

# TLE4983C

## Programmable Mono-cell Chopped Hall Sensor with True Power On for Cam Shaft Applications

The TLE4983C is an active Hall sensor ideally suited for camshaft applications in automotive. Its basic function is to map either a tooth or a notch of a gear or magnet wheel into a unique electrical output state. The magnetic switching points have thereby a high accuracy paired with an excellent stability due to the innovative chopped Hall technology used for this sensor. The implemented electrical trimming option for post-fabrication trimming sets the sensor's switching points. This ensures its true power on capability even in the case of production spreads such as different magnetic configurations or misalignment. The programmability of the sensor includes also the option to adjust the temperature coefficients to the application needs.

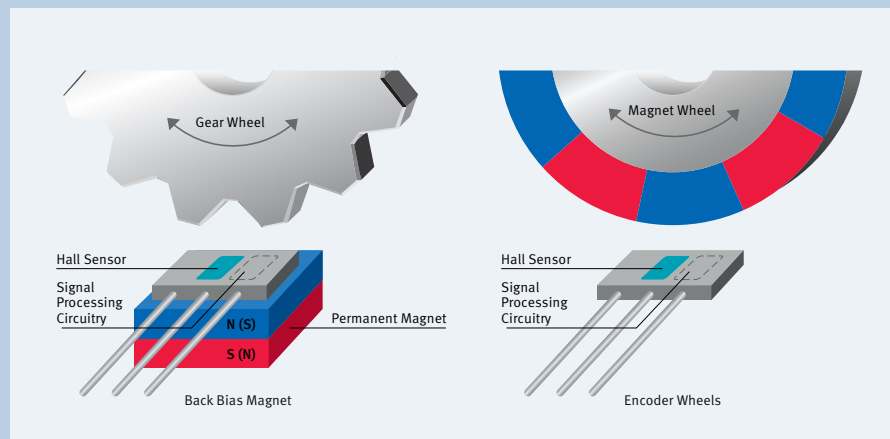
Additional, a self-calibration module has been implemented to achieve optimum accuracy during normal running operation. The self calibration adjusts the offsets and is well suited to cope with symmetrical and asymmetrical target wheels.

The TLE4983C comes in a three-pin package for the supply voltage and an open drain output. The package has two integrated capacitors for enhanced EMC micro break performance.

### Features

- True Power On functionality (TPO)
- Programmable switching points
- Programmable temperature coefficient of back-bias magnet
- Single chip solution
- PG-SSO-3-9 (1)
- Twist-Independent Mounting (TIM) for larger fabrication tolerances
- Advanced performance by dynamic self-calibrating principle
- High accuracy and high stability of the magnetic switching points
- High resistance to mechanical stress
- Digital output signal (voltage interface)
- Short-circuit protection
- Enhanced ESD performance
- Module styled package with two integrated capacitors for micro cuts in power supply and enhanced EMC performance
  - 47nF between  $V_S$  and GND
  - 4.7nF between  $V_q$  and GND
- -40°C to 150°C
- Automotive qualified

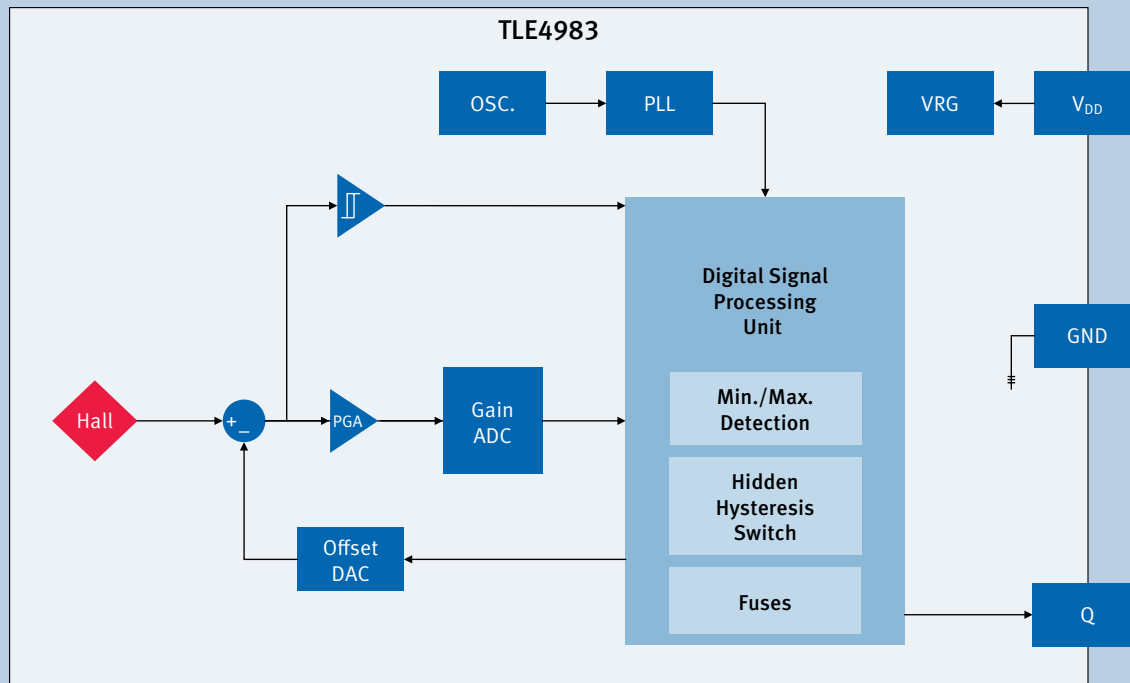
### TLE4983C in a typical application configuration:



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Block Diagram of TLE4983C



### Product Summary

Sales Name	Description	Order Code
TLE4983C-HT E6747	4.7/47nF capacitors with standard tin plating	SP000374275
TLE4983C-HTN E6747	4.7/47nF capacitors with nickel plating	SP000374272

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