TPS61023 5V Mini-Booster

4654

Product Overview

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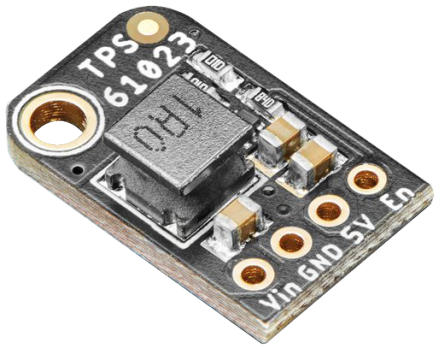
For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description



Adafruit TPS61023 5V Mini-Booster is designed to provide a 5V output power supply and up to 1A current. This mini booster comes with feedback resistors that are set to give 5.2V which becomes 5V after the voltage drop over the cables. The TPS61023 is a thermally efficient chip that integrates dual 3A MOSFET switches. This mini-booster operates at ±2.5% reference voltage accuracy over -40°C to +125°C temperature range. The TPS61023 mini-booster is used with battery-powered projects with 2 or 3 Alkaline or a single Lithium battery.

Most people will want to use a Lipoly or LiIon battery with a booster, with a nominal voltage of 3.7V. Here's the efficiencies at that voltage:

- 5.2V 100mA out requires 160mA in at 3.7V (88%)
- 5.2V 250mA out requires 400mA in at 3.7V (88%)
- 5.2V 500mA out requires 800mA in at 3.7V (88%)
- 5.2V 1000mA out requires 1800mA in at 3.7V (78%)

As you can see, you'll be humming at ~88% as 'lower' currents of about 500mA and less. You can get 1A out but your efficiency will drop a bit to ~78%

Features

- Output overvoltage and thermal shutdown protection
- Auto PFM operation mode at light load
- Pass-through mode when $V_{IN} > V_{OUT}$
- True disconnection between input and output during shutdown
- 0.5V to 5.5V input voltage range
- 17.8mm x 11.3mm x 5.6mm dimensions
- 1.8V minimum input voltage for start-up
- 3.7A valley switching current limit
- ±2.5% reference voltage accuracy over -40°C to +125°C
- Switching frequency:
  - 1MHz when $V_{IN} > 1.5V$
  - 0.5MHz when $V_{IN} < 1V$

Product Comparison

Mouser Part Number

View Part

To learn more, visit https://www.mouser.com/new/adafruit/adafruit-tps61023-5v-mini-booster/