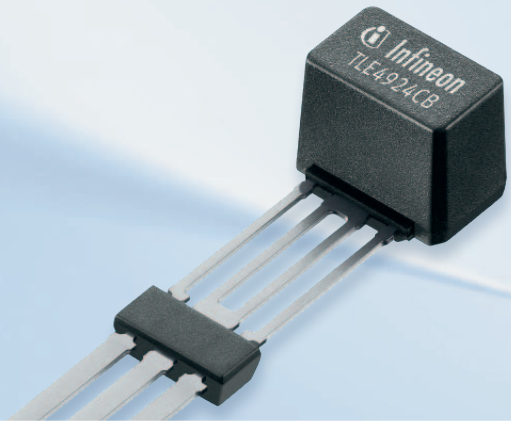
Product Brief



TLE4924CB

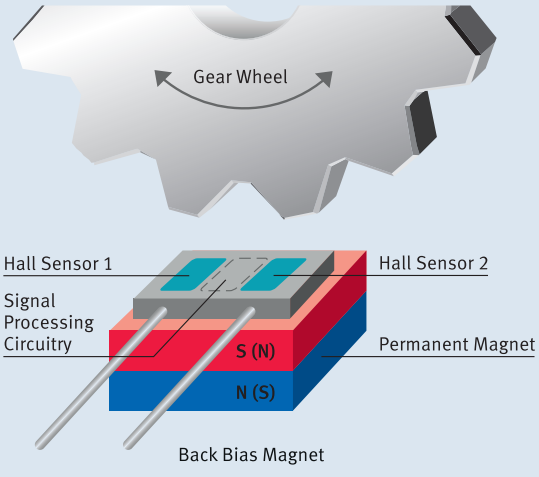
Highly accurate differential hall sensor with integrated back bias magnet and visible adaptive hysteresis for powertrain applications

The TLE4924CB detects the motion and position of ferromagnetic magnet structures by measuring the change of differential flux density to its magnetic back bias field, which the ferromagnetic structure like a gear wheel or any similar structure generates. Its back bias magnetic field is thereby optimised to provide an optimal air gap performance by using a NdFeB-based integrated back bias magnet. This greatly facilitates it's use in industrial and automotive applications of speed and position sensing, while providing a commercially attractive, small and easy to assemble sensor solution.
In addition, the TLE4924CB's high sensitivity and self-calibration mode ensure optimum accuracy. The sensors powers up very fast and reaches full calibration within only a few transitions after start up. The combination of a frequent recalibration function in run mode with its visible adaptive hysteresis algorithm enables the TLE4924CB to accurately switch over a broad range of different gear wheel structures with a high robustness against disturbances like air gap jumps or run out events.

In order to perfectly satisfy the requirements of harsh environmental conditions prevalent in automotive applications the sensor is designed to withstand a wide range of temperatures, have high ESD robustness and large EMC resistance.With its features the TLE4924CB is the ideal differential Hall sensor for applications like today's crankshaft or transmission speed sensing in automotive or similar industrial applications

TLE4924CB is perfectly suited for applications like:

- Gear wheel application with back bias magnet



www.infineon.com/iBB

Features

- Integrated Back-biasing permanent magnet for ferromagnetic target wheel application PG-SSOM-3-9
- Single chip solution
- Adaptive thresholds
- Visible Hysteresis
- Large operating airgap
- Advanced performance by dynamic self calibration principle
- Digital output signal
- Wide operating temperature ranges
- Reverse voltage protection at V_S-pin
- Short-circuit and over-temperature protection of output
- Module style package with two integrated capacitors:
  - 4.7nF between Q and GND
  - 47nF between V_S and GND: Required for micro cuts in power supply and optimal EMC robustness

Halogen-Free

RoHS

AEC Qualified

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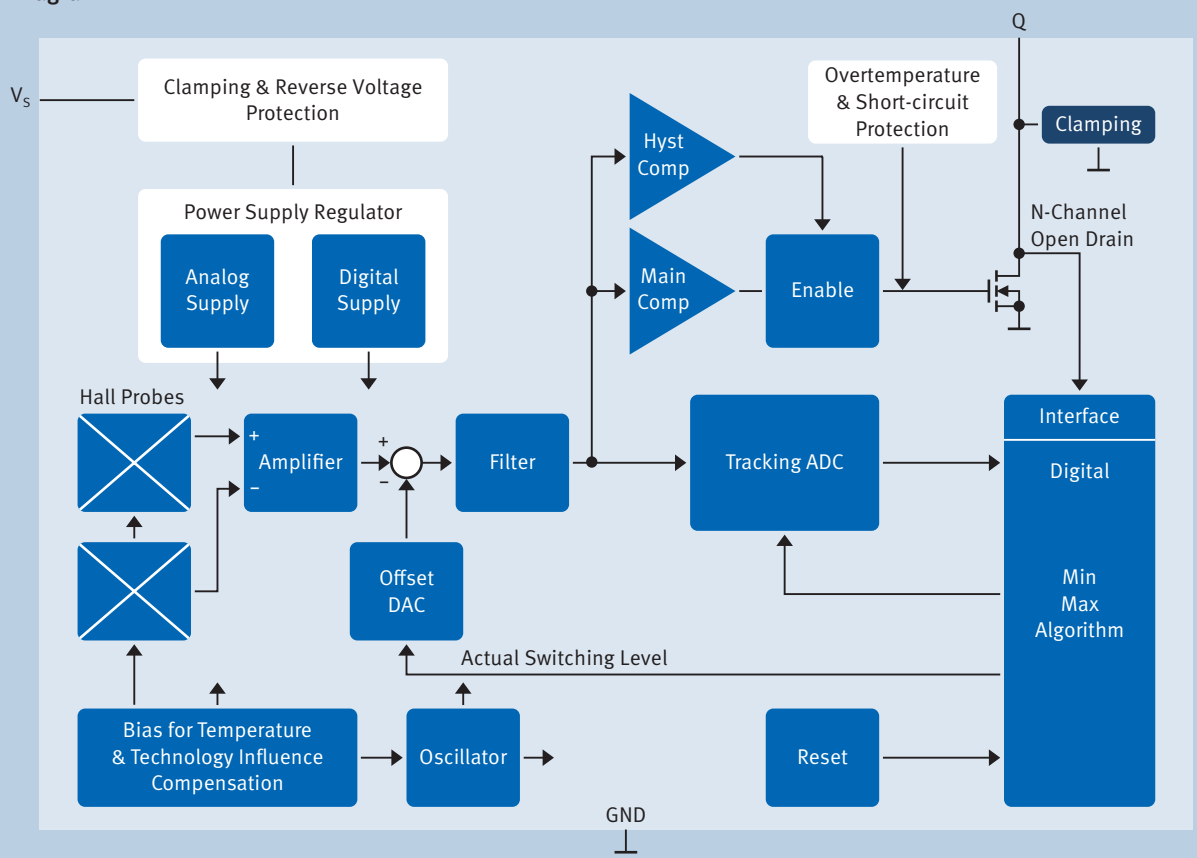
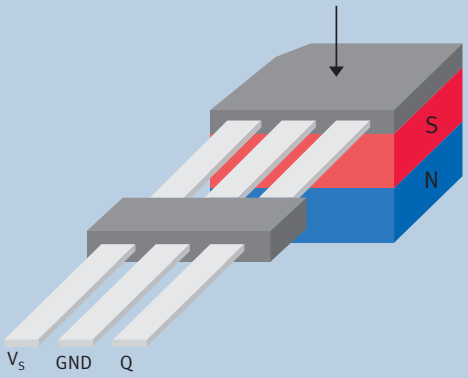
Block Diagram



Back-bias Field Orientation



Product Table

Sales Name	Description	Order Code
TLE4924CB-2 E6547	TLE4924 with integrated NdFeB back bias magnet and capacitors (V_S to GND: 47nF and Q to GND: 4.7nF)	SP000913548

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Visit us:
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