

## Product Overview

### MC33166: Buck / Boost / Inverting Regulator, Switching, 3.0 A

For complete documentation, see the data sheet.

The MC34166, MC33166 series are high performance fixed frequency power switching regulators that contain the primary functions required for dc-dc converters. This series was specifically designed to be incorporated in buck, boost and inverting applications with a minimum number of external components and can also be used cost effectively in step-up applications. These Buck Boost Inverting Switching Regulators consist of an internal temperature compensated reference, fixed frequency oscillator with on-chip timing components, latching pulse width modulator for single pulse metering, high gain error amplifier and a high current output switch. Protective features consist of cycle-by-cycle current limiting, undervoltage lockout, and thermal shutdown. Also included is a low power standby mode that reduces power supply current to 36 mA.

### Features

- Output Switch Current in Excess of 3.0 A
- Fixed Frequency Oscillator (72 kHz) with On-Chip Timing
- Provides 5.05 V Output without External Resistor Divider
- Precision 2% Reference
- 0% to 95% Output Duty Cycle
- Cycle-by-Cycle Current Limiting
- Undervoltage Lockout with Hysteresis
- Internal Thermal Shutdown
- Operation from 7.5 V to 40 V
- Standby Mode Reduces Power Supply Current to 36  $\mu$ A

For more features, see the data sheet

### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	Control Mode	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	V <sub>O</sub> Typ (V)	I <sub>O</sub> Typ (A)	Efficiency (%)	f <sub>sw</sub> Typ (kHz)	Package Type
MC33166D2TG	1.5249	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Up/Step-Down	Voltage Mode	7.5	40	1.5 to 40	3			D <sup>2</sup> PAK-5
MC33166D2TR4G	1.2442	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Up/Step-Down	Voltage Mode	7.5	40	1.5 to 40	3			D <sup>2</sup> PAK-5
MC33166TG	1.92	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Up/Step-Down	Voltage Mode	7.5	40	1.5 to 40	3			TO-220-5
MC33166TVG	1.92	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Up/Step-Down	Voltage Mode	7.5	40	1.5 to 40	3			TO-220-5
MC34166D2TR4G	1.9733	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Up/Step-Down	Voltage Mode	7.5	40	1.5 to 40	3			D <sup>2</sup> PAK-5
MC34166TG	1.8933	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Up/Step-Down	Voltage Mode	7.5	40	1.5 to 40	3			TO-220-5
MC34166THG		Pb-free Halide free non AEC-Q and PPAP	Active	Step-Up/Step-Down	Voltage Mode	7.5	40	1.5 to 40	3			TO-220-5
MC34166TVG	1.0977	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Up/Step-Down	Voltage Mode	7.5	40	1.5 to 40	3			TO-220-5

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com).

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