

Features

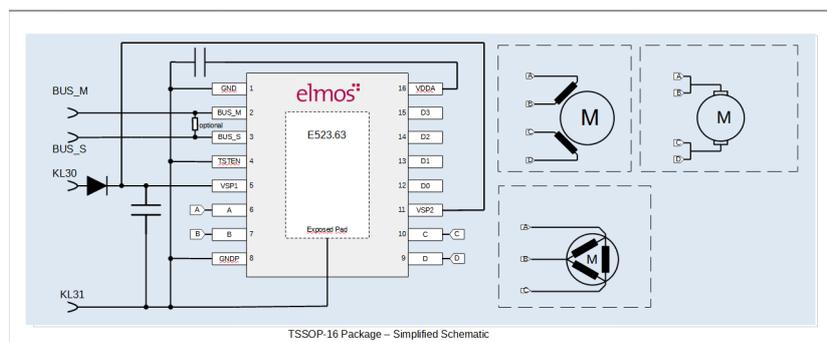
- Control and drive of three phase brushless motor (BLDC), two phase bipolar stepper motor or up to two conventional DC motors
- Integrated four half bridge drivers with a maximum phase current of 1000mA per phase.
- Integrated measurement system for motor current and voltage (phase and supply)
- Monitor and diagnosis features:
 - Under/over-voltage, over-current, over-temperature
 - Drain source voltage monitoring to detect over load
- Smart supply block for 12V automotive boardnet
 - Configurable low supply voltage (<7V) operation
 - 30µA deep sleep mode current (25°C typ.)
- Area and power optimized 32bit ARM® Cortex®-M23
 - 64 KByte Flash memory, 4KByte SRAM, 512 Byte EEPROM
 - 32 KByte SysROM for LIN protocol and bootloader
- Serial interface for fast end-of-line programming
- Support of external sensor by
 - 5V/3mA voltage supply
 - Data interfaces (analog/digital GPIOs)
- LIN 2.2 autobaud interface and auto-addressing (compatible to ISO17987 and SAE-J2602-2), LIN sleep mode capability, LIN 2.2 SNPD
- Operating range of -40°C to 150°C junction temperature
- Developed according ISO 26262, supports safety requirements with ASIL B

¹ ARM® and Cortex® are the registered trademarks of ARM Limited in the EU and other countries.

Applications

- Active grille shutter
- Water valves
- Small and medium Fans

Typical Operating Circuit



General Description

E523.63 is a highly integrated motor controller for 12V automotive applications. The device combines a 32bit ARM® Cortex®-M23 microcontroller and a high-voltage analog motor driver in a small footprint package.

This device drives a three phase brushless motor (BLDC), a two phase stepper motor or up to two conventional DC motors.

The combination of a microcontroller and an integrated power stage provides a cost optimized system for low to medium power actuator and fan applications.

The integrated measurement system provides all input signals to realize a sensorless close loop commutation and provides a complete set of monitoring and diagnostic features.

For outstanding absolute positioning requirements external sensors are supported by providing supply voltage and various data interfaces (analog/digital GPIOs).

A serial interface supports fast end-of-line Flash firmware programming. The LIN 2.2 interface with autobaud and auto-addressing functionality enables the integration into existing LIN bus systems.

Ordering Information

Product ID	Package	Junction Temp. Range
E52363A69B	TSSOP16-EP	-40°C to +150°C

Contact Information**Headquarters**

Elmos Semiconductor SE
Heinrich-Hertz-Str. 1,
D-44227 Dortmund (Germany)
Phone: +49 (0) 231 / 75 49-100
sales-germany@elmos.com
www.elmos.com

Sales and Application Support Office North America

Elmos NA. Inc.
sales-usa@elmos.com

Sales and Application Support Office China

Elmos Semiconductor Technology (Shanghai) Co., Ltd.
sales-china@elmos.com

Sales and Application Support Office Korea

Elmos Korea
sales-korea@elmos.com

Sales and Application Support Office Japan

Elmos Japan K.K.
sales-japan@elmos.com

Sales and Application Support Office Singapore

Elmos Semiconductor Singapore Pte Ltd.
sales-singapore@elmos.com

© Elmos Semiconductor SE, 2022.

Reproduction, in part or whole, without the prior written consent of Elmos Semiconductor SE, is prohibited.

This document contains information on a product under development. Elmos Semiconductor SE reserves the right to change or discontinue this product without notice.