LM3508TL Evaluation Board

(ACTIVE) LM3508TLEV

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Key Document

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Description

The LM3508 is a synchronous boost converter (no external Schottky diode required) that provides a constant current output. It is designed to drive up to 4 series white LEDs at 30mA from a single-cell Li-Ion battery. A single low power external resistor is used to set the maximum LED current. The LED current can be adjusted by applying a PWM signal of up to 100kHz to the DIM pin. Internal soft-start circuitry is designed to eliminate high in-rush current at start-up. For maximum safety, the device features an advanced short-circuit protection when the output is shorted to ground. Additionally, over-voltage protection and an 850 kHz switching frequency allow for the use of small, low-cost output capacitors with lower voltage ratings. During shutdown, the output is disconnected from the input preventing a leakage current path through the LEDs to ground.

The LM3508 is a synchronous step-up Dc/Dc converter deisgned for white LED applications. The evaluation board is set up to drive 4 standard VF white LEDs from a 2.7V to 5.5V input supply. The application note contains information about the evaluation board.

Features

- Drives 4 Series White LEDs with up to 30mA
- >80% Peak Efficiency
- Up to 100kHz PWM Brightness Control
- Accurate 5% LED Current Regulation across V_{IN} Range
- Internal Synchronous PFET (No Schottky Diode Required)
- True Shutdown Isolation
- Output Short-Circuit Protection
- 17.5V Over-Voltage Protection
- Internal Soft-Start Eliminates Inrush Current
- Wide Input Voltage Range: 2.7V to 5.5V
- 850kHz Fixed Frequency Operation
- Low Profile 9-Bump Micro-SMD Package (1.514mm x 1.514mm x 0.6mm)

Applications:

- White LED Backlighting
- Handheld Devices
- Digital Cameras
- Portable Applications

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TI Devices (1)

Part Number	Name	Product Family
LM3508	Synchronous Magnetic Constant Current White LED Driver	LED Driver

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