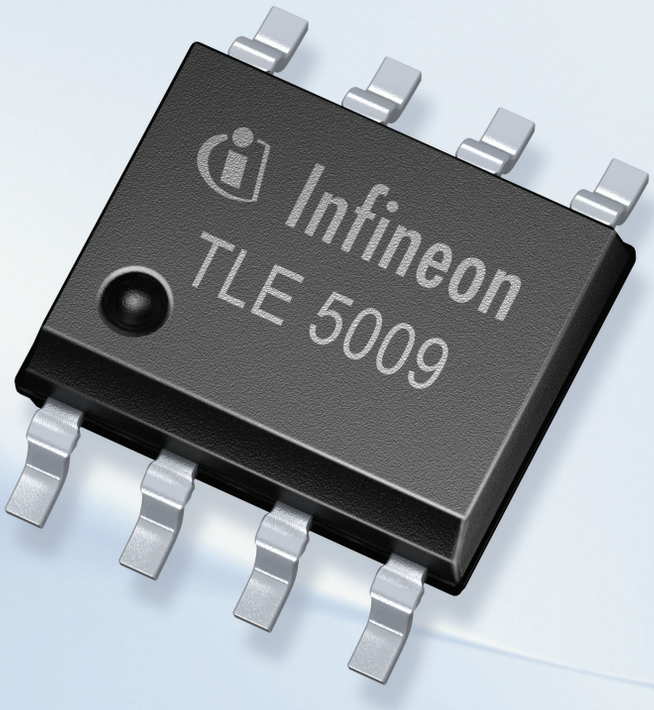
Product Brief



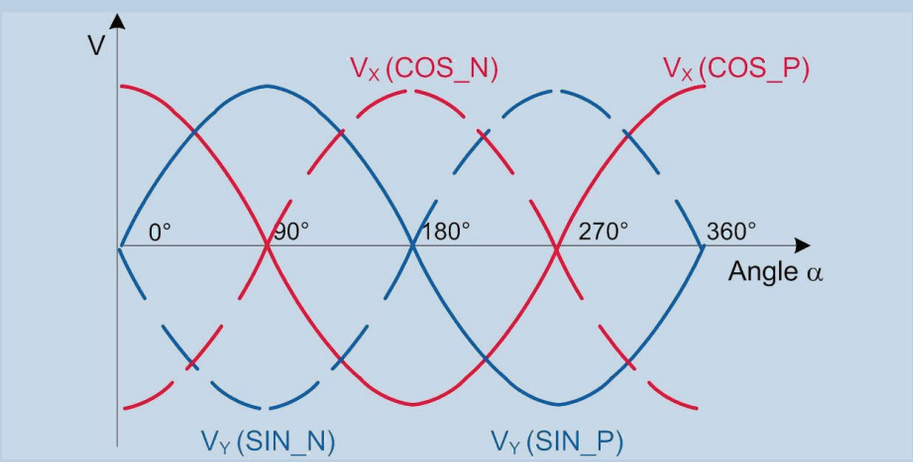
TLE 5009 - 360° iGMR based angular Sensor

with analog sine-cosine output and on chip temperature compensation

The TLE 5009 combines the low noise characteristics of iGMR with unfiltered signal amplification on one IC.

- The sensor can be directly connected to the analog inputs of a µController
- The output signals are offset- and temperature compensated
- Output signals can be read as single ended or differential voltage
- Signal amplitudes are independent from supply voltage variations

The TLE 5009 is based on Infineons well proven and automotive qualified integrated Giant Magneto Resistive (iGMR) Technology. The iGMR technology combines magneto resistive sensing elements and integrated circuits in one chip.
The sensor contains two galvanically separated Wheatstone bridges and includes signal amplifiers. The two bridges provide a sin(α) and cos(α) signal. Where α is the angle between sensor orientation and magnetic field direction. From two signals, the absolute orientation of the magnetic field can be easily determined between 0° and 360°.The sensor is available in variants of supply voltage and temperature offset compensation.



Precise measurement of the magnetic field direction from 0° - 360°

www.infineon.com/iGMR

Features

- Integrated GMR (iGMR) technology
- 0 - 360° angle measurement with sine and cosine bridge
- Supply voltage 3.3 or 5.0V
- On chip temperature compensation of amplitude and offset
- -40°C to +150°C
- Automotive qualified
- PG-DSO-8 Package

Applications:

- Contactless angle measurement
- Steering angle
- Motor commutation
- Rotational position measurement

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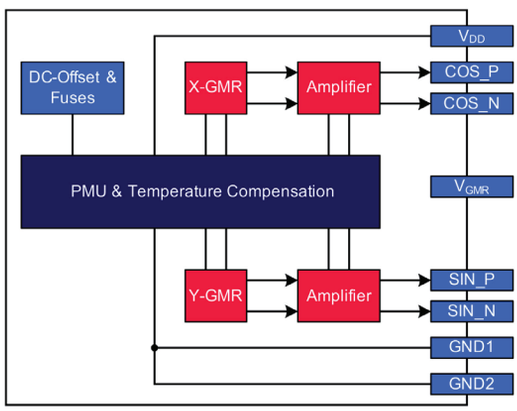
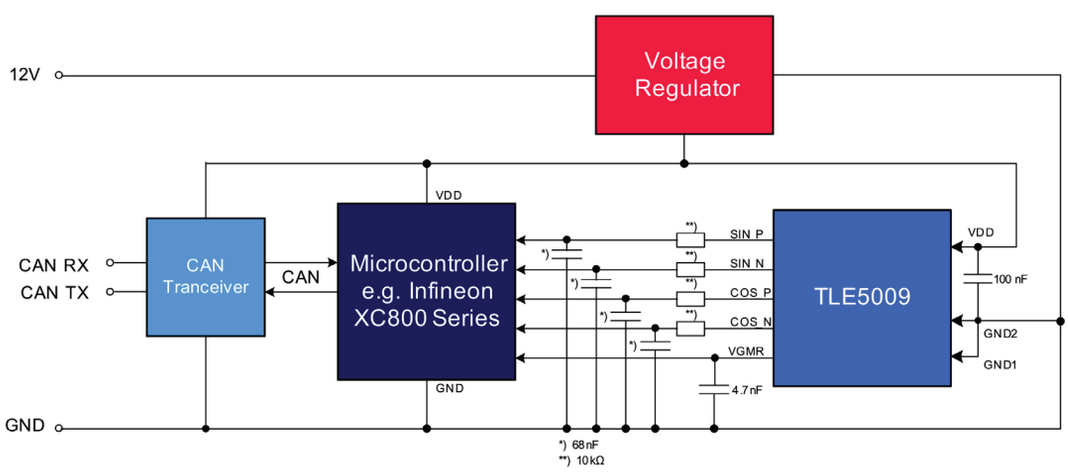


Block diagram of TLE 5009



Example for an application circuit with TLE 5009

Sales Name	Description	Order Code
TLE5009 E2000	Vdd: 5V; static offset compensation	SP000912760
TLE5009 E2010	Vdd: 5V; temperature compensated offset	SP000912770
TLE5009 E1000	Vdd: 3.3V; static offset compensation	SP000912764
TLE5009 E1010	Vdd: 3.3V; temperature compensated offset	SP000912774
TLE5009 EVALKIT	Evaluation kit containing PGSISI-Box, sensor board (PCB) incl. magnet and software	SP000871462
TLE5009 EVALBOARD (PCB)	Sensor board (PCB) incl. magnet and software	SP000871466

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