

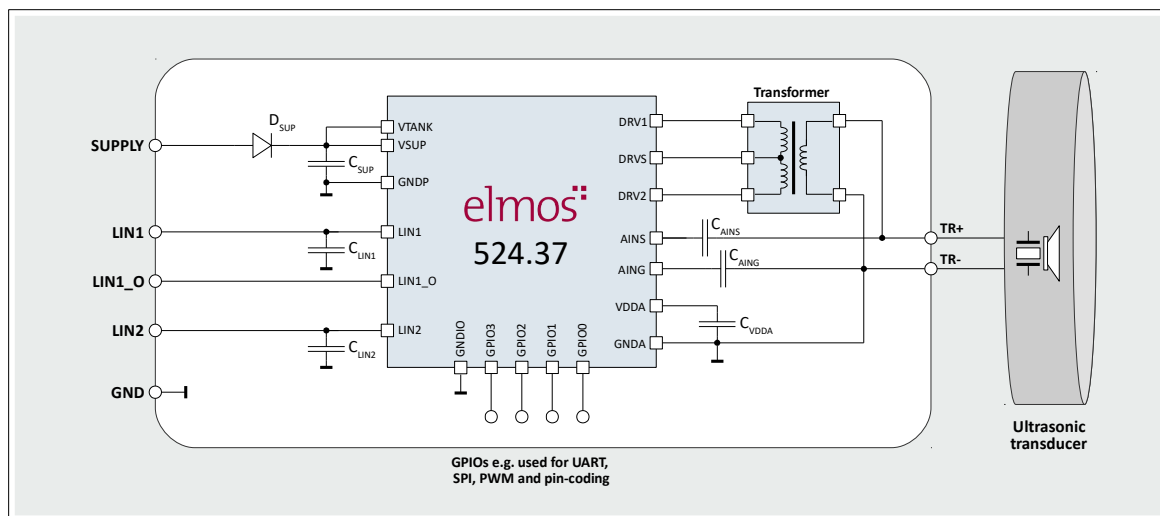
Features

- 5th Generation Ultrasonic Sensor IC
- Support for various applications and architectures by
 - 2x LIN Interfaces (incl. slave node position detection)
 - 4x GPIOs (e.g. for UART, SPI, PWM, pin-coding,...)
- Best ultrasonic measurement performance due to
 - Adjustable transducer damping
 - Advanced analog & digital signal processing
 - Widely configurable measurement cycles
 - Noise suppression features for higher robustness
 - Near field data evaluation for close proximity detection
- Variety of diagnosis functions, e.g. measurement of
 - Ringing time and ringing frequency
 - Transducer impedance and transducer temperature
 - IC temperature and different IC voltages
- Embedded 32-bit microcontroller (Arm® Cortex®-M0)
 - 32 kByte Flash
 - 4 kByte SRAM
- QFN20L4 package with smallest footprint in the market
- Development acc. ISO 26262:2018 (capable up to ASIL-B)

Applications

- Standard ultrasonic park assist systems (USPA, PAS,...)
- Advanced driver assistance systems (ADAS)
- Distance measurement systems / Robotics

Typical Operating Circuit



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General Description

This device offers the best distance measurement performance in ultrasonic applications. The integrated driver stage excites an ultrasonic transducer via a center-tap transformer. An adjustable transducer damping circuit optimizes the short range.

The device receives the reflected signal and processes it for reliable obstacle recognition. This outstanding performance is achieved by an analog frontend with a high sensitive, low noise amplifier and an advanced digital signal processing. In particular, the signal processing with its numerous functions (smart damping, dynamic gain, noise suppression,...) allows very short, long and accurate distance measurements.

The different interfaces support a variety of different applications and architectures, e.g. standard LIN systems with a higher-level control unit or systems without control unit and local bus communication. In addition, the embedded 32-bit microcontroller with re-programmable memory offers maximum flexibility for customer applications and algorithms.

Ordering Information

Product ID	Order Code	Package
E524.37	E52437A52C	QFN20L4

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