

## General Description

The MB5001 is a high-efficiency synchronous buck regulator using a constant frequency, current mode architecture. The device is available in an adjustable version. Supply current with non-load is 40 $\mu$ A and to <1 $\mu$ A in disable. The 2.5V to 5.5V input voltage range makes the MB5001 ideally suited for single Li-Ion battery powered applications. 100% duty cycle provides low dropout operation, extending battery life in portable systems. PWM/PFM mode operation provides very low output ripple voltage for noise sensitive applications.

Switching frequency is internally set at 1.5MHz, allowing the use of small surface mount inductors and capacitors. Low output voltages are easily supported with the 0.6V feedback reference voltage.

The MB5001 is offered in a low profile (1mm) 5-pin, thin SOT package, and is available in an adjustable version.

## Features

- High Efficiency: Up to 96%
- 2.5V to 5.5V Input Voltage Range
- 1.5MHz Constant Frequency Operation
- Low Dropout Operation: 100% Duty Cycle
- PFM Mode for High Efficiency in Light Load
- Over Temperature Protected
- Low Quiescent Current: 40 $\mu$ A
- Short Circuit Protection
- Inrush Current Limit and Soft Start
- 1A Continuous Output Current
- SOT23-5 package

## Applications

- Cellular and Smart Phones IPTV
- Wireless and DSL Modems STB
- Portable IOT
- Digital Still and Video Cameras
- PC Cards

## Typical Application Circuit

