

## Features

- Controls four high side driven relays or two low side driven relays or three bistable relays
- Programmable holding current for low-side output stages up to 800mA
- Outputs combinable to generate higher relay current
- 5.5V - 20V supply voltage (load dump 42V)
- Sleep mode current typically 30µA
- Embedded 8bit µC 256 Byte RAM, 8k FLASH, 8k ROM, 64 Byte E<sup>2</sup>
- Versions: LIN2.x(1.3), SAE-J2602 or PWM Interface, LIN Auto-Addressing (BUS-shunt SNPD)
- T<sub>Junc</sub> peak = +170°C
- QFN32L6 package

## Applications

- LIN2.x or LIN1.3 relay nodes

## Ordering Information

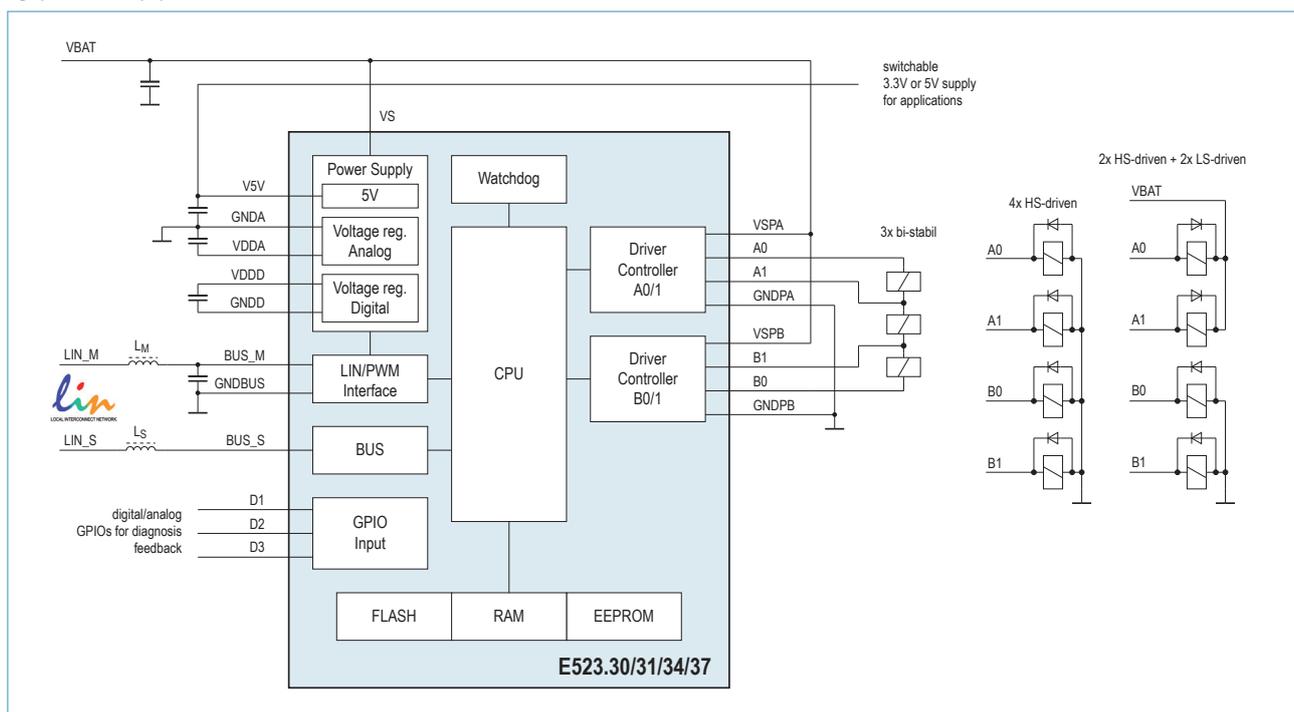
| Ordering-No.: | Features   |
|---------------|--|
| E52330C77B    | LIN or PWM-interface, LIN auto-addressing, 8k customer FLASH |
| E52331C77B    | LIN with firmware (FLASH)                                    |
| E52334C77B    | PWM interface 8k customer FLASH                              |
| E52337C77B    | LIN or PWM with 8k customer FLASH                            |

## General Description

The Elmos System-on-a-Chip (SoC) family E523.3x controls four high-side driven relays, alternatively two of them low-side driven, or three bistable relays (activation in sequential order). The low-side driven relay holding current can be programmed by closed loop current controlled output stages, using a chopper principle. The high-side drivers do not support current control. The IC is controlled over a LIN 2.x(1.3), SAE-J2602 compliant communication interface. It's node address within the LIN cluster can be determined at run time by using the "auto-addressing" feature (officially referred to as "SNPD" in the LIN specification). Neither a pin address coding or a pre-programming is needed in this case. So this is the optimal solution for following the „equal parts strategy“.

Alternatively the IC can be controlled by a PWM-interface, with diagnosis feedback. The IC core is an 8-bit microcontroller which is assisted by powerful circuitry. For relay diagnosis the IC provides three GPIO ADC input pins. ICs with FLASH memory are programmable via JTAG interface or via LIN boot loader function in normal or high speed mode. The LIN boot loader is placed in SysROM area for max. programming security and reducing the code size of the application program. For fast time-to-market Elmos provides demo-boards as well as design-in support, LIN library routines, demo code and training on the software development tool-chain.

## Typical Application Circuit



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