

# QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 938

## MICROPOWER SYNCHRONOUS BUCK-BOOST DC/DC CONVERTER

LTC3530

### DESCRIPTION

Demonstration circuit 938 is a micropower synchronous buck-boost converter based on the LTC3530 monolithic buck-boost regulator. The DC938 has an input voltage range of 1.8 V to 5.5V and an output of 3.3V @ 500mA. The converter can work under manual or programmable automatic burst mode, providing high conversion efficiency over a wide range of load currents. The LTC3530 comes in a 10 lead 3×3

DFN package. These features make the DC938 demo board an ideal circuit for use in Li-Ion and dual cell AA (Alkaline/NiCad/NiMH) battery-powered, hand-held applications.

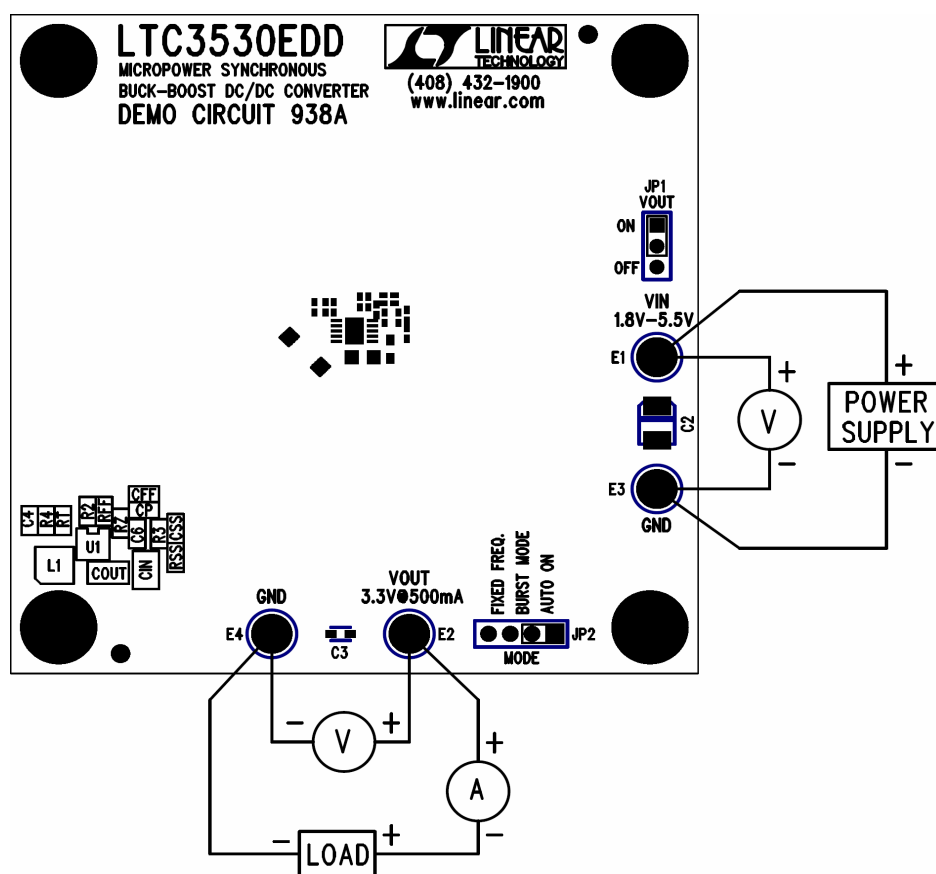
**Design files for this circuit board are available. Call the LTC factory.**

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### QUICK START PROCEDURE

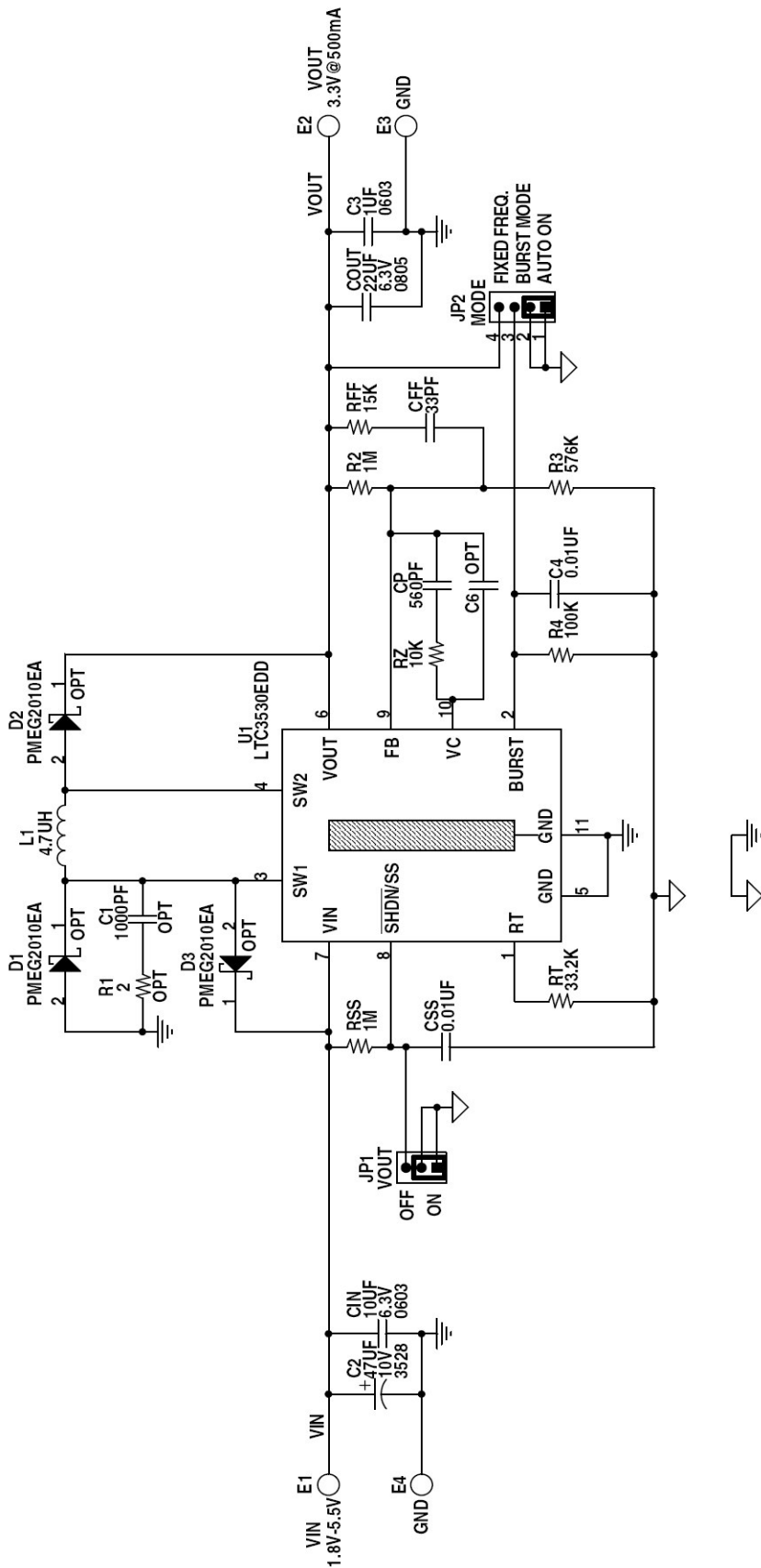
Refer to Figure 1 for proper measurement equipment setup and follow the procedure below:

1. Start with Load set to 0A.
2. Set Power Supply to ~ 3Vin
3. The Load can be set from 0 – 500mA.
4. Vin can be adjusted between 1.8V and 5.5V (note however, max output current is lower than 500mA at Vin below 2.2V).



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APPROVALS  
DRAWN:  
CHECKED:  
APPROVED:  
ENGINEER: DAVID C.  
DESIGNER: KIM T.

### CUSTOMER NOTICE

LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A CIRCUIT THAT MEETS CUSTOMER-SUPPLIED SPECIFICATIONS; HOWEVER, IT REMAINS THE CUSTOMER'S RESPONSIBILITY TO VERIFY PROPER AND RELIABLE OPERATION IN THE ACTUAL APPLICATION. COMPONENT SUBSTITUTION AND PRINTED CIRCUIT BOARD LAYOUT MAY SIGNIFICANTLY AFFECT CIRCUIT PERFORMANCE OR RELIABILITY. CONTACT LINEAR TECHNOLOGY APPLICATIONS ENGINEERING FOR ASSISTANCE.

THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.

### NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL RESISTORS ARE IN OHMS, 0402.
2. ALL CAPACITORS ARE IN MICROFARADS, 0402.
3. INSTALL SHUNTS ON JP1-JP2 PIN 1 AND 2.

TITLE: MICROPOWER SYNCHRONOUS BUCK-BOOST DC/DC CONVERTER  
SIZE: A  
DWG NO.: DC938A-1 \* LTC3530EDD  
REV: A  
DATE: Thursday, June 21, 2007  
SHEET 1 OF 1

# Mouser Electronics

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