

## Features

- ▶ Switch-mode, single LED controller
- ▶ 5.0V to 55V input voltage range, up to 80V boosted output voltage
- ▶ Boost-, Boost-to-battery-, Buck-to-battery- or SEPIC-topology
- ▶ Constant current regulation implemented
- ▶ Differential high-side sense up to 60V
- ▶ High-frequency PWM dimming capability
- ▶ 10:1 Analog dimming capability for LED binning
- ▶ Digital dimming up to 5000:1 at 100Hz PWM
- ▶ Integrated softstart
- ▶ Advanced In-System Diagnostic (e.g. GND loss, output-overload and highside-feedback diagnostics)
- ▶ Very low sleep mode currents of typ. 8μA
- ▶ Integrated automotive LDOs for 5V & 3.3V
- ▶ AEC-Q100 Qualified
- ▶ Junction temperature range -40°C to +150°C

## Applications

- ▶ Automotive LED lighting applications
- ▶ General indoor and outdoor lighting and signals
- ▶ TFT backlighting
- ▶ General current driven applications

## General Description

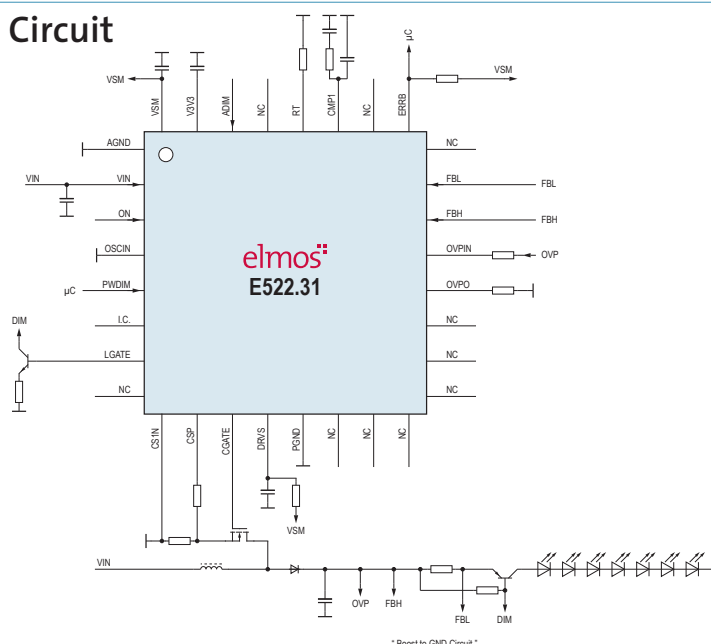
E522.31 and E522.33 are parts of a family of fixed frequency switch-mode high voltage LED power supplies and controllers with high efficiency. Integrated high-side sensing allows topologies related to GND (Boost-to-GND or SEPIC) as well as related to input voltage (Boost-to-battery or Buck-to-battery, particularly in harsh automotive environments).

The switching frequency is adjustable up to 600kHz by an external resistor or can be synchronized in Master-Slave configurations with other devices. Devices are available with spread spectrum oscillators (E522.31) and without spread spectrum (E522.33) versions to optimize size and effort of the application. Multiple control- and monitoring functions, e.g. short- and open load detection, over-temperature shutdown and under-voltage lockout are implemented.

## Ordering Information

Product ID	Oscillator spectrum	Package
E522.31	spread	QFN32L5
E522.33	narrow	QFN32L5

## Typical Applications Circuit



This document contains information on a new product. Elmos Semiconductor AG reserves the right to change specifications and information herein without notice.

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