

# MC34929

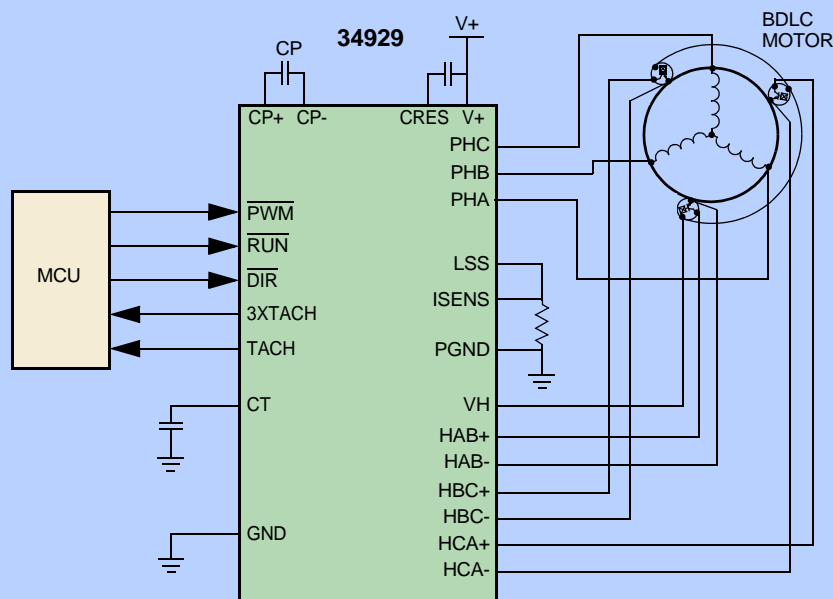
## Brushless DC Motor Driver IC

H-Bridge Motor Drivers

### DESCRIPTION

The 34929 Brushless DC (BLDC) Motor Driver IC is a complete BLDC motor driver system in one chip. It is designed to efficiently drive three-phase BLDC motors up to 1A and 28V, and has built in protection features making it ideal for a variety of consumer, portable, and office applications containing small motors. It incorporates digital I/O, making it easy to use with an MCU in a closed-loop motor control system. It has a built-in Hall-effect sensors interface and a Hall sensors voltage supply, so it can operate BLDC motors as a stand-alone controller/driver. Its sophisticated analog/mixed-signal state machine accommodates several modes of operation, including: Forward (CW), Reverse (CCW), Run/Stop, Braking, Variable Speed (External PWM), and Torque Limit (maximum-current-limit) modes.

### 34929 SIMPLIFIED APPLICATION DIAGRAM



### APPLICATIONS

- Home appliances
- Office automation equipment
- Industrial automation equipment
- Toys
- Robotics, etc.

### PERFORMANCE

### TYPICAL VALUES

Outputs	3
Output Continuous Current	Up to 1.0 A
Operating Voltage	8-28 V
ESD	
Human Body	2000
Machine Model	200
PWM Input Frequency	Up to 100 kHz
Operating Temperature	-0°C to 85°C

## FEATURES

- Single-Supply Operation (8 V–28 V)
- Built-in Hall Sensor Bias Supply
- 3-Phase Hall Sensor Interface
- Two Tachometer Outputs (1X and 3X Hall Frequency)
- Adjustable Current Limit
- Adjustable Locked Rotor Detection
- Short Circuit Detection and Protection
- Thermal Shutdown
- Devices available for comparison are in the Analog Product Selector Guide - SG1002 and Automotive Product Selector Guide - SG187

PROTECTION	DETECT	LIMITING	SHUT DOWN
Undervoltage	●		
Locked Rotor	●		●
Overcurrent		●	
Thermal			●
Short Circuit	●		

## CUSTOMER BENEFITS

- Very compact size: 4 x 4mm square
- Autonomous BLDC control
- Low current consumption
- Integrated stall detection
- Two tachometer outputs

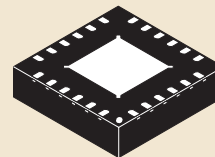
## QUESTIONS

- Are you driving a 1 Amp 3-phase BLDC motor?
- Do you need to drive a 3-phase BLDC motor without a microcontroller?
- Do you want to implement a closed loop control of a 3-phase BLDC motor with a simple microcontroller?
- Do you need to detect motor stall?
- Do you need a Tachometer Feedback from the BLDC motor's driver?
- Do you have a size constrain on your design?

## ORDERING INFORMATION

Device	Temperature Range (T <sub>A</sub> )	Package
MC34929EP	-0°C to 85°C	24 QFN
Data Sheet Order Number		MC34929

Contact Sales for Evaluation Kit Availability



24 QFN  
0.5 mm Pitch  
4.0 mm x 4.0 mm Body  
2.0 mm x 2.0 mm Exposed Pad