Description

The TCM8870 device is a brushed-DC motor driver for robotics, 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 4.5A peak current. The inputs can be pulse width modulated (PWM) to control motor speed. Setting both inputs low enter a low-power sleep mode.

The TCM8870 device features 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 device is fully protected from faults and short circuits, including undervoltage (UVLO), overcurrent (OCP), and overtemperature (OTSD). When the fault condition is removed, the device automatically resumes normal operation.

Features

- 7.0 to 40.0 V Operating Voltage
- 550-mΩ Typical R_{DSON} (HS + LS)
- 4.5A Peak Current Drive
- PWM Control Interface
- Integrated Current Regulation
- Low-Power Sleep Mode
- H-Bridge Motor Driver
  - Drives One DC Motor, One Winding of a Stepper Motor, or Other Loads
- **Integrated Protection Features**
  - VM Undervoltage Lockout (UVLO)
  - Overcurrent Protection (OCP)
  - Thermal Shutdown (TSD)
  - Automatic Fault Recovery
- ESOP8 Package Available

Applications

- Robotics (Sweeping robot, R/C servo)
- 2-4 Li Battery Motor Applications
- Appliances
- Industrial Equipment
- Any Relevant DC Motor Applications.

Device Information

Part No.	Package	Quantity
TCM8870_EH	ESOP8	4000/Reel

Package & Simplified Schematic