



Product Overview

NCV33035: Brushless DC Motor Controller

For complete documentation, see the data sheet

Product Description

The MC33035 is a high performance second generation monolithic brushless DC motor controller containing all of the active functions required to implement a full featured open loop, three or four phase motor control system. This device consists of a rotor position decoder for proper commutation sequencing, temperature compensated reference capable of supplying sensor power, frequency programmable sawtooth oscillator, three open collector top drivers, and three high current totem pole bottom drivers ideally suited for driving power MOSFETs.

Also included are protective features consisting of undervoltage lockout, cycle-by-cycle current limiting with a selectable time delayed latched shutdown mode, internal thermal shutdown, and a unique fault output that can be interfaced into microprocessor controlled systems.

Typical motor control functions include open loop speed, forward or reverse direction, run enable, and dynamic braking. The MC33035 is designed to operate 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
- Pinned-Out Current Sense Reference
- Internal Thermal Shutdown
- Selectable 60° /300° or 120° /240° Sensor Phasings
- Can Efficiently Control Brush DC Motors with External MOSFET H-Bridge

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	Control Type	Feed- back Method	Current Sense	Regu- lator Output	Fault Detection	Fly- back Protec- tion	R _{DS(on)} Typ (Ω)	Package Type
NCV33035DWR2G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Brush- less DC	10	40	10	30	0.1	0.1				Exter- nal Resi- stor		Ther- mal			SOI C-24

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