

Product Overview

LV8968BBUWR2G: Multi-purpose BLDC Pre-driver, For Automotive

For complete documentation, see the data sheet.

The LV8968BB is a 3-phase BLDC/PMSM pre-driver with integrated BEMF (Back ElectroMotive Force) sensing and logic level FET compatibility. The wide operating voltage range and AEC-Q100 qualification make this device ideal for automotive applications. Six gate drivers provide 400 mA (typ) gate current to external power bridges allowing use of low-resistance power FETs as well as logic level FETs. All FETs are protected against overcurrent, short-circuit, over-temperature and gate undervoltage. A multitude of protection and monitoring features make this device suitable for ISO26262 applications. Three independent low-side source pins allow multiple shunt measurement.

The device also includes a programmable linear regulator, a fast current-sense amplifier and a window watchdog for microcontroller support. The SPI interface allows for real time parameter setup and diagnostics. Critical system parameters can be programmed into non-volatile OTP memory.

Junction temperature tolerance up to 175°C and control via wide level WAKE and PWM signals make the LV8968BB an ideal motor pre-driver for automotive applications such as engine cooling fans, fuel, oil, and hydraulic pumps.

Features

- Full Drive Power from 8 V to 28 V Supply Voltage with Transient Tolerance from 4.5 V to 40 V
 - Extended Voltage Range from 6 V to 33 V Using Logic-level Mode
 - Up to 25 kHz Motor PWM with Individual Six Gate Control or Drive-3 Mode with Integrated Programmable Dead-Time
 - 5 V / 3.3 V Linear Regulator for External Loads up to 50 mA
 - Extensive System Protection Features Including: ♦ Drain-Source Short Detection for External FET ♦ Overcurrent Shutoff ♦ Low Gate Voltage Warning ♦ Over-temperature Warning and Shutoff ♦ Over / Under Voltage Protection
 - SPI Interface for Parameter Setup and Diagnostic Access, Dynamic Access to Dead-Time, Amplifier Gain, and Short Circuit Levels
 - Non-Volatile (OTP) Memory for Storing Critical System Parameters
 - Wide Voltage Enable Line and PWM Interface
 - Integrated Window Watchdog Timer Function
 - AEC-Q100 Qualified and PPAP Capable
- For more features, see the data sheet

Applications

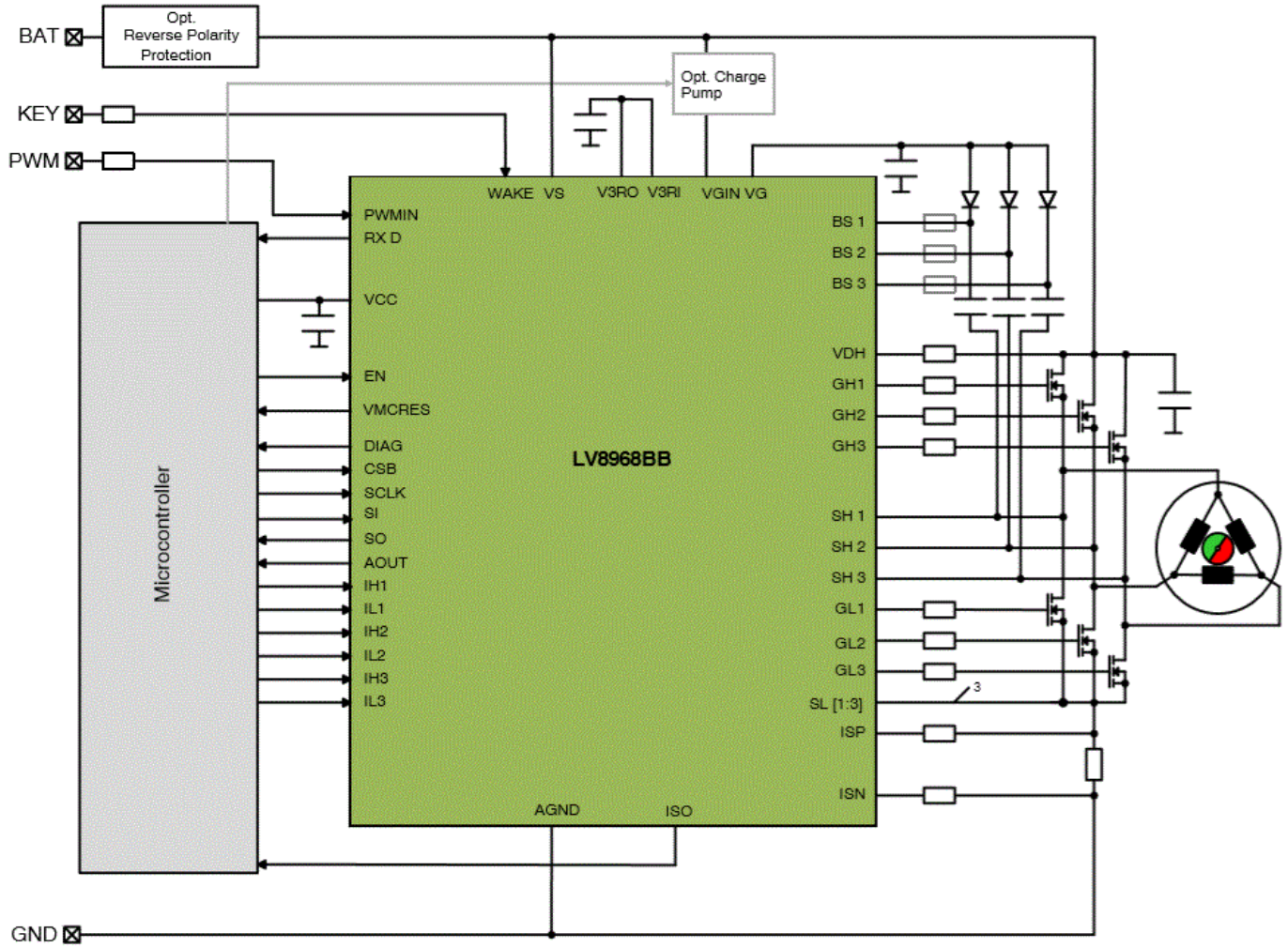
- Automotive Fuel, Oil, Water or Hydraulic Pumps
- Automotive Actuators
- Automotive HVAC and Cooling Fans
- Battery Operated Hand Power Tools
- White Goods

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Phase	V _M Min (V)	V _M Max (V)	V _{CC} Min (V)	V _{CC} Max (V)	I _O Max (A)	I _O Peak Max (A)	Control Type	Package Type
LV8968BBUWR2G	5.0159	AEC Qualified PPAP Capable Pb-free Halide free	Active	3	6	33					Parallel	SQFP-48K

Application Diagram

INTERNAL EQUIVALENT BLOCK DIAGRAM AND APPLICATION CIRCUIT



For more information please contact your local sales support at www.onsemi.com.

Created on: 6/23/2021