

DESCRIPTION

Demonstration circuit DC883 features the LT[®]3473 micropower step-up DC/DC converters with integrated Schottky diode and output disconnect circuitry. The output on DC883 is 25V at up to 80mA from a 3~4.2V input, while automatic Burst Mode operation maintains efficiency at light load. The lithium ion battery input voltage range, high output voltage, internal NPN power switch, minimal external components and simple design make the LT3473 an excellent solution for OLED and CCD Bias.

The DC883 has a jumper for enabling the output (JP2). Placing the jumper to “OFF”, disables the DC-

DC converter and jumper to “ON”, enables the DC-DC converter. There is a jumper (JP1) and a control pin (CTRL) for varying the output voltage. Placing the jumper to “VIN” provides 25V output. Placing the jumper to “CTRL” and changing the voltage at CTRL pin can change the output voltage. The voltage of the PGOOD pin is approximately 0V as the output voltage reaches 90% of final value.

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

LT is a registered trademark of Linear Technology Corporation

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

PARAMETER	CONDITION	VALUE
Minimum Input Voltage		3V
Maximum Input Voltage		4.2V
Maximum Output Current	V _{in} = 3 – 4.2V	80mA
Typical Switching Frequency		1.2MHz

QUICK START PROCEDURE

Demonstration circuit 883 is easy to set up to evaluate the performance of the LT3473. Refer to Figure 1. for proper measurement equipment setup and follow the procedure below:

1. Set the input supply between 3V to 4.2V. With power off, connect the input power supply to VIN and GND. Make sure JP2 is set to “ON” and JP1 is set to “VIN”.
2. Turn on the power at the input.
3. The output voltage should measure about 25V across the “VOUT” terminal to “GND” terminal and the voltage across the PGOOD pin and “GND” terminal should measure about 0V.
4. Test the shutdown function by placing JP2 to “OFF”. Observe the output voltage is about 0.7V lower than the input voltage.
5. The output voltage can be controlled by DC voltage at the CTRL terminal. With JP2 placed at “ON” and JP1 placed at “CTRL”, observe the output voltage change with DC voltage applied to the CTRL terminal. The DC voltage range recommended is 200mV ~ 1.5V. The maximum DC voltage is 10V. Refer to the datasheet for further details.

QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 883

LI-ION TO 25V STEP-UP DC-DC CONVERTER

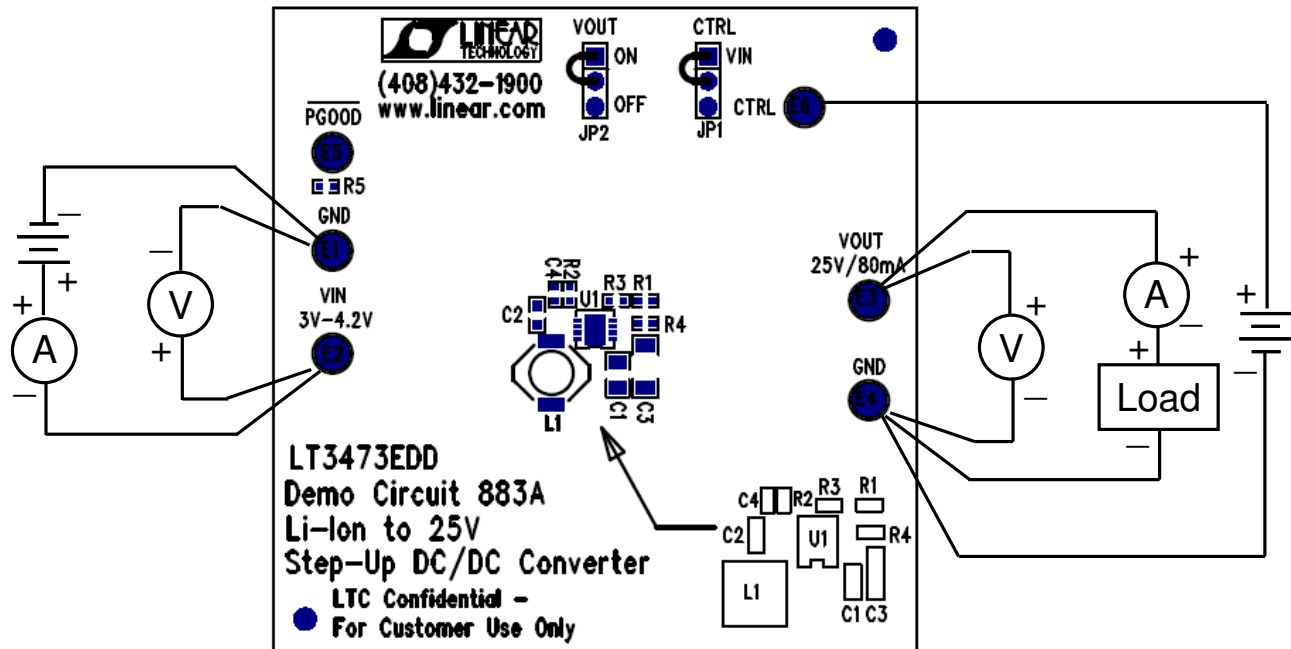


Figure 1. Proper Measurement Equipment Setup

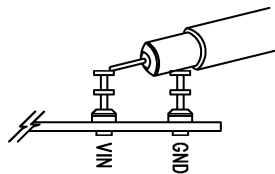
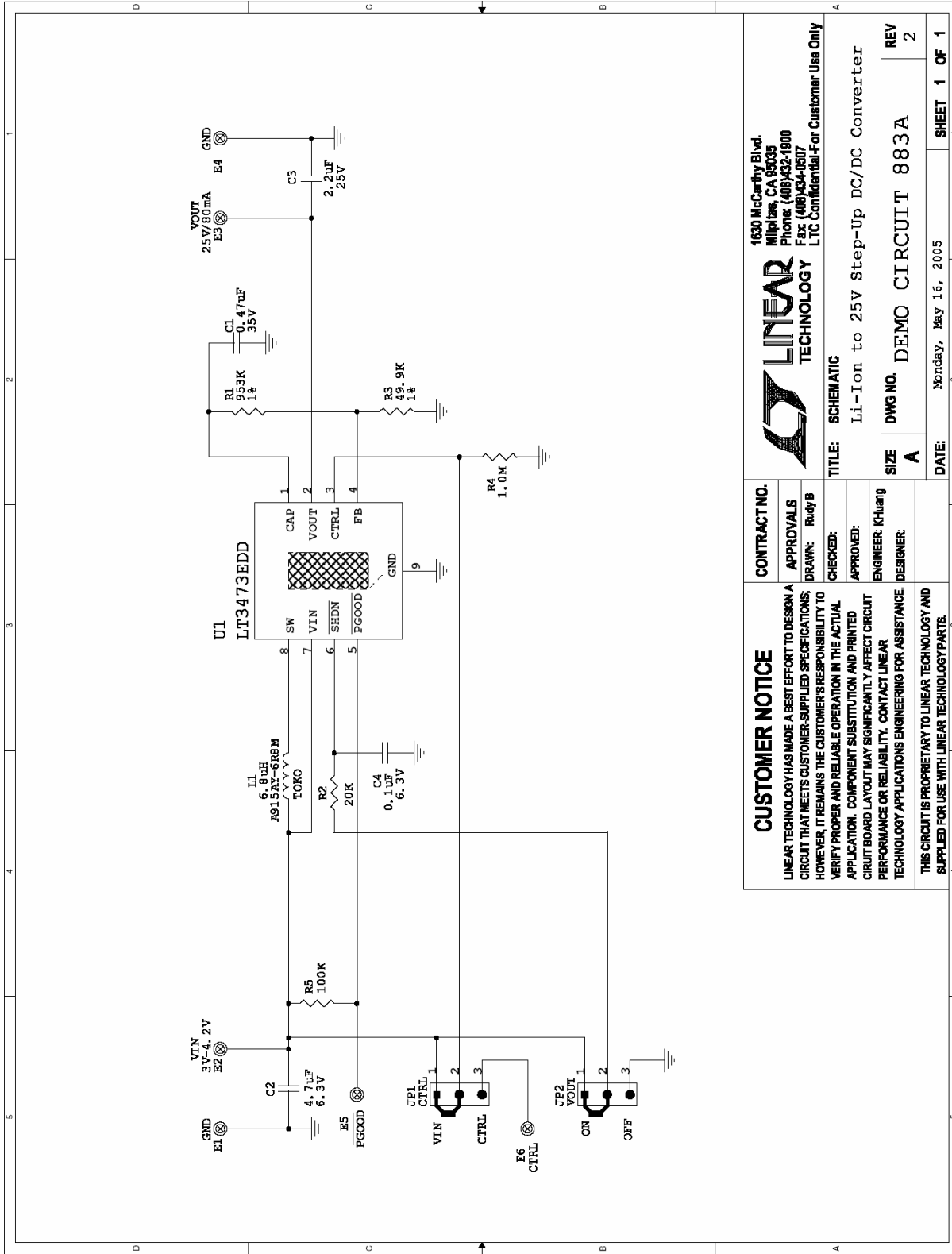


Figure 2. Scope Probe Placement for Measuring Input or Output Ripple

QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 883

LI-ION TO 25V STEP-UP DC-DC CONVERTER



CUSTOMER NOTICE		CONTRACT NO.	
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.		APPROVALS DRAWN: Rudy B	
THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.		CHECKED:	
		APPROVED:	
		ENGINEER: K-Huang	
		DESIGNER:	
		TITLE: SCHEMATIC	
		L1-Ion to 25V Step-Up DC/DC Converter	
SIZE	DWG NO.	REV	
A	DEMO CIRCUIT 883A	2	
DATE:	Monday, May 16, 2005	SHEET	1 OF 1