Product Brief

BLDC Shield for Arduino

3-phase motor driver Shield with the TLE9879QXA40 chip

The BLDC Shield for Arduino uses the TLE9879QXA40 chip, which is part of TLE987x family of the Infineon® Embedded Power IC portfolio. This enables the Shield to drive 3-phase electric motors with a variety of different features. One Arduino board can control up to four Shields stacked on top of each other via SPI. These Shields can all be controlled independently and, if desired, run completely different applications. The Shield implements three different advanced motor control algorithms: field-oriented control (FOC), Back EMF (BEMF) and Hall. Additionally, it has a 3x2 pin strip to easily connect the Hall pins of an electric motor. It also allows the user to easily change the motor parameters of the motor control algorithms. The whole dataset of parameters can also be saved and loaded from the flash memory of the Shield or written and read from the Arduino. Lastly, the Shield has an RGB LED, which can be controlled by the user.

The included Arduino library offers an intuitive API to quickly setup and configure an application. Moreover, the stackable active BLDC Shield can be used in a wide spectrum of applications.

Key features

- TLE9879QXA40 chip
- 3-phase motor driver
- implemented motor control algorithms
  o FOC, BEMF, Hall
- controlled over Arduino via SPI
- compatible with the Arduino Uno
- up to four Shields can be used simultaneously
- each Shield can be controlled independently
- motor parameters can be set for each Shield individually

Key benefits

› Easy to use API, allowing the user to quickly setup an application
› High performance BLDC motor control in form of the TLE987x chip

Applications

› 3D-printer
› Multi-axis CNC-milling machines
› Construction robot arms
› Multi-copter and other RC applications
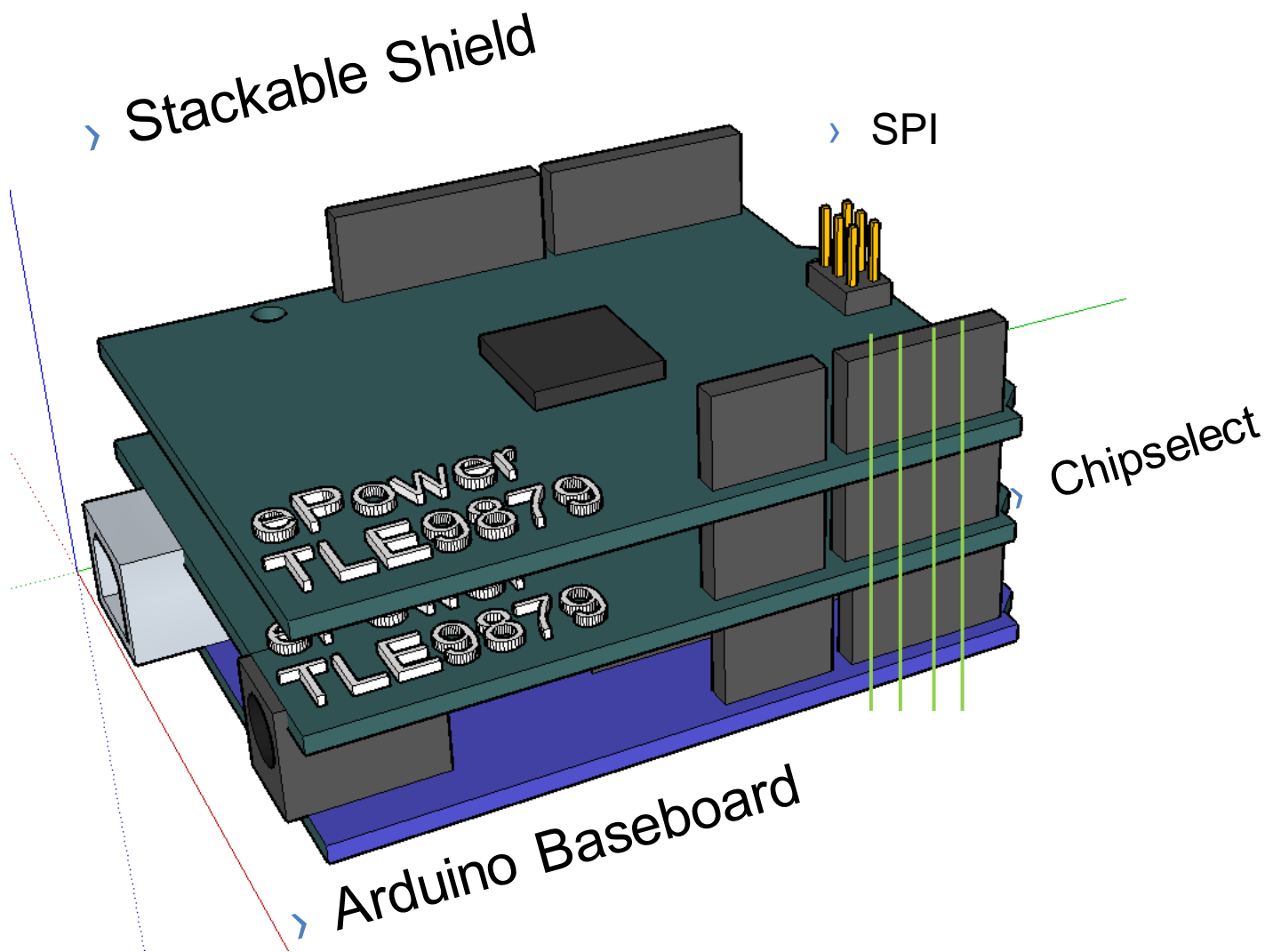› Side-mirrors, HVAC-flaps, light regulation, wiper, seat-control

www.infineon.com/bldcmotorshield
www.infineon.com/shields-for-arduino

BLDC Shield for Arduino

3-phase motor driver Shield with the TLE9879QXA40 chip

> Stackable Shield

> SPI

> Chipselect

> Arduino Baseboard

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