Features

- Driver for Ultrasonic transducer using centre tapped transformer
- Supports
  - Park Assist
  - Side Park Assist
- Build in diagnostic functions, eg.
  - Short or open transducer output
- Two Measurement Modes
  - Direct
  - Indirect for triangulation
- Temperature sensor
- Storage of adjustment values in EEPROM
- Digital filtering and signal processing
- Low noise down to 0.5μV \text{RMS} \text{ referred to input}
- Internal oscillator
- LIN 2.1 interface with SNPD (Slave Node Position Detection)

Applications

- Ultrasonic Sensor Systems with 30 to 80 kHz
- Park Assist System
- Side Park Assist System

General Description

The IC drives an ultrasonic transducer via a centre tapped transformer with a programmable frequency. After amplification and A/D-conversion the signal is digitally filtered to achieve a perfect tracking to the sending frequency without external components and trimming. The adjusted values of oscillator/sending frequency, transmitted power receiver sensitivity can be adjusted and stored in an internal EEPROM. The circuit communicates with a central control device via a single-wire bus which is physically LIN 2.1 compatible. For ease of use a LIN-driver and standard application functions like threshold generation and timer capture are available. Several diagnostic functions are implemented. A short or open at the transducer output can be detected as well as thermal shut down or under voltage.

Ordering Information

<table>
<thead>
<tr>
<th>Product ID</th>
<th>Temp Range</th>
<th>Package</th>
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<tbody>
<tr>
<td>E524.24</td>
<td>-40°C to +105°C</td>
<td>QFN20L5</td>
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Typical Application Circuit