

DESCRIPTION

Demonstration circuit 842 features the LT[®]3474 constant frequency step-down converter in a compact 16-lead TSSOP thermally enhanced package. The demonstration circuit is designed to drive a single Lumileds Luxeon III star LED from a wide input voltage range. The high switching frequency scheme permits the use of small inductors and ceramic capacitors to save space and cost. The current mode PWM scheme provides fast transient response and cycle-by-cycle current limiting. Frequency foldback and thermal shutdown provide additional protection. The DC842 is specifically designed for white LED applications such as automotive and avionic lighting,

architectural detail lighting and display backlighting. The LT3474 offers numerous LED-dimming circuit options. See the datasheet for more detailed information on LED brightness and dimming control. The PWM terminal can be used to dim the LED only if a trace between the drain and source of the unstuffed MOSFET (SO8 or SOT23) is cut and a proper MOSFET is soldered onto the demonstration circuit.

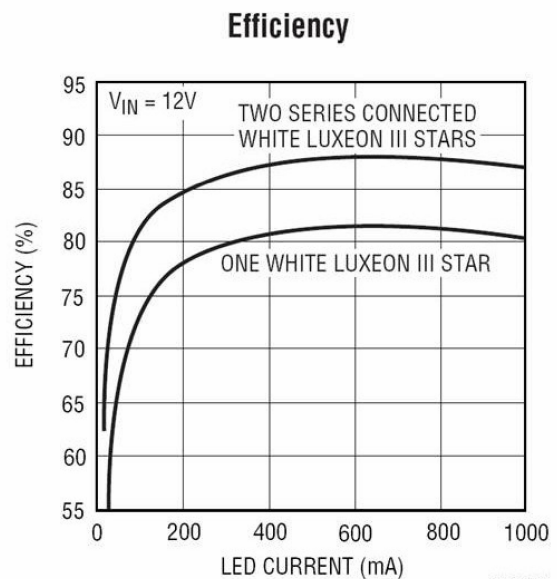
Design files for this circuit board are available. Call the LTC factory.

LT is a registered trademark of Linear Technology Corporation

QUICK START PROCEDURE

DC842 is easily set up for evaluating the LT3474 constant-current step-down LED driver circuit. Follow the test procedure outlined below and see Figure 1.

1. Connect a bench supply to the Vin and Gnd terminals.
2. Turn on the input power supply and set the voltage above 6V and below 36V.
3. Turn on the LT3474 LED driver circuit by pressing the LED ON button. See the datasheet for detailed information on LED current and minimum input voltage.



QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 842

36V STEP-DOWN 1A LED DRIVER

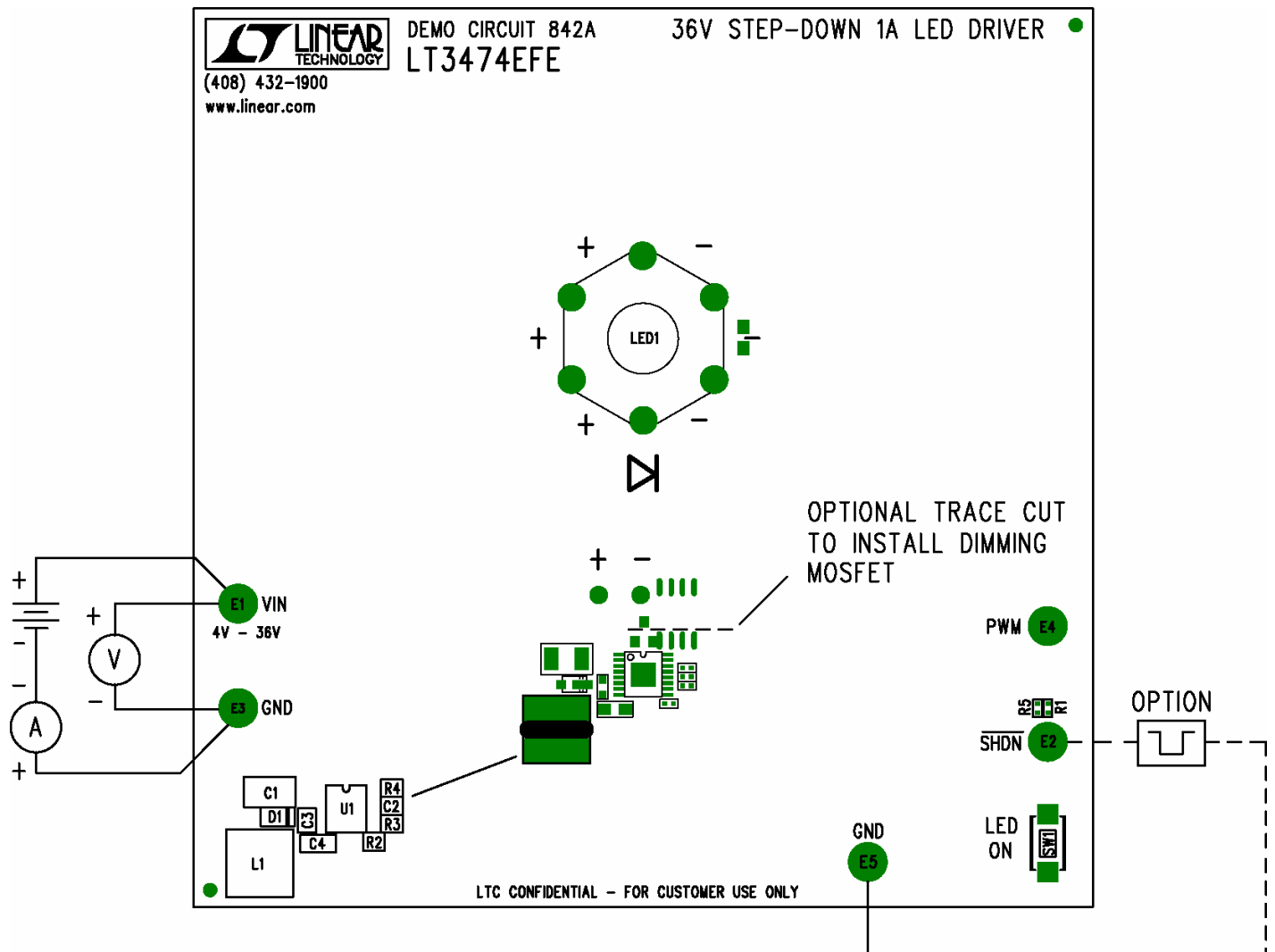


Figure 1. Proper Measurement Equipment Setup

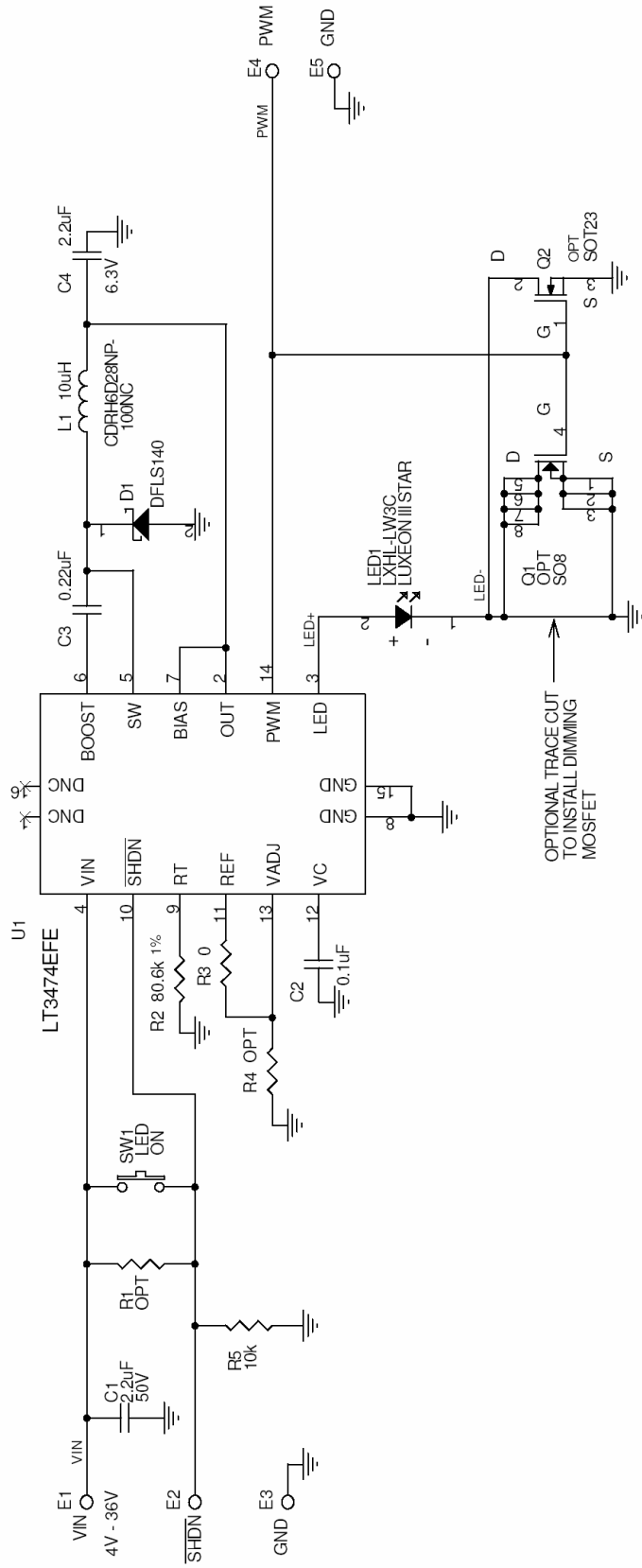
QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 842

36V STEP-DOWN 1A LED DRIVER

This circuit is proprietary to Linear Technology and supplied for use with Linear Technology parts.

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 Applications Engineering for assistance.

| REVISION HISTORY | | | |
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| ECO | REV | DESCRIPTION | DATE |
| | 3 | PROTO | 04/13/05 |
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| CONTRACT NO. | | LINEAR TECHNOLOGY | 1830 McCarthy Blvd. Milpitas, CA 95035 Phone: (408) 432-1900 Fax: (408) 434-0507 | | | | | |
| APPROVALS | DATE | TITLE SCH, LT3474EFE, 36V STEP-DOWN 1A LED DRIVER | | | | | | |
| DRAWN MEI | 09/23/04 | | | | | | | |
| CHECKED | | | | | | | | |
| APPROVED | | | | | | | | |
| ENGINEER | | SIZE | CAGE CODE | DWG NO | DC842A | REV | 3 | |
| DESIGNER | | | | | | | | |
| Monday, July 11, 2005 | | SCALE: | FILENAME: | 841A-3.DSN | SHEET | 1 | OF | 1 |