ZERRO

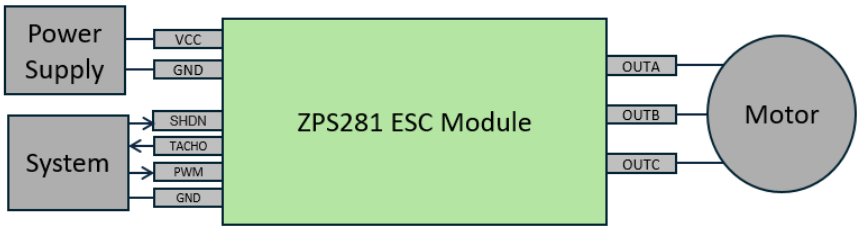
ZPS281

SIMPLE BLDC™ Overview

The **SIMPLE BLDC™** PCBA uses ZPS281 automotive 3 Phase Motor Controller IC from Zerro Power Systems. The ZPS281 drives a 3-phase brushless and sensorless DC motor in full bridge mode. Various functions and parameters can be selected through standard I^2C protocol. The speed of the fan can be controlled through the PWM pin. The ZPS281 drives an external supply isolation FET (ISOFET) and protects the device and motor from supply overvoltage spikes. In the event of a supply spike, the ISOFET is turned off and the motor is tristate

- Sensor-less 3 phase fan motor control
- Integrated pre-drivers and internal MOSFET
- Up to 2A drive capability
- Auto spin-up using inductive sensing for position detect
- Optional Blind spin startup
- Programmable spin up current limit
- Open or closed loop speed control
- 8-point Programmable PWM profile
- Sinusoidal (sine) PWM drive with bit selectable option for a 6-step drive
- Open loop PWM mapping
- Pole mismatch compensation to minimize jitter
- 5-bit torque adjustment for best torque ripple
- Speed fault detection
- Programmable acceleration and deceleration control
- Guaranteed start-up from reverse spin condition
- Programmable alarm and retry timing
- I^2C compatible PWM/TACHO pins
- Multi options for FG/TACHO signal output
- Supply ISOFET drive
- 6V to 16.0V operation (UV threshold 5V)
- Up to 80V supply spike protection
- Clean power up with no current spikes
- Inrush current control[1]
- CSP49 2.6mm x 2.6mm

NOTE1: See ordering part number for available variants of this board.



PCBA Block Diagram shown with PWM/Tacho interface option.
PWM/TACHO pins can be configured as I2C interface as an option.

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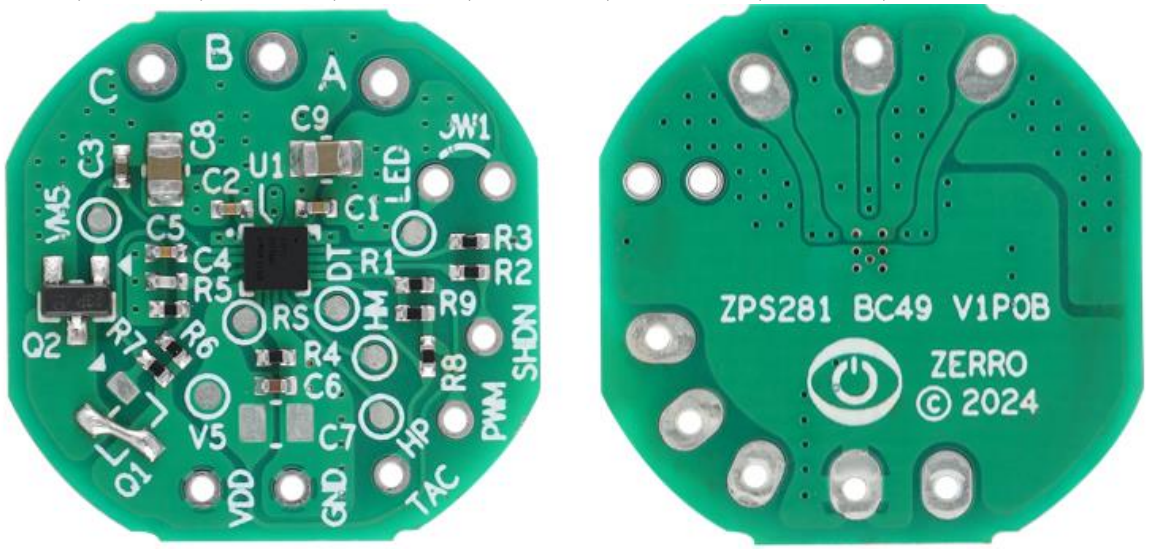
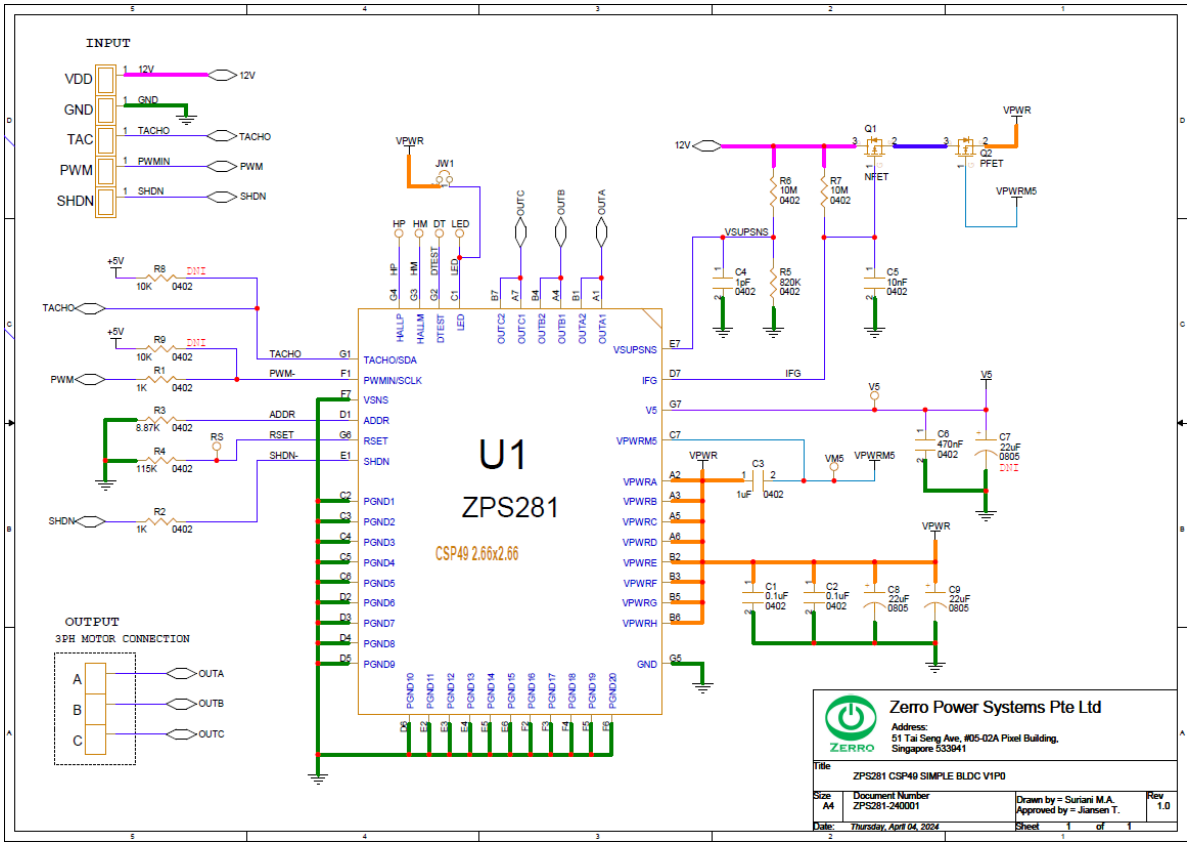
SIMPLE BLDC™ PCBA Description

Pin names:
VCC = V, GND = G, OUTA = A, OUTB = B, OUTC = C, TACHO = T, PWM = P, SHDN=S



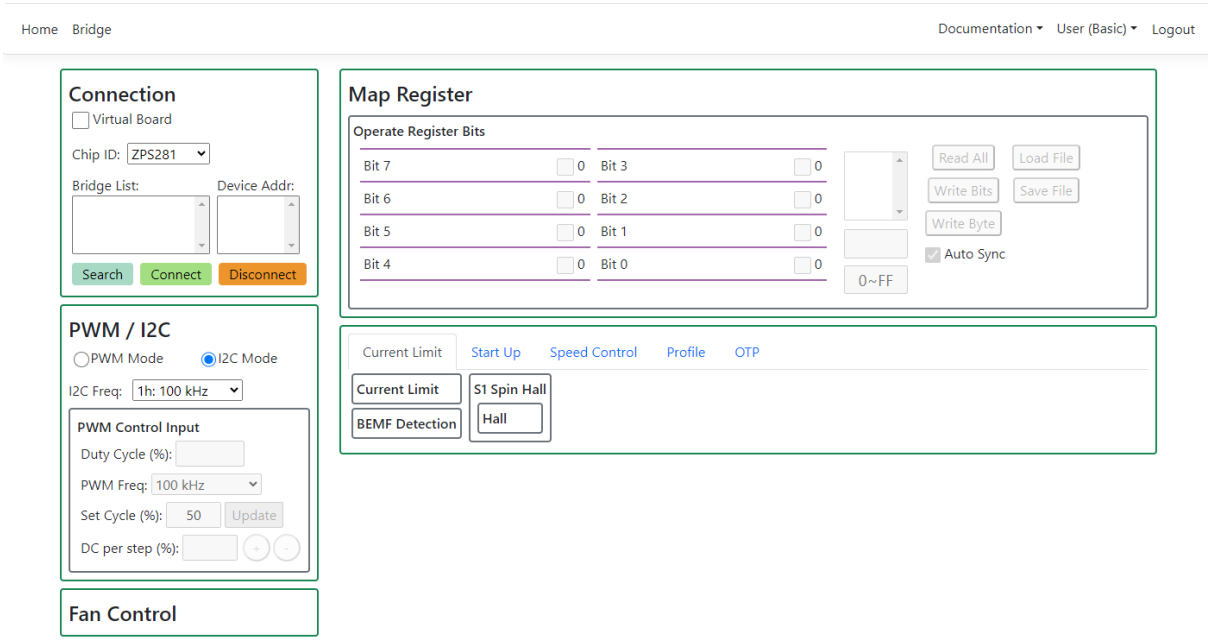
SIMPLE BLDC™ PCBA with CSP49 Front and Back View

Application Circuit



Programming Interface GUI

Easy to use GUI can be found at https://zpsgui.com/ GUI user manual is available on the site after login. Contact your local representative for a user account.



Ordering Part number

Following variants are available.

ZPS2814CC10	With 2.0A part
ZPS2813CC10	With 1.5A part
ZPS2812CC10	With 1.0A part
ZPS2811CC10	With 0.5A part
ZPS2814CC20	With 2.0A part, inrush current control
ZPS2813CC20	With 1.5A part, inrush current control
ZPS2812CC20	With 1.0A part, inrush current control
ZPS2811CC20	With 0.5A part, inrush current control