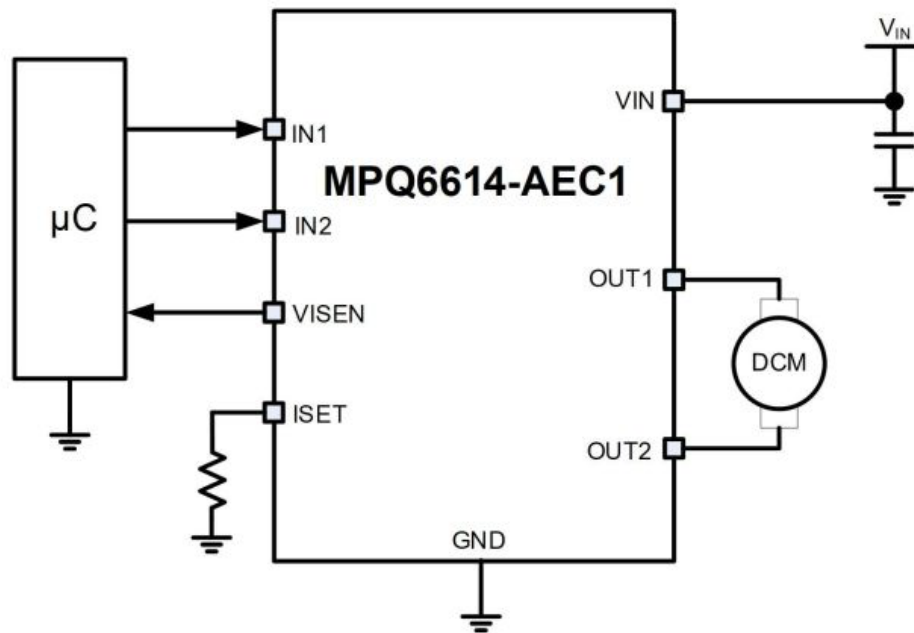


MPQ6614-AEC1

35V, H-Bridge DC Motor Driver, AEC-Q100 Qualified



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Description

The MPQ6614-AEC1 is an H-bridge motor driver designed to drive reversible motors. It can drive one DC motor, one winding of a stepper motor, or other loads. The H-bridge consists of four N-channel power MOSFETs, and an internal charge pump generates the gate driver voltages.

The MPQ6614-AEC1 operates on a motor power supply voltage from 5V to 35V, which can deliver up to 1.5A of continuous output current (I_{OUT}), depending on thermal and PCB conditions. An internal current-sense circuit provides an output with a voltage that is proportional to the load current. In addition, cycle-by-cycle current regulation and limiting are provided. These features do not require the use of a low-ohmic shunt resistor.

The MPQ6614-AEC1 has a pulse-width modulation (PWM) input interface, which is compatible with industry-standard devices. A brake is applied when stopping the motor. When disabled, the MPQ6614-AEC1 can achieve a low standby circuit current.

Internal shutdown functions include over-current protection (OCP), short-circuit protection (SCP), under-voltage lockout (UVLO), and thermal shutdown.

The MPQ6614-AEC1 requires a minimal number of readily available, standard external components. The MPQ6614-AEC1 is available in a QFN-8 (2mmx3mm) package with wettable flanks.

Features & Benefits

- Wide 5V to 35V Operating Input Voltage (V_{IN}) Range
- Internal Full H-Bridge Driver Supports 100% Duty Cycle
- 1.5A Continuous Output Current (I_{OUT})
- Low On Resistance ($R_{DS(ON)}$):
 - High-Side (HS): 250m Ω
 - Low-Side (LS): 190m Ω
- Simple, Versatile Logic Interfaces
- 3.3V and 5V Compatible Logic Supply
- Cycle-by-Cycle Current Regulation and Limiting
- Low Standby Circuit Current
- Over-Current Protection (OCP)
- Thermal Shutdown
- Under-Voltage Lockout (UVLO)
- Internal Charge Pump
- Available in a QFN-8 (2mmx3mm) Package with Wettable Flanks
- Available in AEC-Q100 Grade 1



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