

QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 500

HIGH EFFICIENCY, THINSOT SYNCHRONOUS BUCK REGULATOR

LTC3406 or LTC3406B

DESCRIPTION

Demonstration circuit 500 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 600mA of output current at minimum input voltage of 3V. In Burst Mode® operation, the DC500 supply current is typically only 25µA at no load, and less than 1µA in shutdown. In noise sensitive applications, the LTC3406B is available, which runs in pulse-

skipping mode at low load currents. The DC500 is up to 96% efficient. The LTC3406 and LTC3406B are available in tiny 5-pin ThinSOT packages and the operating frequency of 1.5MHz allow the use of low profile surface mount components, making for very small complete converters. Demonstration Circuit 500 an excellent design for battery-powered, hand-held applications.

Design files for this circuit board are available. Call the LTC factory.

QUICK START PROCEDURE

Demonstration circuit 500 is easy to set up to evaluate the performance of the LTC3406 or LTC3406B. Refer to Figure 1 for proper measurement equipment setup and follow the procedure below:

NOTE: 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.

1. Connect the input power supply to the Vin and GND terminals on the *right-side* of the board. Do not hot-

plug V_{IN} or increase V_{IN} over the rated maximum supply voltage of 5.5V, or the part may be damaged. Move the shunt at JP1 to the ON position.

2. Connect the load between the Vout and GND terminals on the *left-side* of the board.
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.

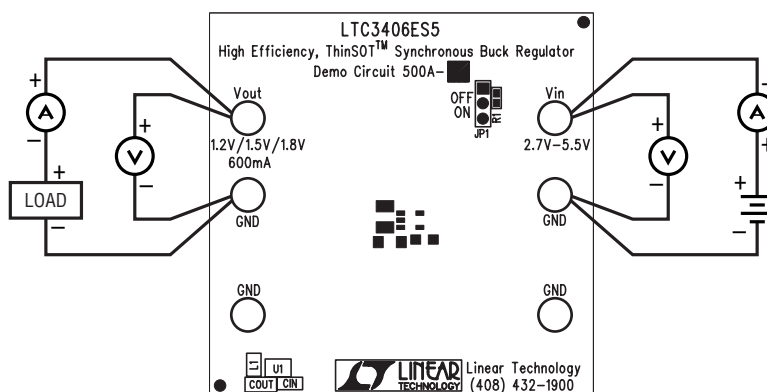


Figure 1. Proper Measurement Equipment Setup