

DESCRIPTION

Demonstration circuits 1514A feature the LT3579 in Boost Regulator configuration. The Boost is designed to convert a 5V to 10V input source to 12V at 1.75A. DC1514A is designed to survive output short circuit events with the external MOSFET installed at the input as default. The board includes an option to install the MOSFET at the output side. To use it, install Q3, R9 (6.8K) and D2 on the back of the board and refer to Figure 3 for other instructions. Additionally, the board includes footprints for easy conversion to SEPIC or CUK converter. Install power components as indicated in Figure 4 and choose feedback resistor as needed. In either SEPIC or CUK mode, the input MOSFET is not necessary and can be removed. The LT3579 includes a 42V Master and Slave switch combination with 6A total current and can be used in

many configurations such as Boost, SEPIC, Cuk and Flyback. It has a 2.5V to 16V operating input range, UVLO, soft-start, programmable switching frequency and many other popular features. The LT3579 is suitable for many applications, such as Local Bias Supplies, VFD, TFT-LCD Supplies and Automotive Engine Control Power. The LT3579 datasheet gives a complete description of the part, its operation and application information. The datasheet must be read in conjunction with this quick start guide for working on or modifying the demo circuit 1514A.

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

LT is a trademark of Linear Technology Corporation

PERFORMANCE SUMMARY DC1514A

Specifications are at TA = 25°C

SYMBOL	PARAMETER FOR BOOST CONVERTER	CONDITIONS	MIN	TYP	MAX	UNITS
V _{IN}	Input Supply Range		5		10	V
V _{OUT}	Output Voltage Accuracy	V _{IN} = 5V to 10V, I _{LOAD} = 1.75A	11.60	12	12.30	V
Efficiency		V _{IN} = 5V, I _{LOAD} = 1.75A		87		%
Ripple		V _{IN} = 5V, I _{LOAD} = 1.75A		150		mV
F _s	Switching Frequency			1		MHz

QUICK START PROCEDURE

Demonstration circuit 1514A is easy to set up to evaluate the performance of the LT3579. Refer to Figures 1 and 2 for proper measurement equipment setup and follow the procedure 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 Vin or Vout and GND terminals. See Figure 2 for proper scope probe technique.

1. Place jumper in the following position:

JP1 On

2. With power off, connect the input power supply to Vin and GND.

Apply 5V to input.

Check for the proper output voltages.

NOTE. If there is no output, temporarily disconnect the load to make sure that the load is not set too high.

Once the proper output voltage is established, adjust the load within the operating range and observe the output voltage regulation, ripple voltage, efficiency and other parameters.

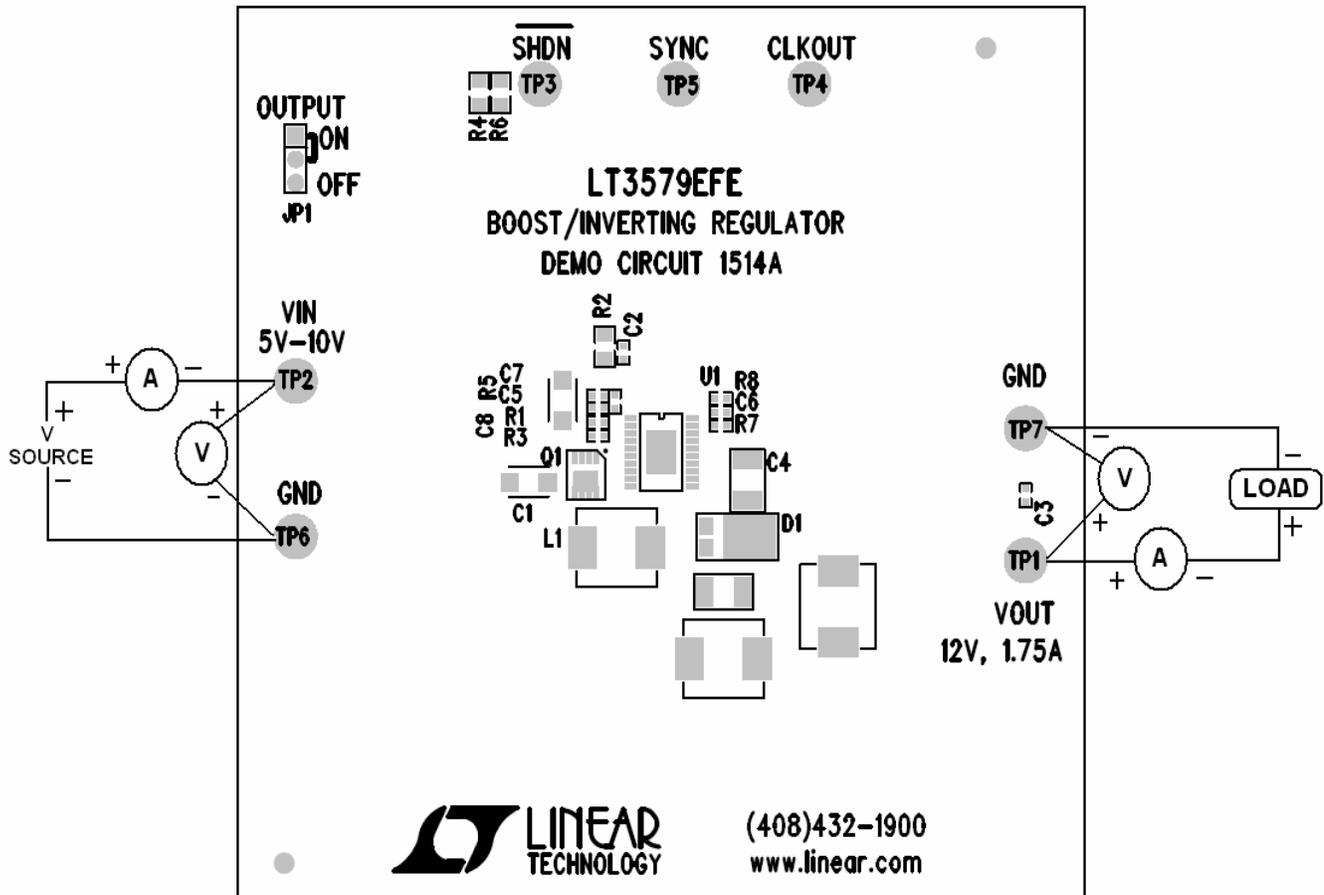


Figure 1. DC1514A Proper Equipment Setup

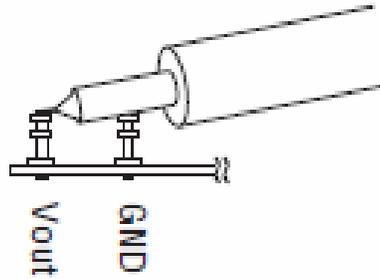


Figure 2. Proper Input/Output Ripple Measurement Technique

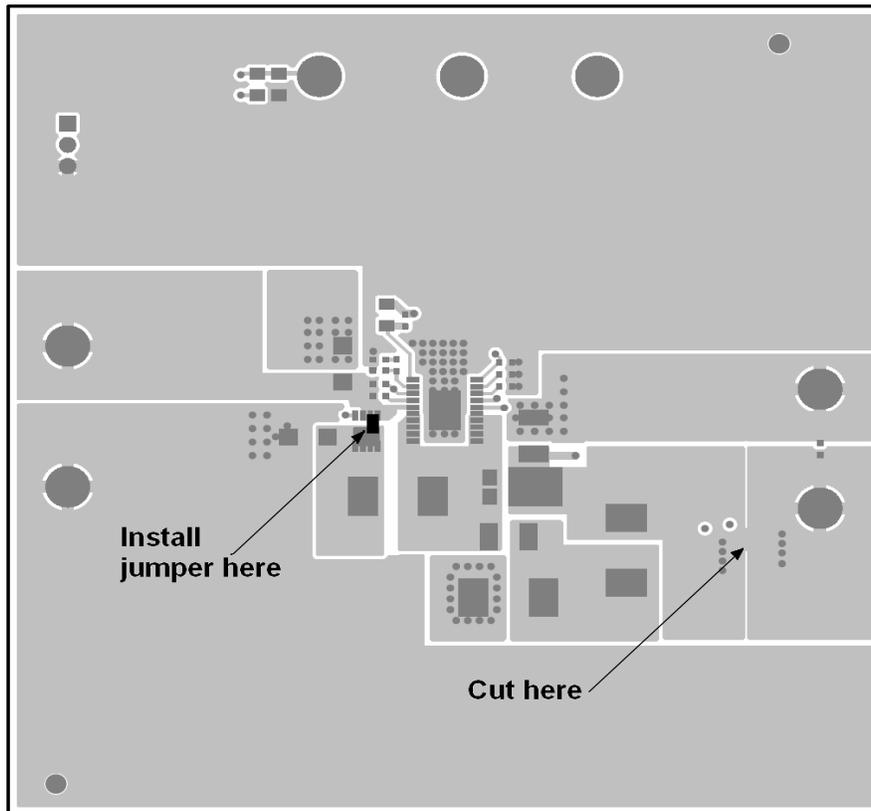


Figure 3. Instructions for using Disconnect MOSFET at the Output Side

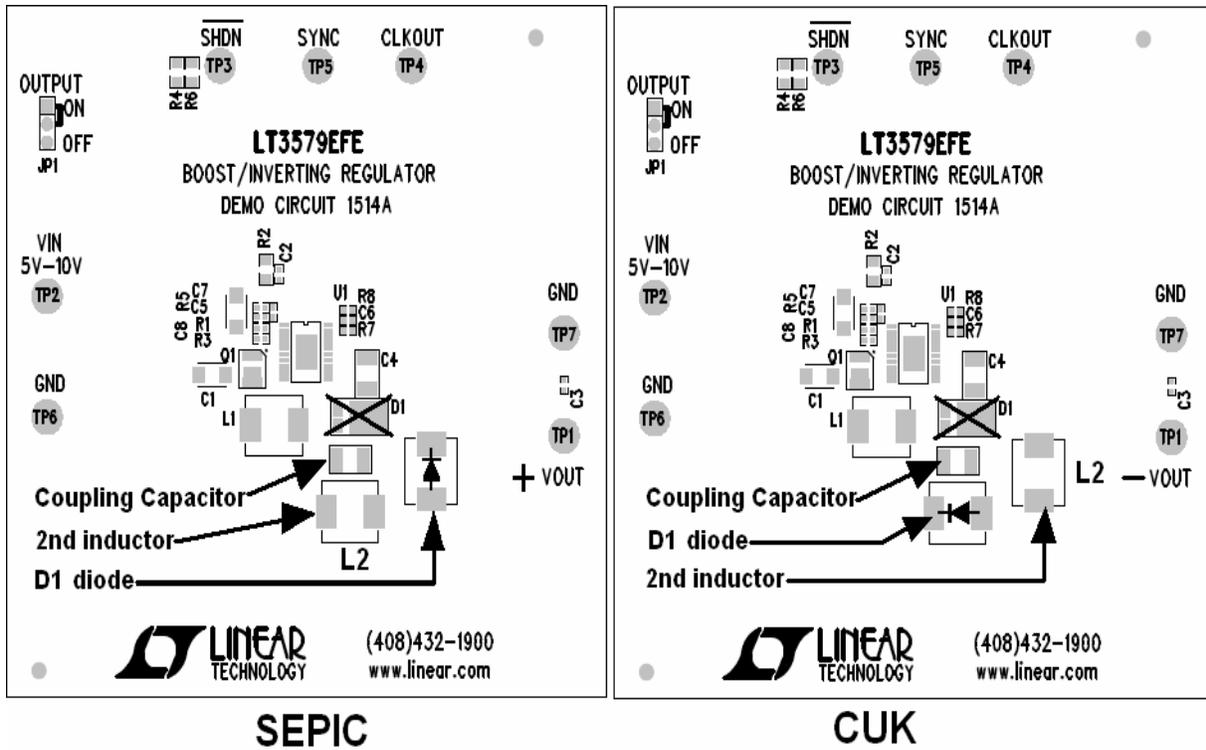
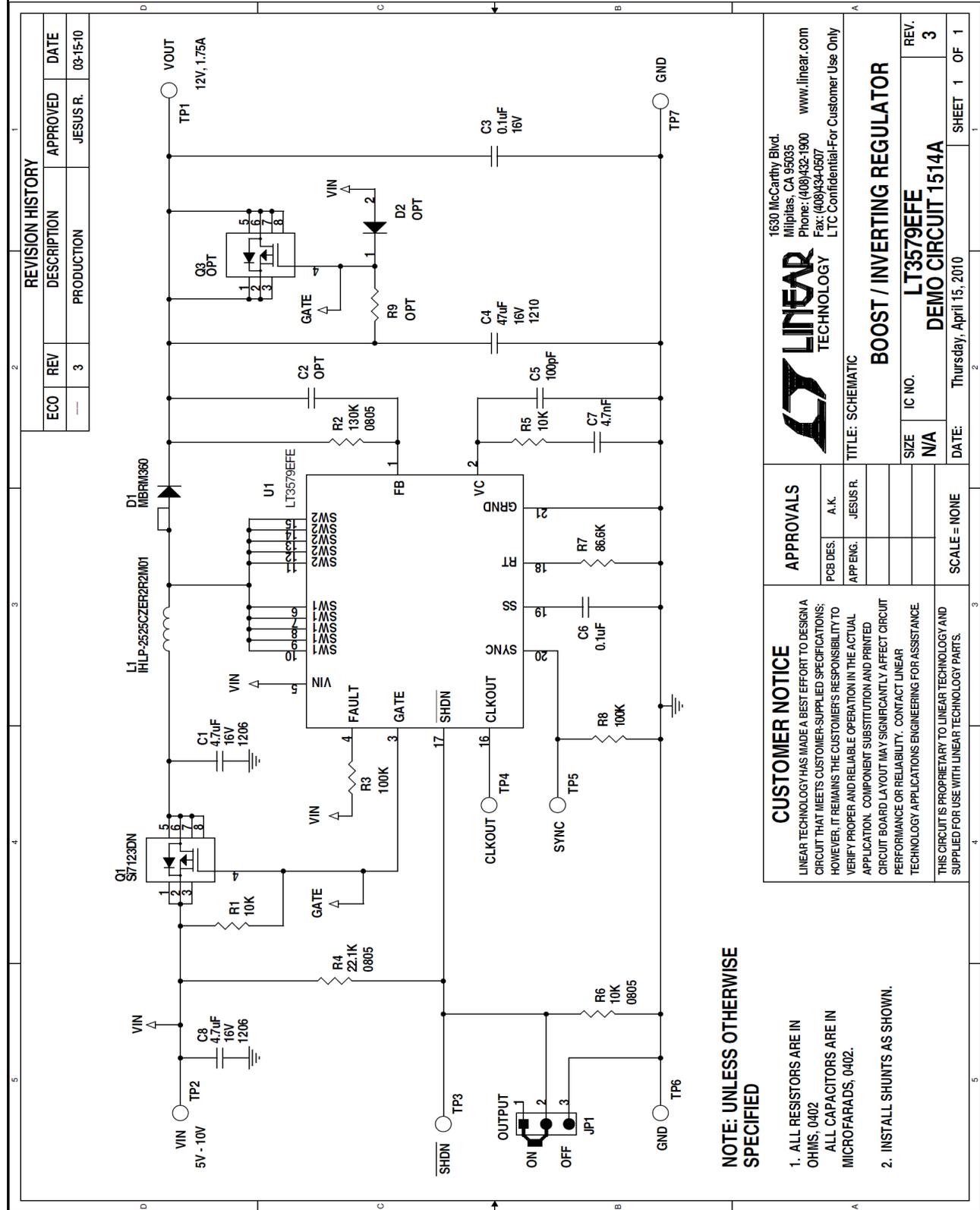


Figure 4. SEPIC or CUK Conversion Instructions



REVISION HISTORY				
ECO	REV	DESCRIPTION	APPROVED	DATE
---	3	PRODUCTION	JESUS R.	09-15-10

1630 McCarthy Blvd.
Milpitas, CA 95035
Phone: (408)432-1900 www.linear.com
Fax: (408)434-0507
LTC Confidential-For Customer Use Only

LINEAR TECHNOLOGY

TITLE: SCHEMATIC

BOOST / INVERTING REGULATOR

SIZE	IC NO.	REV.
N/A	LT3579EFE	3

DATE: Thursday, April 15, 2010

SHEET 1 OF 1

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.

APPROVALS	
PCB DES.	A.K.
	JESUS R.
APP. ENG.	

SCALE = NONE

- NOTE: UNLESS OTHERWISE SPECIFIED**
- ALL RESISTORS ARE IN OHMS, 0402
ALL CAPACITORS ARE IN MICROFARADS, 0402.
 - INSTALL SHUNTS AS SHOWN.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru