

LM3555 PRODUCT BRIEF

Synchronous Boost Converter with 500 mA High Side LED Driver and Dual-Mode Control Interface

General Description

The LM3555 is a 2 MHz fixed frequency, current mode synchronous boost converter designed to drive either a single flash LED at 500 mA or two series flash LEDs at 400 mA. A high-voltage current source allows the LEDs to be terminated to the GND plane eliminating the need for an additional return trace back to the IC.

A dual mode control interface allows the user to configure the LM3555 with a general purpose interface using two enable pins for control or an I²C allowing a higher level of control. Both interfaces allow access to the indicator, assist light and flash modes. A dedicated Strobe pin provides a direct interface to trigger the flash event, while an external Torch pin provides an additional method for enabling the LEDs in a constant current mode.

The LM3555 can adaptively scale the maximum flash level delivered to the LED/LEDs based upon the flash configuration, whether it be a single LED or two LEDs in series.

Eight protection features are available on the LM3555 ranging from over-voltage protection, to broken inductor detection. The LM3555 has four selectable inductor current limits to help the user select an inductor that is appropriate for the design.

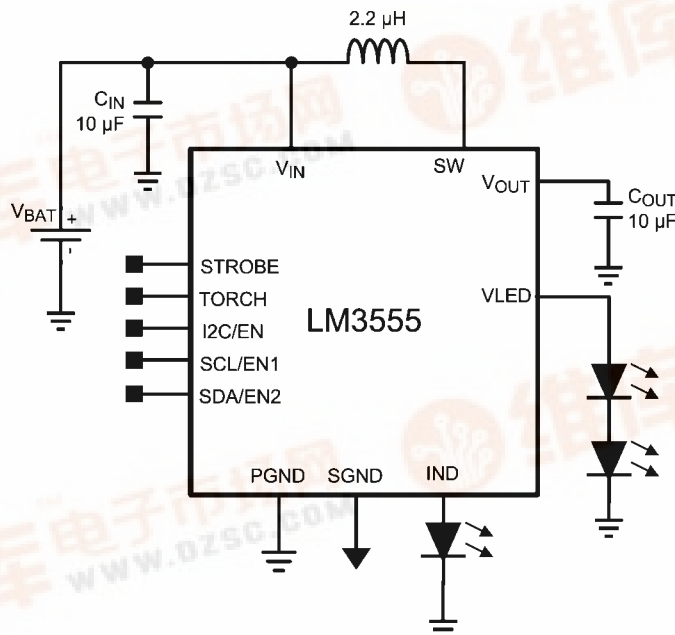
Features

- High Voltage High-Side Current Source Allows for Grounded Cathode LED Operation
- Synchronous Boost Converter
- Peak Converter Efficiency >90%
- Accurate and Programmable LED Current ranging from 60mA to 500mA
- Adaptive LED Current Range Based on LED Configuration
- Dedicated Indicator Current Source
- Dedicated Torch and Strobe Pins
- Dual Mode Control (General Purpose or I²C)
- Broken Inductor Detection
- Output Over-Voltage Protection
- Output and LED Short-Circuit Protection
- 400kHz I²C Compatible Interface
- 12-Bump, 1.575 mm x 2.1 mm x 0.6 mm micro SMD Package (TLA12BCA)

Applications

- Camera Phone LED Flash

Typical Application Circuits



30079401

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Notes

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Americas Technical
Support Center**
Email: support@nsc.com
Tel: 1-800-272-9959

**National Semiconductor Europe
Technical Support Center**
Email: europe.support@nsc.com
German Tel: +49 (0) 180 5010 771
English Tel: +44 (0) 870 850 4288

**National Semiconductor Asia
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Email: jpn.feedback@nsc.com