Synchronous Buck-Boost DC/DC Regulator

Features

- Synchronous Rectification: Up to 95% Efficiency
- Single Inductor
- Fixed Frequency Operation with Battery Voltages Above, Below or Equal to the Output
- Quiescent Current：1mA (50uA low power mode: mode pin high)
- Up to 1A Continuous Output Current
- 2.7V to 5.5V Input and Output Voltage range
- Programmable oscillator frequency from 350kHz to 1.5MHz
- No Schottky Diodes required（VOUT<4.3V）
- V_{OUT} Disconnected from V_{IN} During Shutdown
- ＜1μA Shutdown Current
- Package: Small Thermally Enhanced 10-pin MSOP

Applications

- Handheld Instruments
- MP3/MP4 Players
- Palmtop computers
- Digital Cameras

Description

The HX8001 is high efficiency, fixed frequency, Buck-Boost DC/DC converter that operates from input voltages above, below or equal to the output voltage. The devices are suitable for single lithium-ion, multicell alkaline or NiMH applications where the output voltage is within the battery voltage range.

The switching frequencies up to 1.5 MHz could be fixed by employing an external resistor, and the oscillator could be synchronized to an external clock. The quiescent current is 1mA, and this feature maximizing the battery life in portable applications.

Other features include a 1μA shutdown, thermal shutdown and current limit. The HX8001 is available in the 10-pin thermally enhanced MSOP packages (or upon request).