

TMI8870/B 3.6-A Brushed DC Motor Driver

FEATURES

- H-Bridge Motor Driver
Drives One DC Motor, One Winding of a Stepper Motor, or Other Loads
- Wide 6.8V to 45V Operating Voltage
- 3.6-A Peak Current Drive
- PWM Control Interface
- Integrated Current Regulation
- Low-Power Sleep Mode
- VM Undervoltage Lockout (UVLO)
- Overcurrent Protection (OCP)
 - Retry after OCP: TMI8870
 - Latch after OCP: TMI8870B
- Thermal Shutdown (TSD)
- Automatic Fault Recovery
- ESOP8 Small Package and Footprint

APPLICATIONS

- Printers
- Appliances
- Industrial Equipment
- Other Mechatronics Applications

TYPICAL APPLICATION

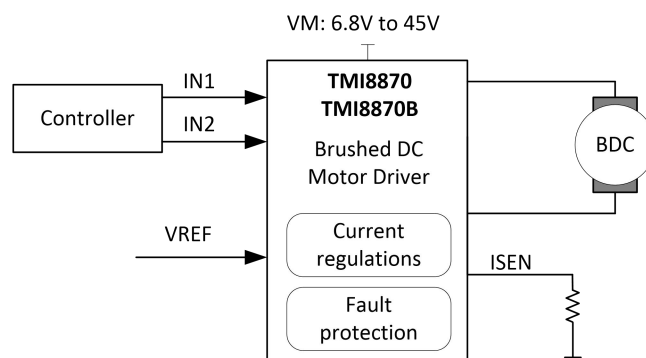


Figure 1. Basic Application Circuit

GENERAL DESCRIPTION

The TMI8870/B device are the brushed-DC motor drivers for printers, appliances, industrial equipment, and other small machines. Two logic inputs control the H-bridge driver, which consists of four N-channel MOSFETs that can control motors bidirectionally with up to 3.6-A peak current. The inputs can be pulse width modulated (PWM) to control motor speed, using a choice of current-decay modes. Setting both inputs slow enter a low-power sleep mode.

The TMI8870/B devices feature integrated current regulation, based on the analog input VREF and the voltage on the ISEN pin, which is proportional to motor current through an external sense resistor. The ability to limit current to a known level can significantly reduce the system power requirements and bulk capacitance needed to maintain stable voltage, especially for motor startup and stall conditions.

The devices are fully protected from faults and short circuits, including UVLO, OCP, and TSD.