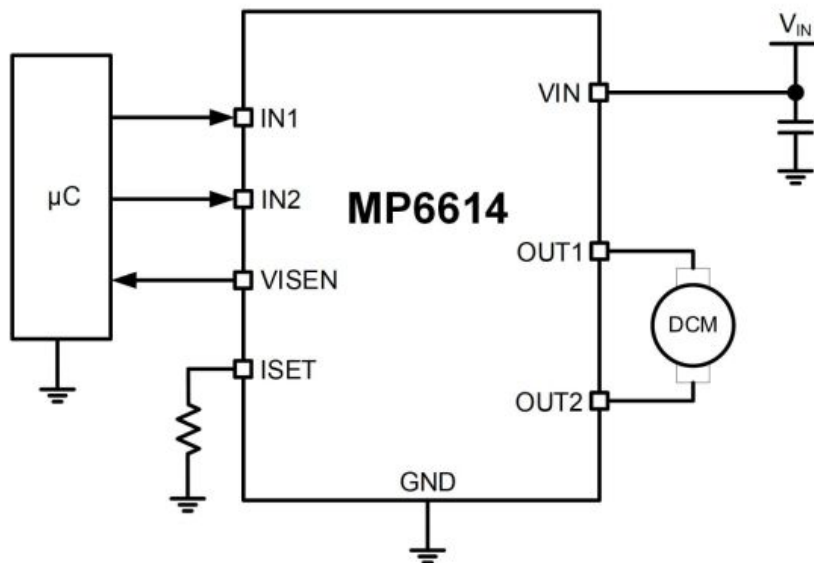


MP6614

35V, H-Bridge DC Motor Driver in an SOIC-8EP Package



Description

The MP6614 is an H-bridge motor driver designed to drive reversible motors. The device can drive one DC motor, one winding of a stepper motor, or other loads. The H-bridge integrates four N-channel power MOSFETs, and an internal charge pump generates the required gate driver voltages.

The MP6614 operates across a 5V to 35V input supply (V_{IN}) range. It can deliver up to 2A of continuous current (I_{OUT}), depending on the thermal and PCB layout. The MP6614 provides a pulse-width modulation (PWM) input interface that is compatible with industry-standard devices. A brake is applied to stop the motor, and a very low standby circuit current can be achieved when the device is disabled.

An internal current-sense circuit provides an output voltage (V_{ISEN}) that is proportional to the load current (I_{OUT}). In addition, cycle-by-cycle current regulation and limiting are provided. These features do not require a low-ohmic shunt resistor.

Internal protection features include over-current protection (OCP), short-circuit protection (SCP), under-voltage lockout (UVLO), and over-temperature protection (OTP).

The MP6614 requires a minimal number of readily available, standard external components. The MP6614 is available in an SOIC-8EP package.

Features & Benefits

- Wide 5V to 35V Operating Input Voltage (V_{IN}) Range
- Internal Full H-Bridge Driver Supports 100% Duty Cycle
- 2A Continuous Output Current (I_{OUT})
- Low On Resistance ($R_{DS(ON)}$) per MOSFET:
 - 280m Ω High-Side MOSFET (HS-FET)
 - 220m Ω Low-Side MOSFET (LS-FET)
- 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 Thermally Enhanced, Surface-Mounted SOIC-8EP Package



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