



PAC5285

5.5V-27V Battery Powered BLDC Motor Controller with Integrated FETs

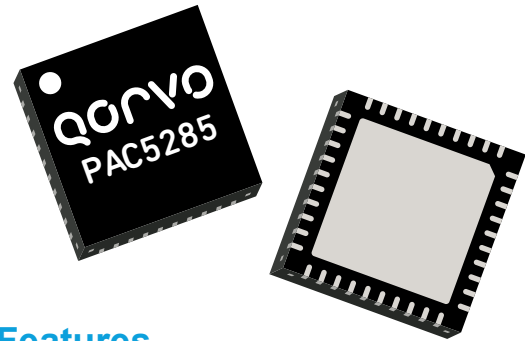
Product Overview

The PAC5285 is an integrated Power Applications Controller[®] that integrates a FLASH-programmable MCU, power management, signal conditioning, and 3-phase BLDC inverter into a single product. It contains an Arm[®] Cortex[®]-M0 with 32 kB of FLASH and 8 kB of SRAM and has access to several different analog and digital peripherals used for BLDC motor control and driving.

The high level of integration and single-chip design significantly reduces PCB size and BOM, making it ideal for extremely compact, low-power, 2S to 6S battery-powered BLDC intelligent motor control. The PAC5285 consumes very low hibernate current of 8 μ A @ 12VDC.

This device includes a single 40V power supply input, ideal for 12V battery-powered applications; the charge pump DC/DC converts the power supply input into an IC and inverter power supply; and regulators for a 5V system supply, core and analog supplies.

The device also integrates a differential amplifier for sensing motor current for over-current protection and motor control. The inverter may be configured to shut down during over-current, over-voltage, under-voltage and over-temperature events. The power monitor allows the ADC to sample all power supply rails internally. This device contains 6 40V/300m Ω MOSFETs to support 3-phase BLDC motor applications.



Key Features

- FLASH programmable MCU, power management, signal conditioning, and 3-phase BLDC inverter into a single product
- ARM[®] Cortex[®] M0 with 32 kB of FLASH & 8 kB of SRAM
- 6 40V/300m Ω MOSFETs
- 40V power supply Input
- Charge pump DC/DC
- 6 x 6 mm, 40-lead QFN package

Applications

- Handheld care and beauty devices
- Handheld electric mini tools
- White goods door locks

Functional Block Diagram

