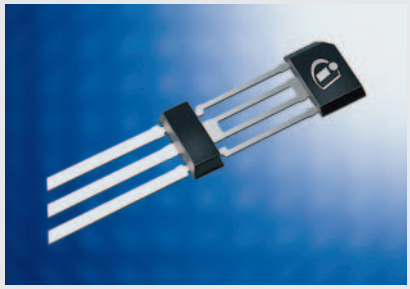
Smart Hall Effect Sensor for Camshaft Applications

Applications
- Camshaft position sensor

Features
- TPO True Power On functionality
- Mono-cell chopped Hall system
- TIM Twisted Independent Mounting
- Dynamic self-calibrating algorithm
- End-of-line programmable switching points
- TC of back-bias magnet programmable
- High sensitivity (B_{min} < 1.5 mT) and high stability of the magnetic switching points
- High resistance to mechanical stress
- Digital output signal (voltage interface)
- Short-circuit protection
- Module style package with two 4.7 nF integrated capacitors

P-SSO-3-9



TLE4980C

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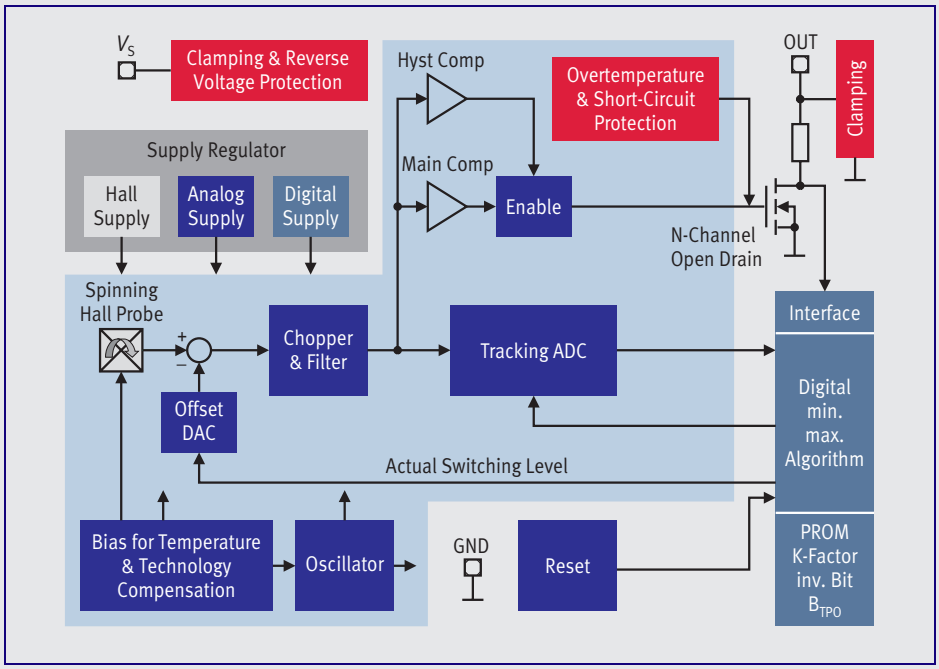
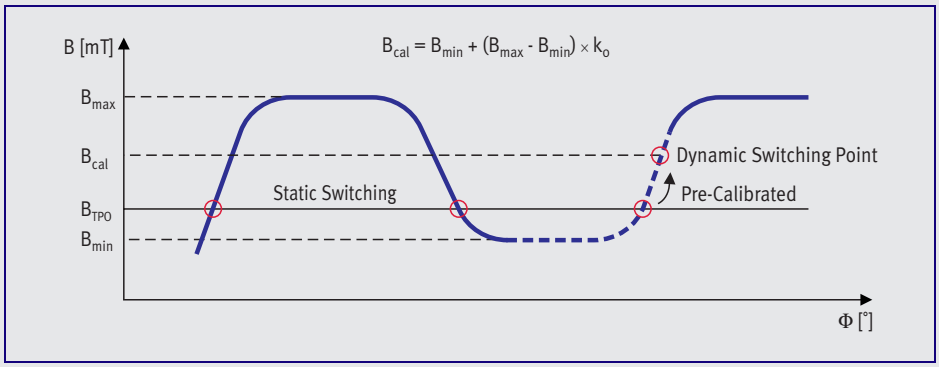
Never stop thinking.



Block Diagram

The IC consists of a chopped hall-probe (mono-cell in the centre of the chip) with a chopped preamplifier. Next there is a summing node for threshold level adjustment. The threshold switching is actually done in the main comparator. A converter feeds a digital calibration logic. This logic monitors the digitalized signal by looking for minimum and maximum values and also calculates correction values for threshold adjustment. The static switching level is simply done by fetching a digital value out of a PROM.

Parameter	Value	Unit
Operating voltage	3.3 ... 18	V
Power on time	<1	ms
B_{TPO}	20 ... 75	mT
Programm. Range TC_{magnet}	-1200 ... 500	ppm/K
Frequency range	0 ... 4500	Hz
Temperature range T_j	-40 ... +155	°C
k_o factor	0 ... 100	%



Type	Sales Code	Package
TLE4980C	Q62705-K675	PSSO-3-9

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