

QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 488

HIGH EFFICIENCY, LOW NOISE, INDUCTOR-LESS STEP DOWN DC/DC CONVERTER

LTC3250-1.5

DESCRIPTION

Demonstration circuit 488 is a high efficiency, inductor-less step-down converter featuring the LTC3250-1.5. The circuit produces a fixed 1.5V output from a 3.1V to 5.5V input.

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

Table 1. Performance Summary

PARAMETER	CONDITION	VALUE
Minimum Input Voltage		3.1V
Maximum Input Voltage		5.5V
V_{OUT}	$V_{IN} = 3.5V$ to $5.5V$, $I_{OUT} = 0A$ to $250mA$	$1.5V \pm 4\%$
Burst Mode Operation Output Ripple	(Not including ESR spike)	$10mV_{P-P}$
Continuous Mode Output Ripple	(Not including ESR spike)	$4mV_{P-P}$
Nominal Switching Frequency		1.5MHz

QUICK START PROCEDURE

Demonstration circuit 488 is set up to easily evaluate the performance of the LTC3250-1.5 low noise charge pump. Refer to Figure 1 for proper measurement equipment setup, and follow the procedure outlined below:

When measuring the input or output voltage ripple, care must be taken to avoid a long ground lead on the oscilloscope probe. Measure the input or output voltage ripple by touching the probe tip directly across the V_{in} or

V_{out} and GND terminals. See Figure 2 for proper scope probe technique.

1. Connect jumper JP1 to the ON position.
2. With power off, connect a 3.6V, 200mA power supply to the V_{in} and GND terminals.
3. Turn on the power at the input. Attach desired load (up to 250mA) from V_{out} to GND
4. Check for the proper output voltage. $V_{out} = 1.44V$ to $1.56V$.

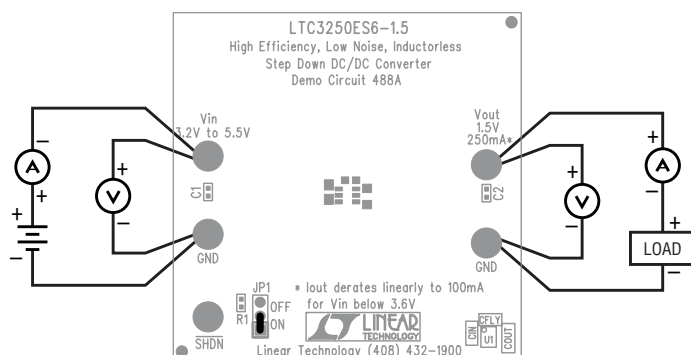


Figure 1. Proper Measurement Equipment Setup

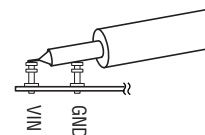


Figure 2. Scope Probe Placement for Measuring Input or Output Ripple

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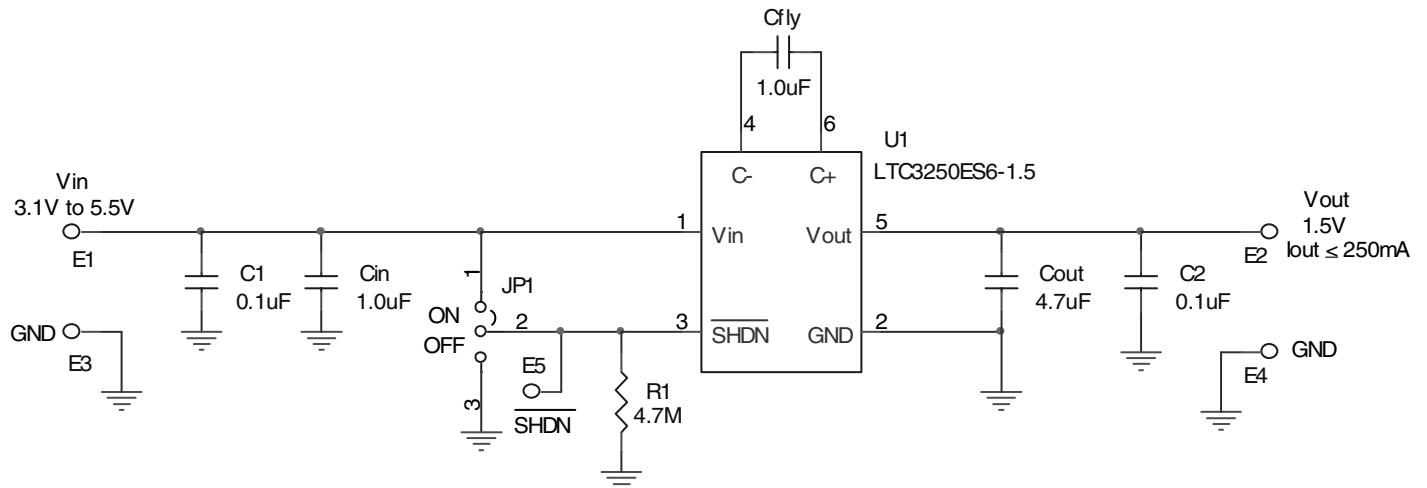


Figure 3. Schematic