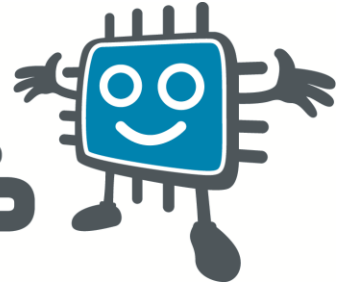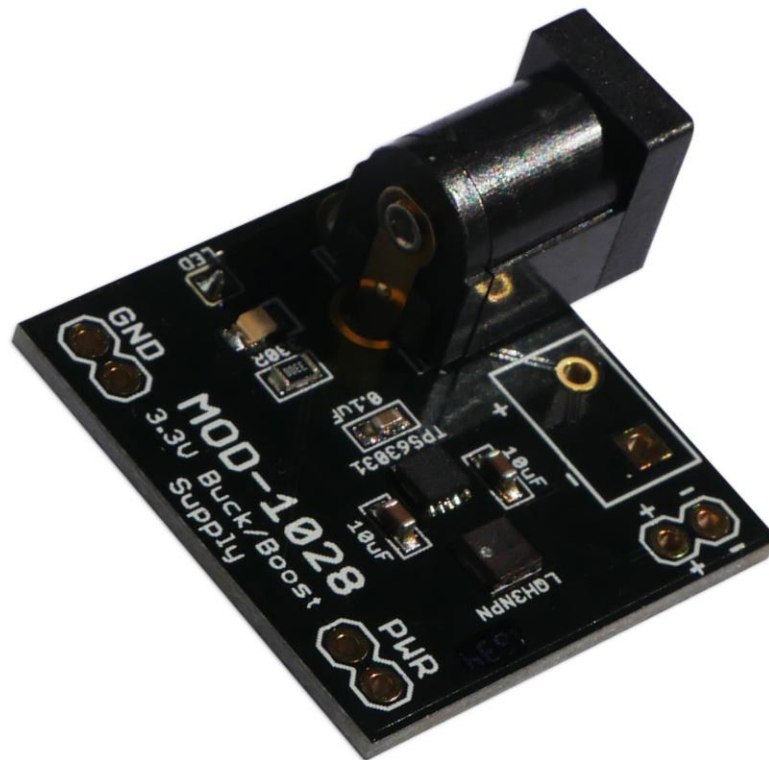Device: MOD-1028

This document Version: v1

Matches module version: v1 [11 July 2016]

Date: 28 August 2016

Description: 3.3V Buck/Boost Power Supply

Contents

Introduction

The MOD-1028 is a buck/boost 3.3V power supply based on Texas Instrument's TPS63031. It's designed to give you up to 700mA of current at 3.3V to run your projects. That means you can use a battery pack that supplies more than 3.3V – and it will give you 3.3V, and then when the battery pack goes below 3.3V, you *still* get 3.3V. Magic!

Features

The MOD-1028 is designed to deliver up to 700mA of current in buck/step-down mode and 500mA of current in boost/step-up mode. We also included an LED to let you know that the device is providing 3.3V at the output. If it's not on, then the device is powered down and there is no voltage on the output. Additionally, you are also free to de-solder the jumper to disconnect the LED to save current drain.

Hackability

The MOD-1028 is 100% hackable.

At Embedded Adventures, we believe you have the most fun when you have the most control over your hardware. For the MOD-1028 we provide a datasheet, and complete schematic. After that, it's all up to you.

We'd love to hear about the projects you're using it for – send us information and photos to myproject@embeddedadventures.com

Construction

It's all pre-built! Just add female or male header pins, or solder directly to the board, and away you go.

A two way screw terminal is provided, which can be soldered to the board or alternatively a 0.1" female or male header pins can be used to provide power.

Connections

The MOD-1028 has power input connections and regulated power output connections.
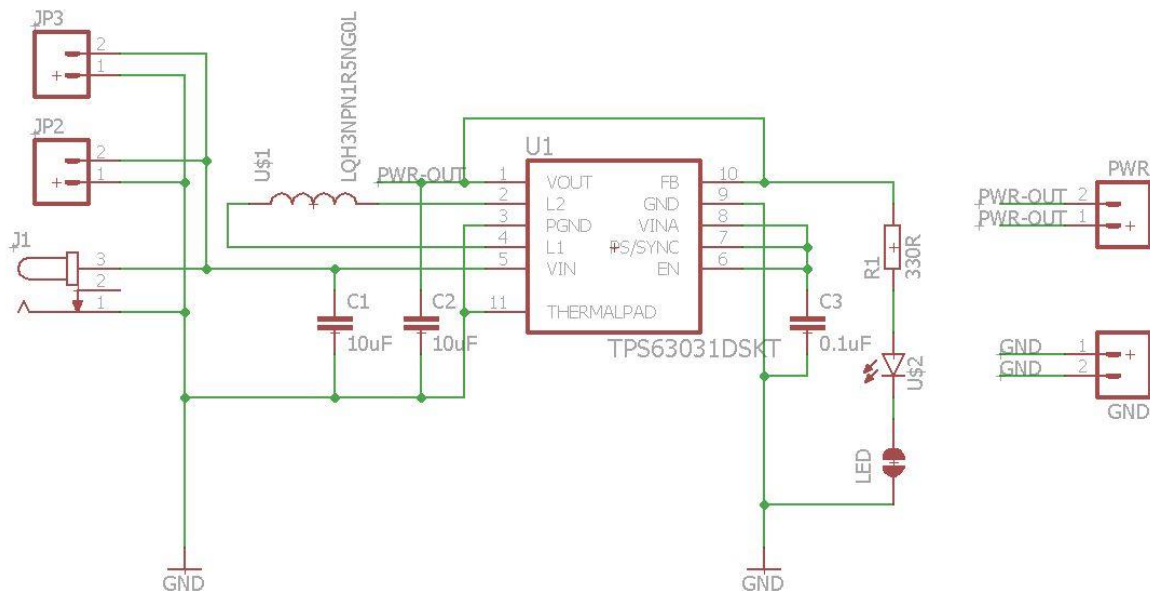
Power can be provided by a 2.1mm plug, optional screw terminal block or headers soldered to the board.

Regulated output is provided on two pins each of GND and PWR (3.3V) on the bottom of the board.

Power

The MOD-1028 needs at least 1.7V on the input to deliver 3.3V on the output. It will supply up to 700mA of current.
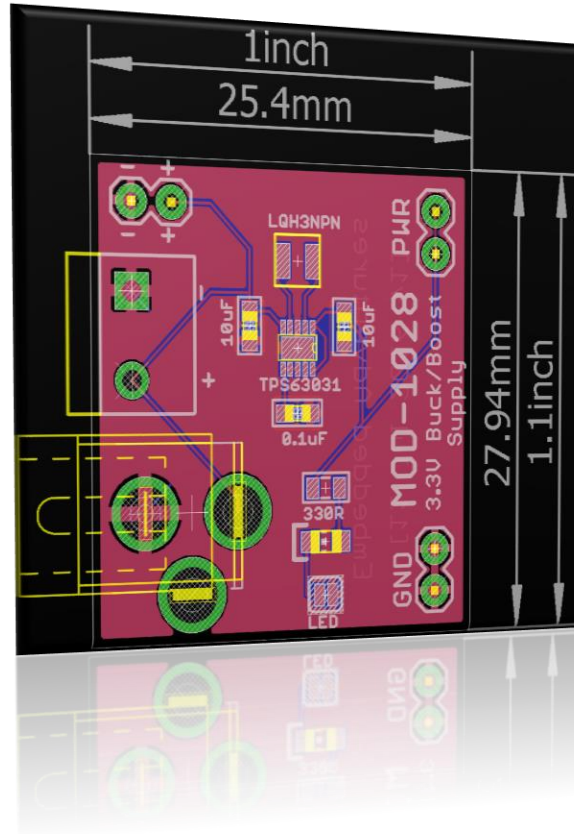
Schematic

The MOD-1028 is pretty much a reference implementation of a TPS63031 buck/boost circuit.

Programming

You don't program it. You plug it in and power something you *can* program.

PCB

Versions

Doc Version	Date	Comments
1	28 Aug 2016	Initial Version for board v1 [11 July 2016]