Power Node User Manual

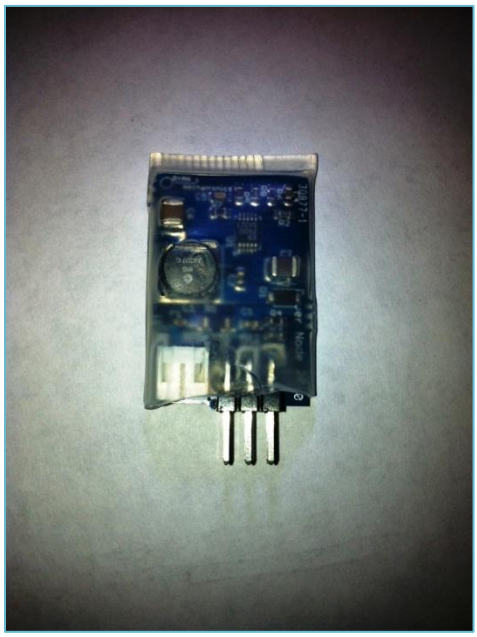


Table of Contents

Contents

Release Notes

Title	Power Node		
Subtitle	Power Node User Manual		
Type	Manual		
Document number	UM4000		
Revision Index	**Date**	**Name**	**Status / Comments**
Initial Release	10/2011	MR	Initial release

IMPORTANT DISCLAIMERS

This document and the use of any information contained therein, is subject to the acceptance of the Ryan Mechatronics terms and conditions. They can be downloaded from www.ryanmechatronics.com.

Ryan Mechatronics LLC makes no warranties based on the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice.

Ryan Mechatronics LLC assumes no liability for damages or otherwise due to use of the information in this document or application of any device described in this document.

Ryan Mechatronics LLC stresses end user compliance with all applicable laws and regulations when using devices of this nature. Use by an end user in violation of any applicable laws is automatic basis for termination of warranty, technical support and future sales.

1. Introduction

The Power Node is a switching voltage regulator designed for use with the Monkey platform, but viable for use in many applications.

1.1 Limitations

The unit is subject to both voltage input and current output ratings. Although the input is fused, damage can still occur to the unit.

2. Specifications and Characteristics

TBD

2.1 Electrical Characteristics

Characteristics	Conditions	Min	Typical	Max	Units
Voltage Input		6.5	11	32	V
Voltage output		4.95	5.1	5.2	V
Current output		0		2	A

- Specifications are subject to change at any time without notice

2.2 Absolute Maximum Ratings

Parameter	Rating
V_{dd}	-0.3V to +36V
Output Short-Circuit Duration (Any Pin to Common)	TBD
Operating Temperature Range	-30°C to +85°C
Storage Temperature Range	-40°C to +125°C

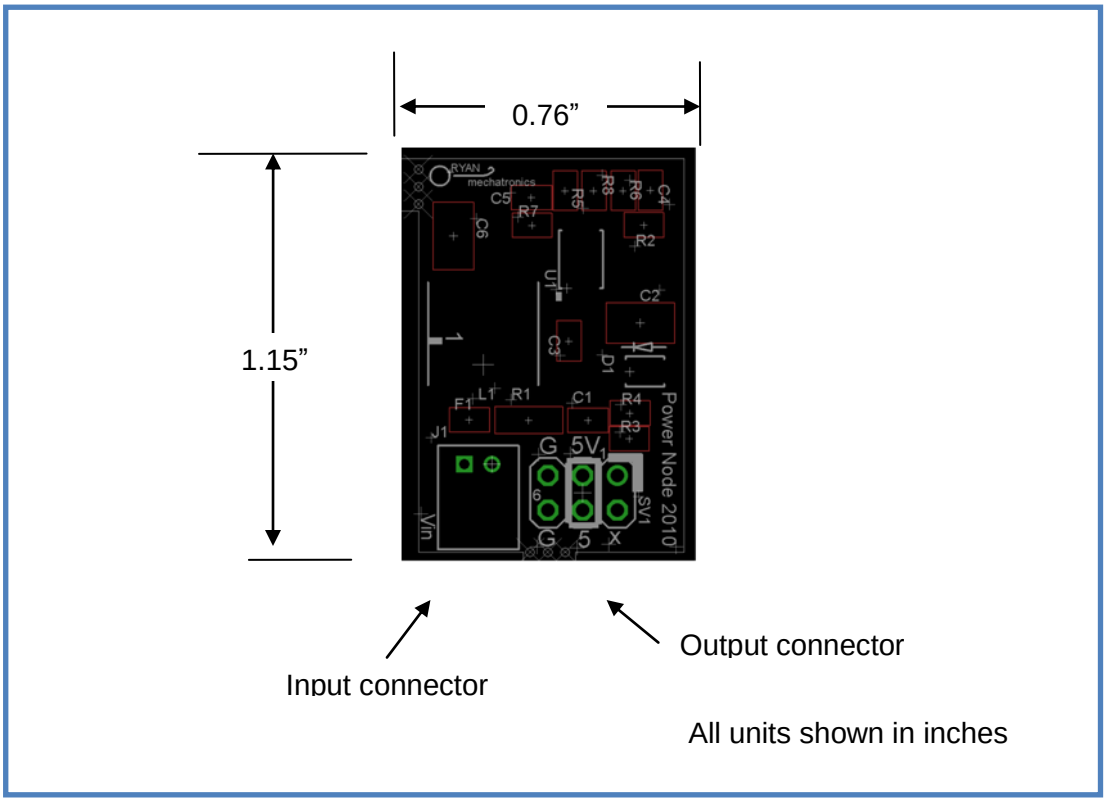
- Specifications are subject to change at any time without notice

Stresses above those listed under the Absolute Maximum Ratings may cause permanent damage to the device. This is a stress rating only; functional operation of the device at or near these or any other conditions above those indicated in the operational section of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods of time may affect device reliability.

Drops onto hard surfaces can cause shocks of greater than 2000 *g* and can exceed the absolute maximum rating of the device. Exercise care during handling to avoid damage.

2.3 Mechanical and Pin Assignments

2.3.1 Dimensions



2.3.2 Recommended Connectors

2.3.2.1 Input Connector

The main connector on the Power Node is a 2 pin JST connector. The connector is keyed to prevent accidental reverse voltage. Replacement cables can be ordered from Sparkfun, part number PRT-08670.

2.3.2.2 Output Connector

The output connector is a dual row, right angle 1/10 inch header. Top and bottom rows are identical. Pin out is shown below.

2.3.3 Pin Assignments

Table 1 – Input Connector Pin Assignments

Pin #	Pin Name	I/O	Description
1	Vin	N/A	Input power
2	GND	N/A	

Table 2 – Output Pin Assignments

Pin #	Pin Name	I/O	Pin Connection Required for Typical Operation?	Description
1, 2	Sig Bat Out	O		Outputs scaled battery voltage for 3.3V ADC read. Vout = 0.0918 * VBat
3,4	+5V out	O	X	5V output power
5,6	GND	I	X	Ground