

Features

- ▶ Stand-alone Ultrasonic Park Assist Solution
- ▶ Includes Driver for Ultrasonic Transducer
- ▶ Programmable Transducer Power
- ▶ Programmable Receiver Sensitivity
- ▶ EEPROM Storage of Calibration Values
- ▶ Digital Filtering and Signal Processing
- ▶ Adjustable Burst Length and Filter Bandwidth
- ▶ Low Noise Down to 0.5µVRMS
- ▶ Internal Oscillator
- ▶ LIN 2.1 Interface with (SNPD)
- ▶ Short/Long Distance Range Modes
- ▶ 8bit CPU with 16MHz Clock
- ▶ 8KByte Customer FLASH
- ▶ 512Byte RAM
- ▶ Fast Calibration Data Exchange via LIN

Product ID	FLASH	LIN (SNPD)	Range Extension
E524.11	X		
E524.14	X	X	X

Applications

- ▶ Ultrasonic Park Assist Systems (USPA)
- ▶ Blind Spot Detection
- ▶ Industrial Distance Measuring
- ▶ Robotics

General Description

The E524.1x with integrated microcontroller offer ultrasonic range detection with minimum component count. A single ultrasonic transducer with a center tapped transformer is directly driven with programmable 30kHz to 80kHz bursts. Supported transducers allow distance measuring from 15cm to 4m and beyond in extended range mode.

The received echo signal is amplified and converted by an ADC. Digital filtering achieves excellent tracking with the sending frequency without external components or trimming. Optional temperature compensation is available through GPIO pins.

An onboard EEPROM stores processed values of the oscillator/sending frequency, transmitted power and receiver sensitivity. Communication to an ECU is via a single-wire bus compatible with LIN 2.1. For ease of use, a System ROM is pre-programmed with application support routines. Available software examples cover threshold-based echo detection, a basic LIN stack and a complete USPA application example

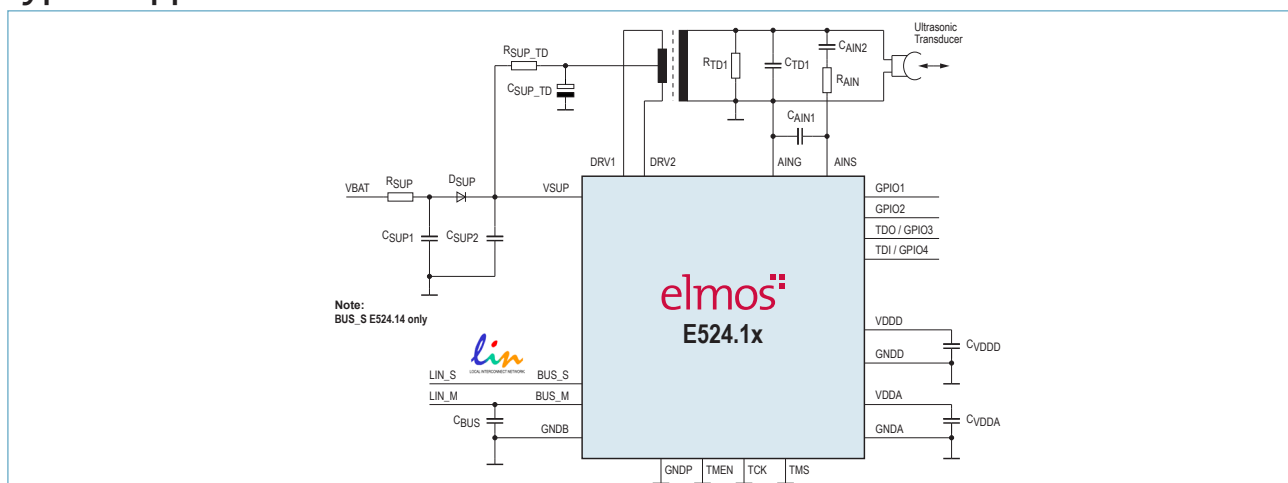
All ICs contain EEPROM. Options include LIN with SNPD (Slave Node Position Detection) and Range Extension.

Ordering Information

Product ID	Temp. Range _{AMB}	Package
E524.1x	-40°C to +105°C	QFN20L5

Note: "1x" refers to available options such as LIN and Range Extension

Typical Application Circuit



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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