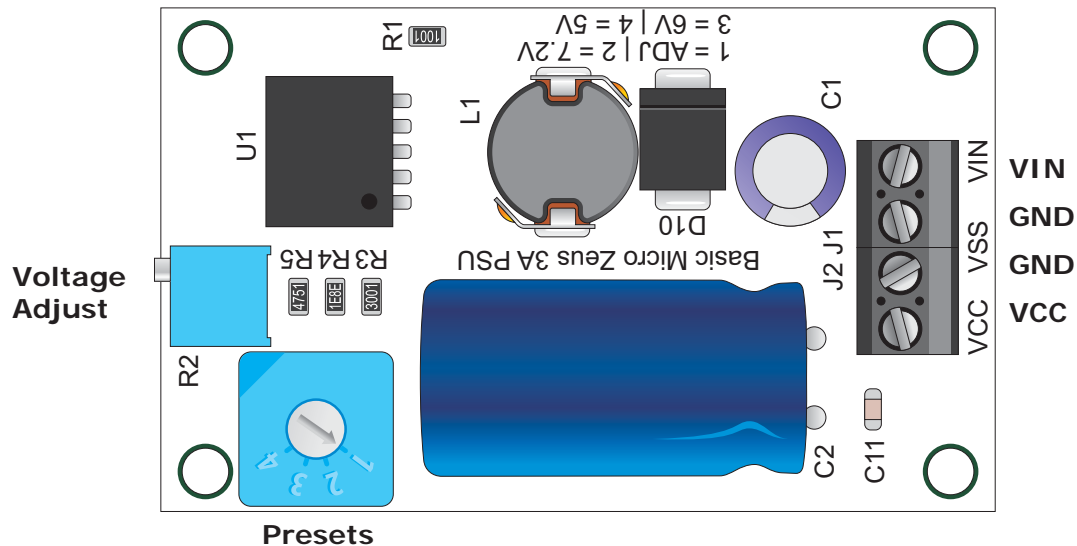
Hardware Overview:



- A:** 3.5mm Power Input Screw Terminals
- B:** Voltage Output Adjustable Potentiometer
- C:** Inductor
- D:** Surge Capacitor

Input Voltage

The input voltage to the Zeus is supplied from the 3.5mm screw terminals. The input voltage should not exceed 30V. The high efficiency of the regulator will generate little heat even when the voltage is stepped down from 30V to 2V. However since the regulator can handle up to 3 Amps, a step down from 30V to 2V will likely require an additional heat sink if maximum current is required.



Output Voltage

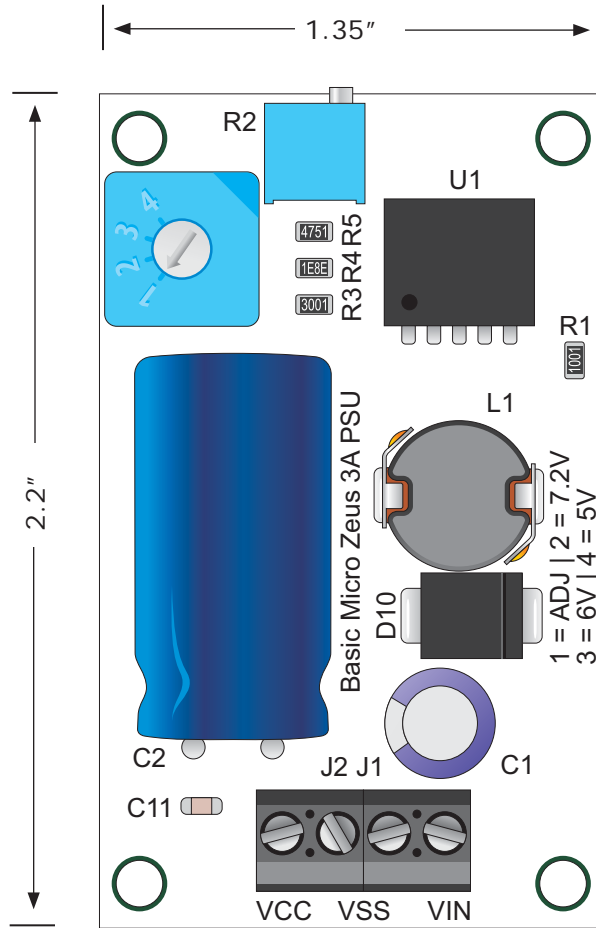
The Zeus has 4 settings. Of the 4 settings 3 are preset voltages 5V, 6V and 7.2V. The 4th setting is the adjustable output voltage which is set by R2, the on board potentiometer. A worm screw type potentiometer is used to prevent the Zeus from changing voltages due to vibration in adjustable mode.

The output voltage can be adjusted by 100th of a volt increments. When adjusting the output voltage apply input power. Use a standard multi meter connected to VCC on the 3 pin header. Set the multi meter to DC. As the potentiometer is turned you will see the voltage increase or decrease. Go slowly giving the on board capacitors time to adjust. Otherwise you can easily overshoot the desired voltage.

Heat Sinking

Depending on the voltage drop the Zeus may need additional heat sinking for U1. A voltage drop from 12V to 5V at 1Amp would run warm but additional heat sinking would not be required. Heat sinking will also depend on the Zeus Mini's location. The on board switching regulator has built in thermal protection. In case of an over heat the regulator will shut down automatically until a normal operating temperature is restored.

Dimensions:



Board Edge: 1.35"W X 2.2"L

Electrical Characteristics

Characteristic	Rating	Min	Max
VCC Input	VDC	5	30
Current Draw	mA	10	3000
Tempature Range	C	-40	+125

Warranty

Basic Micro warrants its products against defects in material and workmanship for a period of 90 days. If a defect is discovered, Basic Micro will, at our discretion, repair, replace, or refund the purchase price of the product in question. Contact us at support@basicmicro.com. No returns will be accepted without the proper authorization.

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Discussion List

A web based discussion board is maintained at <http://www.basicmicro.com>.

Technical Support

Technical support is made available by sending an email to support@basicmicro.com. All email will be answered within 48 hours. All general syntax and programming questions, unless deemed to be a software issue, will be referred to the on-line discussion forums.