

LTC3406/LTC3406B DC500 Description

Demonstration circuit DC500 is a constant-frequency step-down converter, using the LTC3406, or LTC3406B, monolithic synchronous buck regulators. The DC500 has an input voltage range of 2.7V to 5.5V, and is capable of delivering up to 600 mA of output current at minimum input voltage of 3V. In Burst Mode™ operation, which is the mode of low load current operation offered by the LTC3406, the DC500 supply current is typically only 25 uA at no load, and less than 1 uA in shutdown. In noise sensitive applications, the LTC3406B is available, which runs in pulse-skipping mode at low load currents. The DC500 is a very efficient circuit: up to 96%. These features, plus the LTC3406/LTC3406B coming in a tiny 5-pin ThinSOT package and having an operating frequency of 1.5 MHz (allowing the exclusive use of low profile surface mount components), make the DC500 demo board an ideal circuit for use in battery-powered, hand-held applications. **Design files for this circuit are available. Call the LTC Factory.**

LTC3406/LTC3406B DC500 Quick Start Guide

The DC500 demonstration board is easy to set up to evaluate the performance of the LTC3406/LTC3406B. One word of caution: when the board is right-side up (the title is legible at the top of the board), the output voltage turret is on the left side of the board, and the input voltage turret is on the right side of the board. Set up the circuit appropriately.

Please follow the procedure outlined below for proper operation.

1. Connect the input power supply to the Vin and GND terminals on the right-side of the board. Do not hot-plug Vin or increase Vin over the rated maximum supply voltage of 5.5V, or the part may be damaged. Move the shunt at JP1 to the “ON” position. Refer to figure 1 for proper measurement equipment setup.
2. Connect the load between the Vout and GND terminals on the left-side of the board. Refer to figure 1 for proper measurement equipment setup.
3. To shut down the circuit, connect the RUN pin to ground by inserting the JP1 jumper into the upper position. Note the pull down resistor on the schematic and demo circuit assembly. Do not leave this pin floating.