

Features

- Supports directly driven transducers
- Best measurement performance
 - Advanced analog & digital signal processing
 - Configurable measurement profiles
 - Two static and one automatic thresholds
 - Echo peak detection / All peak detection
 - Near field detection
- High robustness and diagnostics
 - Ringing time and ringing frequency measurement
 - Noise suppression / Fast time constant algorithm
 - Integrated temperature sensor
 - Supply voltage monitoring
- Advanced IO communication interface
 - 2-wire and 3-wire versions
 - Envelope readout via IO or testmode

Applications

- Ultrasonic park assist systems (USPA, PAS, ...)
- Advanced driver assistance systems (ADAS)
- Distance and level metering

Ordering Information

Product ID	Order Code	Interface	Package
E524.32	E52432A52C	2-wire, VSUP	QFN20L4
E524.33	E52433A52C	3-wire, VSUP	QFN20L4
E524.34	E52434A52C	3-wire, 3.3V	QFN20L4
E524.35	E52435A52C	3-wire, 5.0V	QFN20L4

General Description

This device provides best performance in ultrasonic applications. It builds the core for a robust and easy-to-handle distance measurement system, while offering flexibility for customer applications.

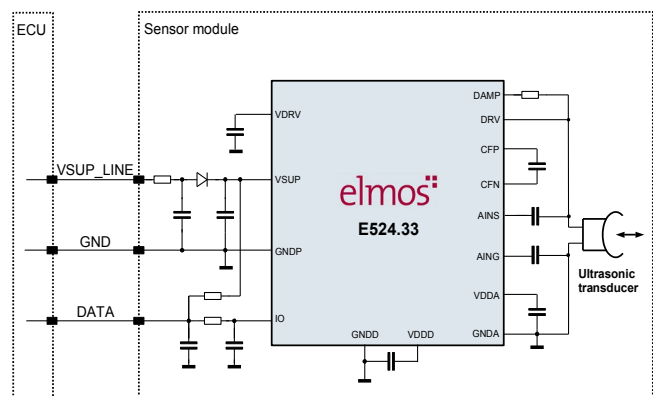
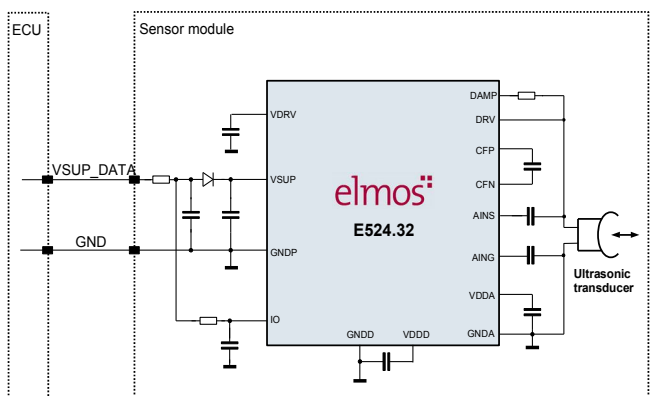
The integrated driver stage drives the connected ultrasound transducer directly and provides significant reduction of system costs and size by removing the transformer and other external components.

Digital signal processing (automatic thresholds, sensitivity time control,...) optimizes short and long range detection performance. The optimized smart damping algorithm reduces the blind zone to a minimum and the new near field detection identifies objects directly in front of the sensor.

To ensure flexibility for customer applications, the optimized I/O interface offers 3 configurable measurement profiles that can for example be set up for a near, medium and far range. Numerous diagnosis possibilities, such as monitoring the supply voltages and temperature sensor, the detection of communication errors or the measurement of the decay time and frequency deviation, enable reliable sensor operation.

Communication with the control unit is possible with a choice of a 2 or 3-wire version. The 2-wire version (E524.32) offers bidirectional communication with data modulation on the supply line. The 3-wire versions (E524.33/34/35) have a dedicated I/O line for data transmission.

Typical Operating Circuit



1 Contact Info

Table 1-1: Contact Information

Headquarters Elmos Semiconductor AG Heinrich-Hertz-Str. 1, D-44227 Dortmund (Germany) www.elmos.com	Phone: +49 (0) 231 / 75 49-100 Fax: +49 (0) 231 / 75 49-149 sales-germany@elmos.com
Sales and Application Support Office North America Elmos NA. Inc. 32255 Northwestern Highway, Suite 220 Farmington Hills, MI 48334 (USA)	Phone: +1 (0) 248 / 8 65 32 00 Fax: +1 (0) 248 / 8 65 32 03 sales-usa@elmos.com
Sales and Application Support Office Korea Elmos Korea C-301, Innovalley, 253, Pangyo-ro, Bundang-gu, Sungnam-si, Gyeonggi-do, 13486 Republic of Korea	Phone: +82 (0) 31 / 7 14 11 31 Fax: +82 (0) 31 / 6 28 10 90 sales-korea@elmos.com
Sales and Application Support Office Japan Elmos Japan K.K. Tamachi 16th Fujishima Bldg. 6F 4-13-4 Shiba, Minato-ku, Tokyo, 108-0014, Japan	Phone: +81 3 / 3451 7101 Fax: +81 3 / 3451 7104 sales-japan@elmos.com
Sales and Application Support Office China Elmos Semiconductor Technology (Shanghai) Co., Ltd. Unit 16B, 16F Zhao Feng World Trade Building, No. 369 Jiang Su Road, Chang Ning District, Shanghai, PR China, 200050	Phone: +86 (0) 21 / 6210 0908 Fax: +86 (0) 21 / 6219 7502 sales-china@elmos.com
Sales and Application Support Office Singapore Elmos Semiconductor Singapore Pte Ltd. 3A International Business Park, 09-13 ICON@IBP, Singapore 609935	Phone: +65 (0) 690 / 8 12 61 Fax: +65 (0) 6570 / 5906 sales-singapore@elmos.com