

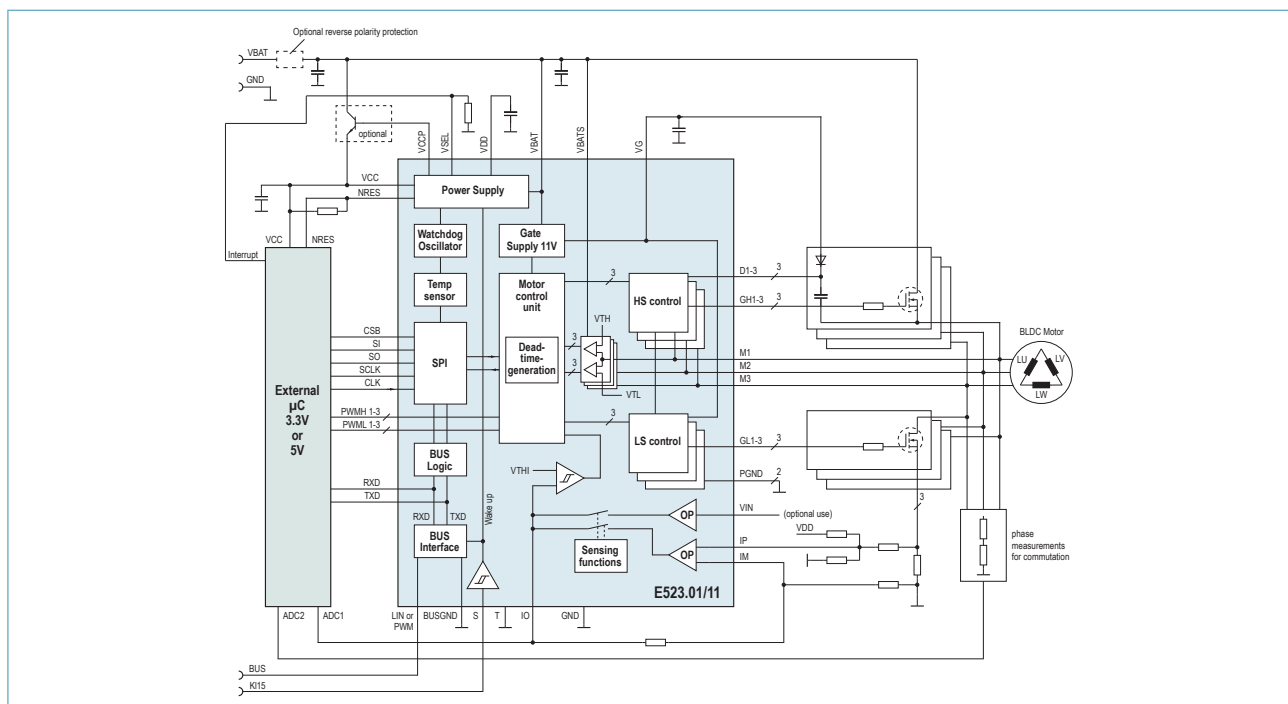
Features

- Voltage range 7V to 28V (42V peak), Limited down to 5V for start-stop systems
- Sleep mode current 20µA typically
- Microcontroller supply 3.3V or 5V, up to 70mA, >70mA with external boost transistor
- Adjustable watchdog and reset generation
- Smart wake-up via BUS interface or KL15
- Dead time generation (dynamical change)
- Motor current measurement amplifier
- Over current switch-off (dynamical change)
- FET short circuit protections (dynamical change)
- Configurable voltage monitoring
- LIN2.x transceiver, compatible down to LIN1.3
- PWM interface, bidirectional with error feedback
- End-of-line high-speed flashing via LIN
- QFN package -40°C to +150°C junction (+170°C peak)

Applications

- BLDC(EC) motor control, multiple DC motor control
- Fuel, hydraulic, oil and water pumps
- Cooling fans, HVAC fans, positioning systems
- Turbo charger adjustment

Typical Application Circuit



Elmos Semiconductor AG reserves the right to change the detail specifications as may be required to permit improvements in the design of its products.

General Description

The IC is a system base chip for driving BLDC and DC motors in B6, full bridge or half bridge applications. The IC ensures a safe, autonomous start-up and wake-up. It is suitable for high temperature applications. An integrated linear regulator supplies an external microcontroller. The supply output current can be “boosted” with an external transistor. For controlling the motor, six power FET gate drivers with dynamically programmable, very precise dead time generation are implemented. Versions driving two half bridges only are available. Measurement functions for motor current, battery voltage and temperature are implemented.

The IC has integrated programmable safety functions on motor over current, battery over and under voltage, over temperature and short circuits at all six power FETs. Two product versions with a “state of the art” LIN2.2A or bidirectional PWM interface are available. The LIN interface supports flash mode to upload a new firmware to the microcontroller.

Ordering Information

Product-No.:	Features	Package
E523.01C *	LIN2.x or PWM interface	QFN44L7, QSOP44, QFN48L7
E523.11C *	PWM interface only	see above
E523.02C *	.01C, 2 half-bridges only	see above
E523.12C *	.11C, 2 half-bridges only	see above

*for ordering number please contact Elmos

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