

Features

- ▶ Supply voltage range from 12V to 72V, operational down to 7V
- ▶ DC/DC converter for 11V/100mA
- ▶ 3.3V/20mA supply for micro-controller, optional external NPN transistor for higher load current possible
- ▶ 200mA gate drivers including protection features
- ▶ Configurable for 6 individual PWM inputs or Drive3 Mode (3EN + 3 PWM)
- ▶ Programmable dead time
- ▶ High-voltage enable input
- ▶ Fast 500ns current sense amplifier
- ▶ Integrated Back EMF Interface
- ▶ Undervoltage, overcurrent and overtemperature protection
- ▶ Automotive qualification according to AEC-Q 100

Applications

- ▶ BLDC motors in industrial 24V to 60V applications
- ▶ Commercial vehicles
- ▶ 48V Telecom

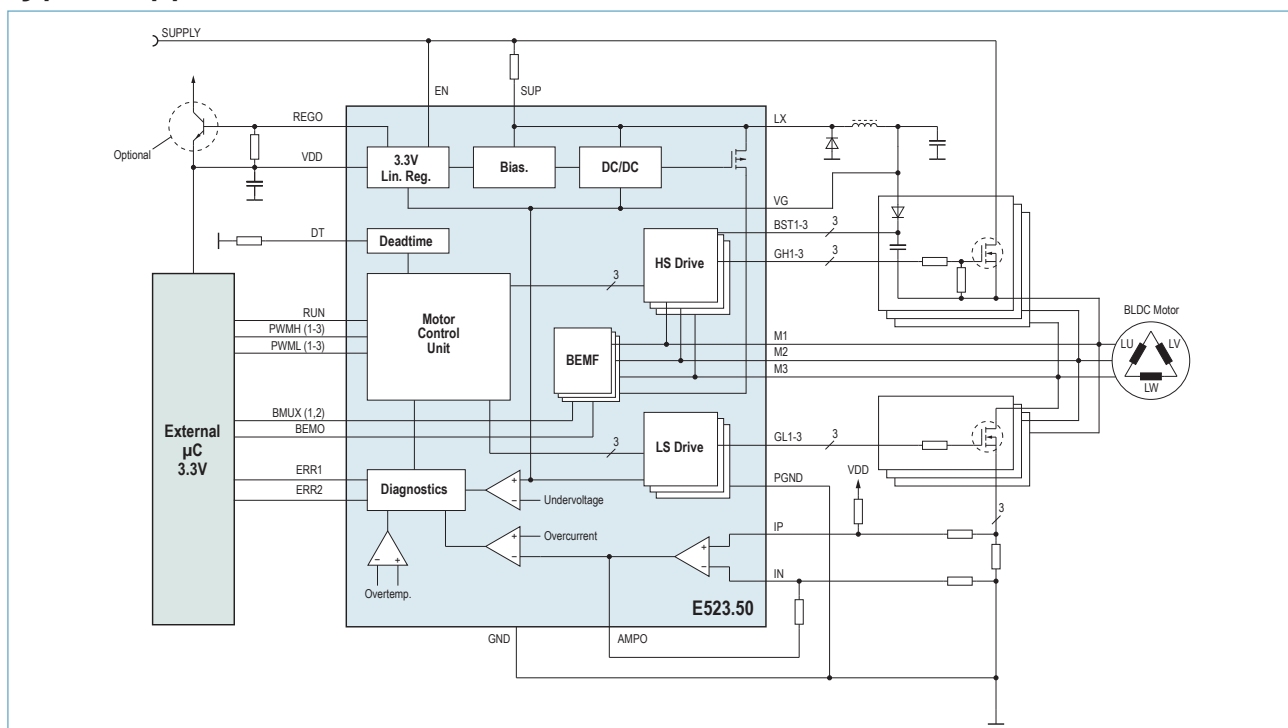
General Description

The E523.50 IC is a compact and robust high-voltage BLDC (brush-less DC) motor driver for industrial and automotive applications.

A DC/DC buck converter efficiently provides a 11V/100mA supply for the gate drivers and other loads. An internal 3.3V regulator can supply a small microcontroller up to 20mA. An optional external transistor can be used for larger load currents.

The IC contains 3 half-bridge gate drivers (3 high-side and 3 low-side gate drivers). They are controlled by a high-voltage enable input, a digital RUN pin and 6 digital control inputs. The device is configurable for 6 direct control inputs, or 3 enable inputs and the 3 PWM inputs. In the latter case, dead time can be adjusted with an external resistor. Two error outputs indicate overcurrent, undervoltage and overtemperature conditions. Internal temperature monitoring and a thermally efficient exposed pad QFN package allow the IC to operate close to its maximum junction temperature of +150°C.

Typical Application Circuit



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

Ordering Information

Product ID	Temp. Range	Package
E523.50	-40°C to +150°C	QFN36L7

Elmos Support 12/2012

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