# elmos

# Power LIN2.X Stepper with Stall Detection

Production Data - Apr 3, 2019

#### 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-stepping5.5 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, future ISO 17987
- QFN32L6 package

### Added value factors

- Sensor less "stall detection"
- JTAG or LIN FLASH programming
- -40°C to +170°C peak junction temperature
- LIN with Auto-Addressing (SNPD)

#### Applications

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

# Typical Application Circuit



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 PWMinterface, with diagnosis feedback. The integrated sensorless "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
E52332C77B	LIN with firmware (ROM)



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