Power LIN2.X Stepper with Stall Detection

Production Data - Jan 28, 2016

RoHS compliant

E523.30C, E523.31C, E523.32C, E523.33C, E523.34C, E523.35C, E523.36E, E523.37C, E523.38C

Features

- For 1 bipolar stepper or up to 3 DC motors
- Motor currents up to 2* 800mA (peak)
- Programmable chopper current values for sinus or customized micro-stepping
- 5.5V - 20V supply voltage (load dump 42V)
- Very low sleep mode current, typ. 30µA
- 8bit µController with assistance logic and
  - 256 Byte RAM, boot-loader
  - 8kByte FLASH or ROM (opt. firmware)
  - 64 Byte EEPROM for customer parameters
- 3 * Hall-sensor/potentiometer inputs+supply
- LIN 2.x, SAE J2602 or bidirect. PWM-interface compatible to LIN2.2Rev.A, 2.2, 2.1, 2.0, 1.3
- QFN32L6 package

Added value factors

- Sensor less “stall detection”
- JTAG or LIN FLASH programming
- -40°C to +165°C peak junction temperature
- optional: LIN with Auto-Addressing (SNPD)

Applications

- Automotive Head-Light-Adjust
- Automotive Front-Grill-Shutter
- Automotive Water-Valves

General Description

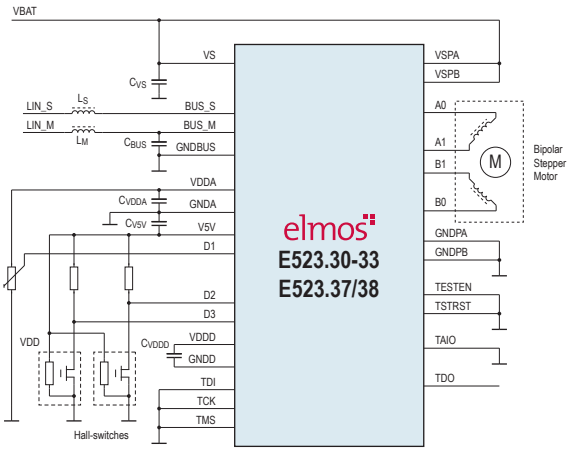
This system-in-a-chip IC controls bipolar stepper actuators with current-choppered micro-stepping. The IC is controlled by a LIN2.x interface. It’s LIN-address can calculated by the “auto-addressing” feature (called “SNPD” in official LIN-specification). Alternatively the IC can be controlled by a PWM-interface, with diagnosis feedback. The integrated sensor-less “stall-detection” detects mechanical end-positions and stops the motor to reduce acoustical noise during initialization runs. The calculating heart is an 8-bit controller which is assisted by powerful circuitry. For absolute precise positioning, up to 3 Hall-sensors or potentiometers can read out.

The IC can also drive up to 3 DC motors or other loads. ICs with FLASH-memory are programmable via JTAG interface or LIN in normal or high speed mode. The IC is available with standard firmware as well as with a development system for individual firmware.

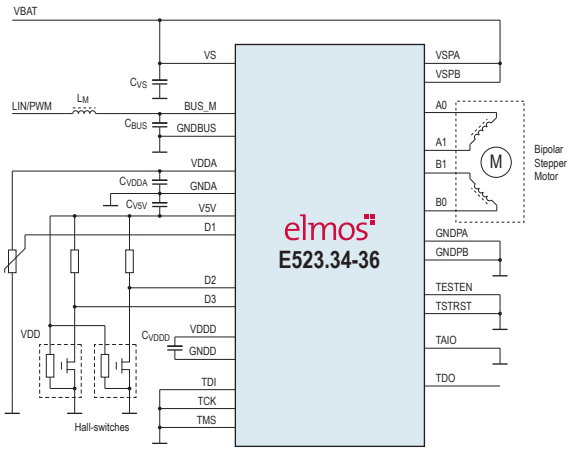
Ordering Information

Ordering-No.:	Features
E52330C77B	LIN or PWM-interface, LIN auto-addressing, 8k FLASH
E52331C77B	LIN with firmware (FLASH)
E52332A77B	LIN with firmware (ROM)
E52333A77B	LIN or PWM with 8k ROM
E52334C77B	PWM interface 8k FLASH
E52335C77B	PWM interface with firmware (FLASH)
E52336A77B	PWM interface with firmware (ROM)
E52337C77B	LIN or PWM with 8k FLASH
E52338A77B	LIN, auto-addressing, 8k ROM

Typical Application Circuit



Version with Auto-Addressing



Version without Auto-Addressing

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

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