Features
- Transformerless direct transducer driver
- Programmable to transducer frequencies between 38kHz and 72kHz
- Supply voltage independent performance
- Optimized short & long range performance by:
  - active and passive damping mechanisms
  - sensitivity time control
- Fully integrated digital signal conditioning
- Programmable transducer voltage & burst length
- Programmable receiver amplifier
- Bi-directional serial digital interface
- Supply for external controller (3.3V / max. 10mA)
- Transducer diagnosis information
- Embedded EEPROM for calibration data
- Chip ID for traceability

Applications
- Ultrasonic park assist systems (USPA, PAS,...)
- Industrial distance measuring
- Robotics

Typical Application Circuit

General Description
The device builds the core for a robust and easy-to-handle distance measurement system, while offering flexibility for customer applications.

A driver unit stimulates the direct connected ultrasonic transducer. Driver frequency, transducer voltage, burst length, amplifier gain and other parameters are user configurable. Active and passive damping mechanisms combined with STC (Sensitivity Time Control) optimize short and long range performance.

The received echo signal is amplified, converted and digitally processed. After processing the signal can be read out. The E524.07 supports a bi-directional 2-pin synchronous serial digital interface to communicate with an external µC.

Application relevant settings can be stored in EEPROM during an End-Of-Line calibration by the customer.

Ordering Information

<table>
<thead>
<tr>
<th>Ordering No.</th>
<th>Temp Range</th>
<th>Interface</th>
<th>Package</th>
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<td>-40°C to +105°C</td>
<td>Serial</td>
<td>QFN20L4</td>
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