DA29020 Glow Plug Controller

Description

The DA29020 is a 5-channel driver for external high-side switches with integrated charge-pump. It is intended for PWM operation controlled by an external µC. The SPI interface provides a variety of configuration options to optimize EMC performance. The built in 10-Bit ADC allows for measurements of channel currents, various interface voltages and the die temperature. The integrated programmable short-circuit protection, over- and under-voltage detection and overtemperature shutdown protect the chip and the load. Operation in harsh environments including ground-shift, ground-loss, strong supply-transients, polarity reversal and a wiring-harness with significant inductance is supported. A programmable high-voltage control-input and a high-voltage diagnosis-output provide connection to the environment. Low-power sleep mode and different selectable wake-up mechanisms help to reduce the system level power consumption.

Features

- Integrated reverse battery protection
- AEC-Q100 grade 1 qualification
- 10-Bit ADC
- Typ. 14V supply, 30V max
- Over/under voltage detection
- Overtemperature protection
- Integrated gate driver with charge pump
- LDO and SPI interface to external controller
- Integrated gate driver with charge pump
- TQFP48 package with exposed pad

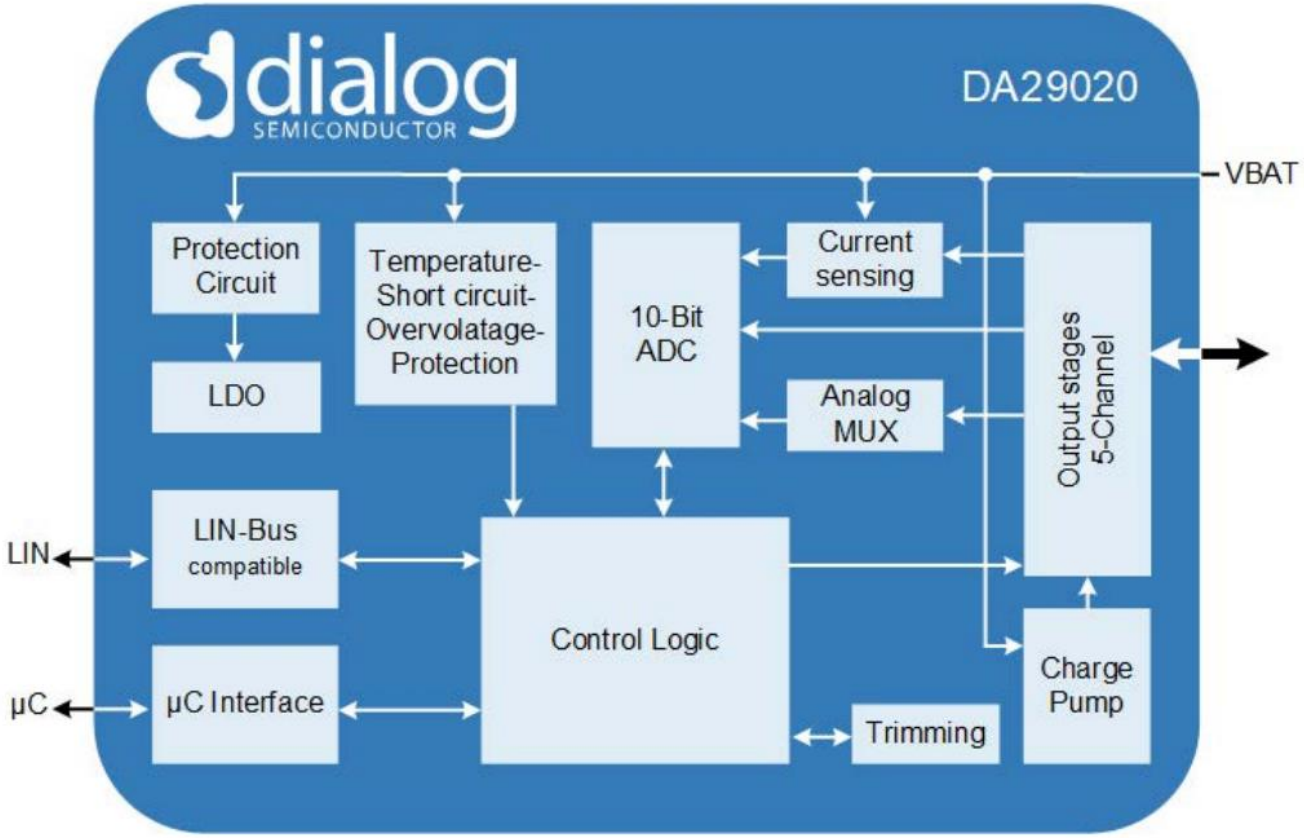
Benefits

- Diagnosis interface
- Glow plug current measurement with total accuracy 3.5%
- Integrated short circuit protection
- Digital measurement of Tj

Applications

- Adaptive glow plug control system for diesel engines
- PTC heater control

Block Diagram



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