

Features

- ▶ Gate drive circuit for B6-NMOS bridge
- ▶ IC supply voltage range 5V(7V) to 28V (peak 42V)
- ▶ Sleep mode current 20µA (typ.)
- ▶ LIN2.x - transceiver, compatible down to LIN1.3
- ▶ Re-FLASH-able via LIN (normal/high-speed mode)
- ▶ SPI-Adjustable over-current switch-off threshold
- ▶ SPI-Programmable 6 * FET short circuit detection
- ▶ Over-/under voltage protections
- ▶ 16 bit RISC CPU assisted by waveform booster
- ▶ 32k byte FLASH, 4k byte SRAM
- ▶ 10 bit 1 Msample SAR ADC
- ▶ 3 * 16 bit PWM generation (edge/center aligned)
- ▶ Dynamical SPI-Programmable dead-time generation
- ▶ Adjustable window watchdog (independent clock)
- ▶ Tjunction -40°C up to +125°C

Applications

- ▶ BLDC HVAC fans, Engine cooling fans
- ▶ BLDC Fuel pumps, Hydraulic pumps, Oil pumps
- ▶ BLDC Turbo charger adjustment, positioning systems
- ▶ Multiple DC motor control
- ▶ Without external FETs: direct driving of small loads

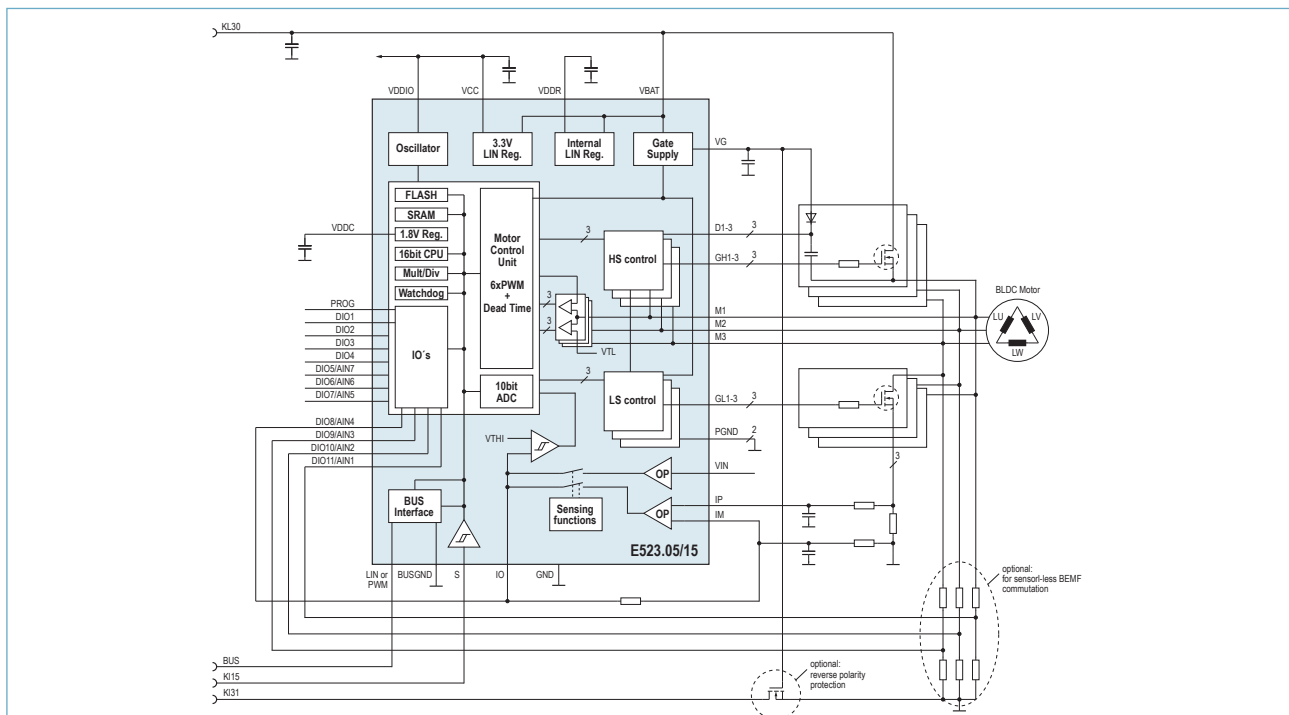
General Description

This IC controls up to 3 NMOS half bridges for driving BLDC motors or other loads. It's also possible to drive loads directly at battery supply. For controlling the motor a dynamically programmable, precise dead time generation and a current amplifier are implemented. Diagnostic functions are detecting over current (dynamically programmable threshold), over-temperature, over-/ under-voltage and short-cuts, one for every FET (HS and LS with different dynamically programmable threshold). Product versions with a "state of the art" LIN2.x transceiver or with a PWM-interface are available. The LIN interface supports "FLASH Mode" to upload a new firmware. The LIN UART is compatible to LIN2.1. The IC provides an integrated 16 bit RISC CPU, assisted by hardware waveform generation. Development tools are available. Motor commutation can be done with hall-sensors or other sensor-less principles.

Ordering Information

Product ID	Version	Package
E523.05	LIN 2.x or PWM	QFN48L7
E523.15	PWM only	QFN48L7

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.

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