



Product Overview

MC33033: Brushless DC Motor Controller, 3-Phase

For complete documentation, see the data sheet

Product Description

The MC33033 is a high performance second generation, limited feature, monolithic brushless dc motor controller which has evolved from the full featured MC33034 and MC33035 controllers. It contains all of the active functions required for the implementation of open loop, three or four phase motor control. The device consists of a rotor position decoder for proper commutation sequencing, temperature compensated reference capable of supplying sensor power, frequency programmable sawtooth oscillator, fully accessible error amplifier, pulse width modulator comparator, three open collector top drivers, and three high current totem pole bottom drivers ideally suited for driving power MOSFETs. Unlike its predecessors, it does not feature separate drive circuit supply and ground pins, brake input, or fault output signal.

Included in the MC33033 are protective features consisting of undervoltage lockout, cycle-by-cycle current limiting with a selectable time delayed latched shutdown mode, and internal thermal shutdown.

Typical motor control functions include open loop speed, forward or reverse direction, and run enable. The MC33033 is designed to operate brushless motors with electrical sensor phasings of 60° /300° or 120° /240° , and can also efficiently control brush dc motors.

Features

- 10 to 30 V Operation
- Undervoltage Lockout
- 6.25 V Reference Capable of Supplying Sensor Power
- Fully Accessible Error Amplifier for Closed Loop Servo Applications
- High Current Drivers Can Control External 3-Phase MOSFET Bridge
- Cycle-By-Cycle Current Limiting
- Internal Thermal Shutdown
- Selectable 60° /300° or 120° /240° Sensor Phasings
- Also Efficiently Control Brush DC Motors with External MOSFET H-Bridge

Applications

- Automotive

Part Electrical Specifications

Product	Compliance	Status	Type	V _M Min (V)	V _M Max (V)	V _{CC} Min (V)	V _{CC} Max (V)	I _O Max (A)	I _O Peak Max (A)	Step Reso lution	Cont rol Type	Feed back Meth od	Curr ent Sense	Reg ulato r Outp ut	Fault Dete ction	Flyb ack Prot ectio n	R _{DS(ON)} Typ (Ω)	Pack age Type
MC33033DWR2G	Pb-free Halide free	Active	Brushless DC	10	40	10	30	0.1	0.1				External Resistor	Yes				SOIC-20W

For more information please contact your local sales support at www.onsemi.com

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