

Power Management

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DC986A - LT3496EUF

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FEATURES

- DC986A - LT3496EUF
- Disclaimer: Linear Technology cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a Linear Technology product. No circuit patent licenses are implied. LinearTechnology reserves the right to change the circuitry and specifications without notice at any time.

TYPICAL APPLICATION

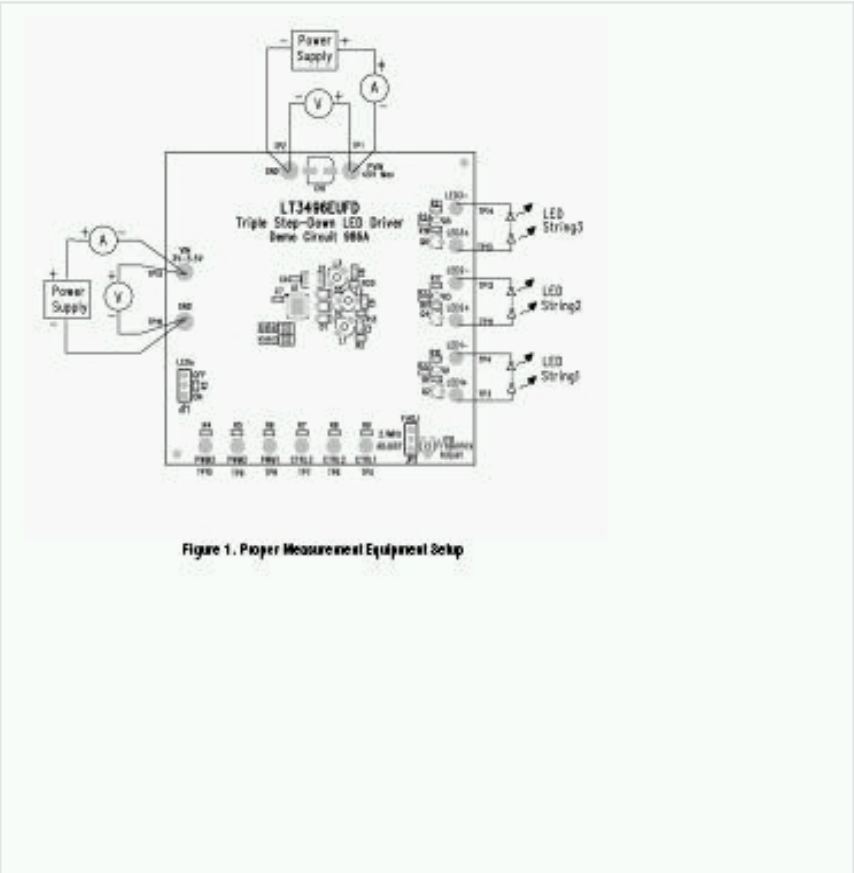


Figure 1. Proper Measurement Equipment Setup

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DESCRIPTION

WARNING! Do not look directly at operating LED. This circuit produces light that can damage eyes.

Demonstration circuit 986 is a Triple Step-Down LED Driver featuring the LT3496EUF. The LT3496 is a triple-output DC/DC converter designed to operate as current sources for driving high-current LEDs. On the demo board, the default current for each output channel is 500mA. Setting CTRL voltage to be less than 1V will control the current sense voltage to be one-tenth of CTRL voltage, therefore, reduce the LED current. The output current should not exceed the rated current of the LEDs used. The LED current thermal derating should be considered to protect the LEDs. The maximum voltage of an LED string the demo board can drive is limited by the duty cycle and the input voltage of the LT3496. The demo board default switching frequency is 2.1MHz. At this frequency, the maximum duty cycle is 70% (MIN). Lower the switching frequency results in higher maximum duty cycle. The maximum power input voltage (PVIN) is 45V. As a result, each channel of the demo board can drive up to ~31V total LED voltage. Adjustable switching frequency allows optimization of the efficiency and the external component size. At 2.1MHz, 93% efficiency can be achieved at 500mA with minimum solution size. Each of the three regulators on the demo board is independently operated. The PWM dimming feature of the LT3496 allows True Color PWM dimming with the dimming ratio 5000:1. Additional analog dimming is possible. The LT3476 datasheet gives complete description of the part, operation and application information. The datasheet must be read in conjunction with this quick start guide for working on or modifying the demo circuit 986.

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PACKAGING

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ORDER INFO

- Part numbers ending in PBF are [lead free](#). Please contact LTC marketing for information on lead based finish parts.
- Part numbers containing TR or TRM are shipped [in tape and reel or 500 unit mini tape and reel](#) respectively
- Please refer to our [general ordering information](#) or the product datasheet for more details

Evaluation Kits

Part Number	Description	Price
DC986A	LT3496EUF Demo Circuit Buckmode Triple LED Driver @ 500mA/channel	\$125.00
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APPLICATIONS

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SIMULATE

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For other simulation tools, visit our [Design Simulation and Device Models](#) page.

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Documentation

Reference Design
[DC986A - LT3496EUF Evaluation Kit](#)