

## Product Brief

# TLV496x-xTA/B

## Precision Hall Effect Sensor for Consumer Applications

The TLV496x-xTA/B Hall sensor family comprises a line of Hall switches for contactless position sensing. The sensors are specially designed to provide an easy-to-use and cost effective solution for position sensing applications.

TLV496x-xTA/B Hall switch family is the ideal solution for all target applications which require a precise Hall switch or Hall latch (unipolar/bipolar). With a wide operating temperature range as well as excellent magnetic behavior Infineon's switches are ideally suited for:

- Index counting applications with a pole wheel
- Rotor position detection (in BLDC motors)
- Open/closing detection

TLV496x-xTA/B provides a cost optimized solution with very low current consumption and superior ESD protection (up to 4 kV HBM). The sensor family enables the design of highly power efficient and robust systems in line with a very low failure rate in production.

To enable our customers' systems fulfilling the highest quality standards and various environmental regulations: the PG-T092S-3-x package is halogen free, RoHs compliant and JESD47 qualified.

### Applications

- Brushless DC motor, e.g. in dishwasher, washing machine, air-con compressor motors, or PC/home server cooling fans
- Power closing in home automation, e.g. sun blind, garage door
- Power tools and gardening equipment
- Open/close detection, e.g. in white goods or home security systems

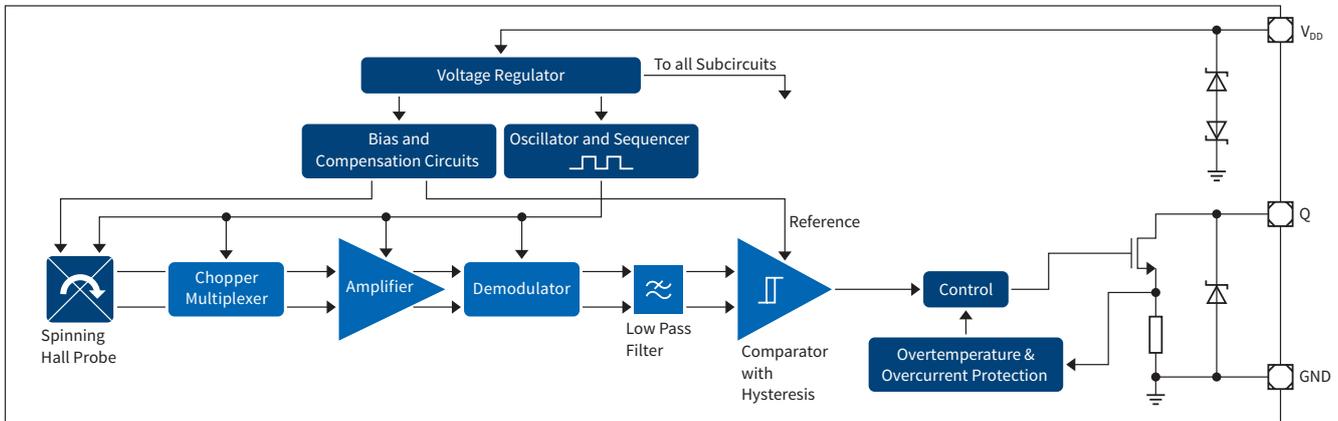
### Key Features

- 3.0 V to 26 V operating supply voltage
- Low current consumption 1.6 mA
- ESD protection 4 kV HBM
- Operating from unregulated power supply
- Output overcurrent & overtemperature protection
- Active error compensation (chopping)
- High stability of magnetic thresholds
- Operating temperature range from -40 °C to 125 °C
- Leaded package PG-T092S
- JESD47 qualified

# TLV496x-xTA/B

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Block Diagram TLV496x-xTA/B



Infinion’s latest TLV496x-xTA/B products are dedicated for consumer applications. The family comprises integrated Hall effect sensors, specifically designed for highly accurate applications with superior supply voltage capability, as well as temperature stability of the magnetic thresholds. The Hall IC comprises a Hall probe, bias generator, compensation circuits, oscillator and output transistor. The bias generator provides current for the Hall probe and the active circuits.

The temperature behavior is stabilized by compensation circuits. The active error compensation (chopping technique) rejects offsets in the signal path and minimizes the influence of mechanical stress to the Hall probe caused by molding and soldering processes or other thermal stress in the package. The chopped measurement principle together with the threshold generator (comparator with hysteresis), and the comparator ensure highly accurate and temperature stable magnetic thresholds. The output transistor has an integrated overcurrent and overtemperature protection.

### Product Summary

Type	Description	Package	Packing	Ordering Code
TLV4961-1TA	2.0 mT latch	PG-T092S-3-1	BULK	SP001274772
TLV4961-1TB	2.0 mT latch	PG-T092S-3-2	AMMO	SP001283610
TLV4961-3TA	7.5 mT latch	PG-T092S-3-1	BULK	SP001274776
TLV4961-3TB	7.5 mT latch	PG-T092S-3-2	AMMO	SP001283606
TLV4964-4TA	10.0/8.5 mT unipolar switch	PG-T092S-3-1	BULK	SP001274780
TLV4964-4TB	10.0/8.5 mT unipolar switch	PG-T092S-3-2	AMMO	SP001283600
TLV4964-5TA	7.5/5.0 mT unipolar switch	PG-T092S-3-1	BULK	SP001274784
TLV4964-5TB	7.5/5.0 mT unipolar switch	PG-T092S-3-2	AMMO	SP001283590
TLV4968-1TA	1.0 mT latch	PG-T092S-3-1	BULK	SP001274788
TLV4968-1TB	1.0 mT latch	PG-T092S-3-2	AMMO	SP001283508

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