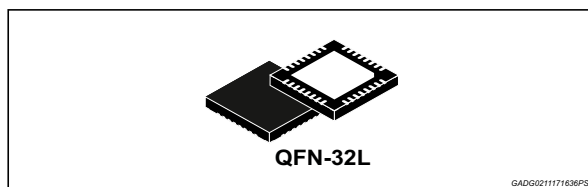


Dual-phase boost DC/DC controller for automotive applications

Data brief



Features

- AEC-Q100 qualified
- General
 - 32 bit ST SPI communication v4.1
 - Stand-alone operation supported
 - QFN-32L 5x5 with exposed pad
 - Timeout watchdog and limp home function
- Boost section
 - Wide input range: 3 V to 28 V operation
 - Adjustable boost output voltage - up to 80 V
 - 10 V Gate Driver supply for Standard-Level MOSFETs
 - Gate driver supply option from boost output
 - Internal 10 V LDO regulator
 - Fixed frequency architecture - programmable by SPI
 - Peak current mode control with programmable Input Current Limitation
 - Constant voltage regulation
 - Adjustable Slope Compensation
 - Soft start
 - Multi-phase operation - up to 4-phase supported
 - SYNC I/O pin for multi-phase operation support



- Adjustable clock distribution and phase shift
- Programmable error amplifier gain
- Fully configurable in limp home
- Protection and diagnostic
- Boost functionality guaranteed in Cold Cranking
- Input overcurrent protection - programmable by SPI
- Thermal warning
- Thermal shutdown
- Overvoltage protection (OVP)

Applications

- LED module applications

Description

The L99LD02 is a two phase, constant frequency, current mode boost controller that drives N-channel power MOSFETs.

Multi-phase operation is supported by SYNC I/O pin, providing the phase shifted clock signal. The boost controllers of more devices can be stacked, in order to operate in multi-phase for high power applications.

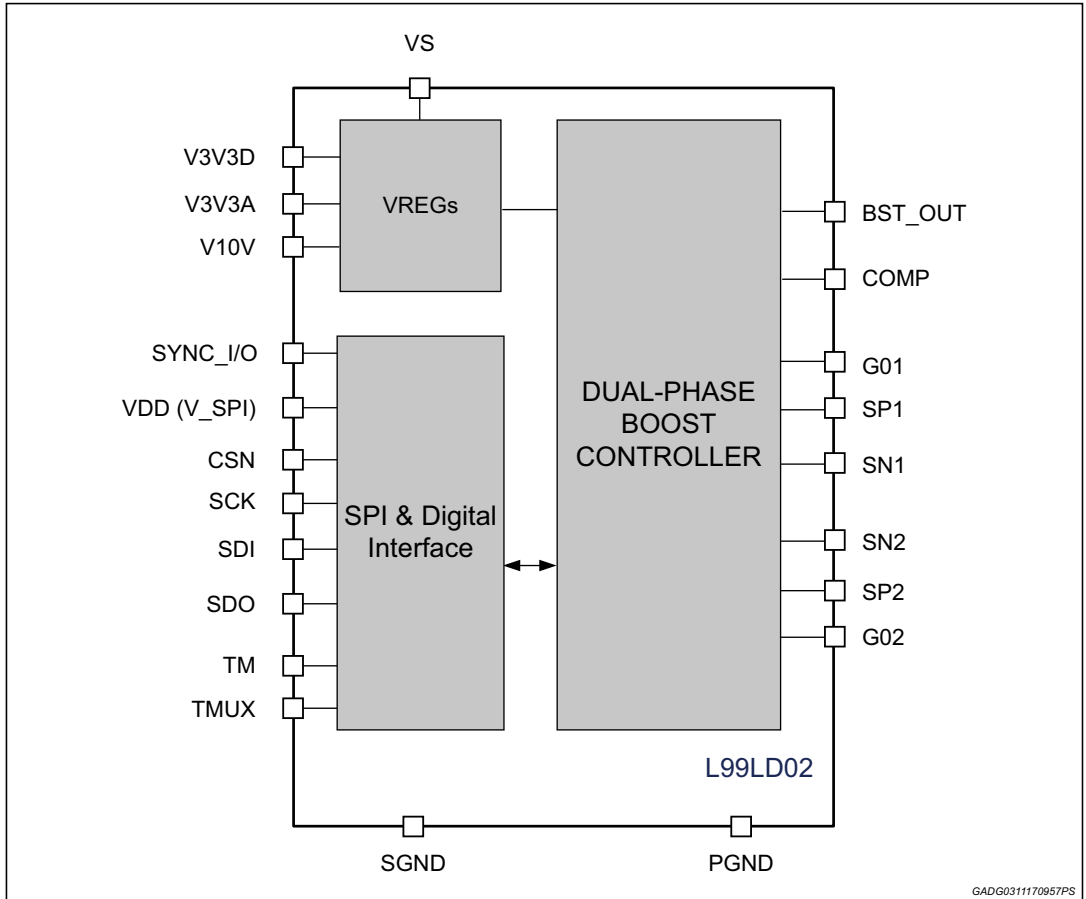
Multi-phase operation reduces system filtering capacitance and inductance requirements.

The operating frequency is configurable via SPI between 100 kHz and 470 kHz.

Other features include an internal 10 V LDO for the gate drivers, soft-start, gate driver supply option from boost output and pre-configurable operation in limp home.

1 Block diagram

Figure 1. Block diagram



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
07-Nov-2017	1	Initial release.

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