QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 767
SINGLE LI-ION BATTERY POWERED BUCK REGULATOR FOR PDA APPS

LTC3447

DESCRIPTION

Demonstration Circuit 767 is an I2C controlled high efficiency synchronous current mode buck regulator featuring the LTC3447. The circuit is ideally suited for single Li-Ion battery powered applications such as PDAs and other Handheld Devices. The I2C Power Rail, VCCD, can be connected to the main Supply Voltage VCCC. Both input voltage ranges are 2.5V → 5.5V. The buck regulator has a programmable output range of 0.7V to 2.00V with a 1A switch. The initial start-up voltage is set to 1.35V by feedback resistors R4 and R5 (the maximum start-up voltage (equal to VCCC) can be set by changing the R4 and R5 values). Automatic Burst Mode at light loads extends battery life in portable systems. The Burst Mode feature can be disabled using the I2C command.

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

LT is a trademark of Linear Technology Corporation

Table 1. Performance Summary (T_A = 25°C)

PARAMETER	CONDITION	VALUE
VCCC Input Voltage Range		2.5V → 5.5V
VCCD Input Voltage Range		2.5V → 5.5V
V_{OUT} Buck Output Voltage		0.7V → 2.0V
Maximum Output Current	VCCC = 3V, V_{OUT} = 1.3V	600mA
Switching Frequency		1.0MHz Const.

QUICK START PROCEDURE

DC767 is easy to set up to evaluate the performance of the LTC3447. Refer to Figure 1 for proper measurement equipment setup and follow the procedure below:

1. Connect a 100mA load, LOAD1, between the VOUT and GND terminals on the right hand side of the board.

2. Apply 3.3V between the VCCC and GND terminals on the left hand side of the board.

3. Apply 3.3V between the VCCD and GND terminals on the left hand side of the board.

4. Connect the DC410 to the Computer's serial port via a 9-pin RS232 cable.

5. Connect 8V – 10V to the VinExt and Gnd terminals on the DC410 (ensure the JP2 jumper on the DC410 is in the VinExt position and the JP1\JP3 jumpers are in their RES positions).

6. Connect the DC767 to the DC410 via their 5 pin connectors.

7. Run the LVDC767.exe User Interface program provided to issue the I2C command with the relevant information (note: the serpdrv file must be stored in the same directory as the LVDC767.exe file).

8. To change the Buck voltage ... set the Buck Voltage slider to whatever voltage you want the output to be and click on the Buck Voltage slider's Write button.
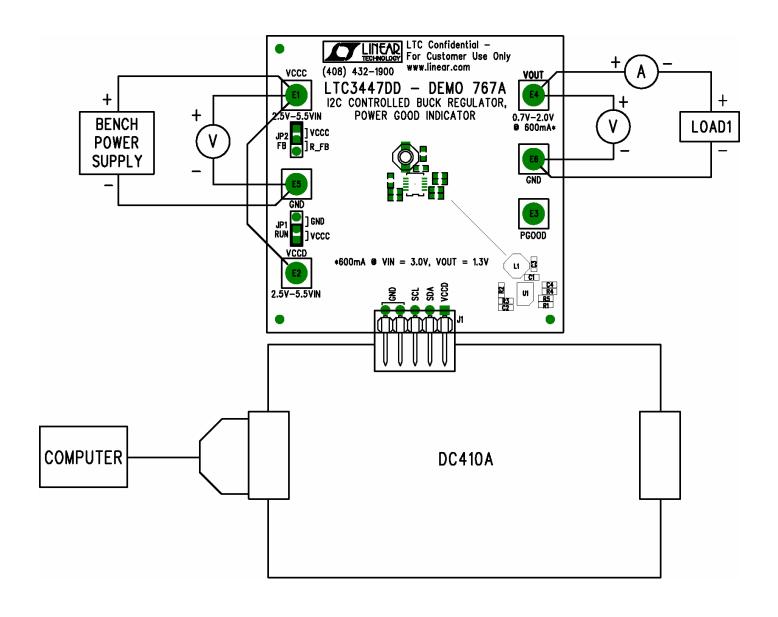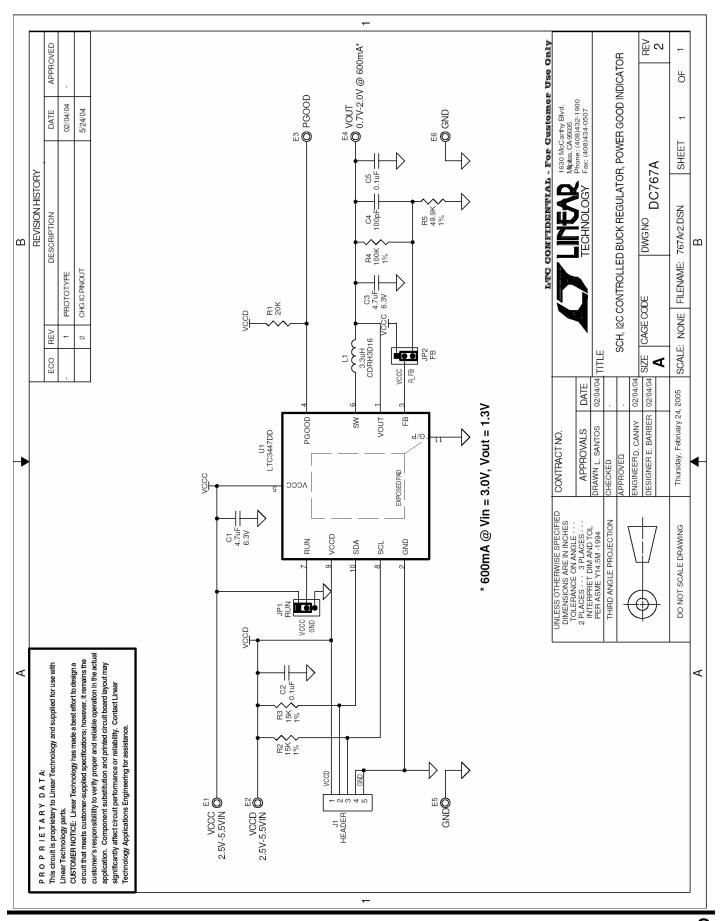
Figure 1. Proper Measurement Equipment Setup

REVISION HISTORY

ECO	REV	DESCRIPTION	DATE	APPROVED
-	1	PROTOTYPE	02/04/04	-
	2	CHG IC PINOUT	5/24/04	

B

A

E3 PGOOD

E4 VOUT
0.7V-2.0V @ 600mA*

E6 GND

C5
0.1uF

C4
100pF

R5
49.9K
1%

R4
100K
1%

C3
4.7uF
6.3V

VCCC

R_FB

JP2
FB

VCCD R1
20K

L1
3.3uH
CDRH3D16

U1
LTC3447DD

PGOOD   4

SW   6

VOUT   1

FB   3

VCCC

VCC   5

C1
4.7uF
6.3V

RUN   7   VCCD   9   SDA   10   SCL   8   GND   2

EXPOSED PAD

U/G   11

JP1
RUN

VCCC
GND

VCCD

VCCD

R3
15K
1%

C2
0.1uF

R2
15K
1%

VCCD

J1
HEADER
1
2
3
4
5

GND

E1 VCCC
2.5V-5.5VIN

E2 VCCD
2.5V-5.5VIN

E5 GND

* 600mA @ Vin = 3.0V, Vout = 1.3V

* 600mA @ Vin = 3.0V, Vout = 1.3V

LTC CONFIDENTIAL – For Customer Use Only

1630 McCarthy Blvd.
Milpitas, CA 95035
Phone: (408)432-1900
Fax: (408)434-0507

LINEAR
TECHNOLOGY

TITLE
SCH, I2C CONTROLLED BUCK REGULATOR, POWER GOOD INDICATOR

SIZE A   CAGE CODE   DWG NO   DC767A   REV   2

SCALE: NONE   FILENAME: 767Ar2.DSN   SHEET   1   OF   1

CONTRACT NO.

APPROVALS	DATE
DRAWN L. SANTOS	02/04/04
CHECKED	-
APPROVED	-
ENGINEER D. CANNY	02/04/04
DESIGNER E. BARBER	02/04/04

Thursday, February 24, 2005

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCE ON ANGLE - · · -
2 PLACES - · · - 3 PLACES - · · -
INTERPRET DIM AND TOL
PER ASME Y14.5M -1994

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Power Management IC Development Tools *category:*

Click to view products by Analog Devices *manufacturer:*

Other Similar products are found below :

EVAL-ADM1168LQEBZ EVB-EP5348UI MIC23451-AAAYFL EV MIC5281YMME EV DA9063-EVAL ADP122-3.3-EVALZ ADP130-0.8-EVALZ ADP130-1.2-EVALZ ADP130-1.5-EVALZ ADP130-1.8-EVALZ ADP1714-3.3-EVALZ ADP1716-2.5-EVALZ ADP1740-1.5-EVALZ ADP1752-1.5-EVALZ ADP1828LC-EVALZ ADP1870-0.3-EVALZ ADP1871-0.6-EVALZ ADP1873-0.6-EVALZ ADP1874-0.3-EVALZ ADP1882-1.0-EVALZ ADP199CB-EVALZ ADP2102-1.25-EVALZ ADP2102-1.875EVALZ ADP2102-1.8-EVALZ ADP2102-2-EVALZ ADP2102-3-EVALZ ADP2102-4-EVALZ ADP2106-1.8-EVALZ ADP2147CB-110EVALZ AS3606-DB BQ24010EVM BQ24075TEVM BQ24155EVM BQ24157EVM-697 BQ24160EVM-742 BQ24296MEVM-655 BQ25010EVM BQ3055EVM NCV891330PD50GEVB ISLUSBI2CKIT1Z LM2744EVAL LM2854EVAL LM3658SD-AEV/NOPB LM3658SDEV/NOPB LM3691TL-1.8EV/NOPB LM4510SDEV/NOPB LM5033SD-EVAL LP38512TS-1.8EV EVAL-ADM1186-1MBZ EVAL-ADM1186-2MBZ