

1.2 MHz, Micropower Synchronous Step-Up Converter

General Description

The PN2261 is synchronous, fixed frequency, step-up DC/DC converters delivering high efficiency in a 6-lead SOT package. Capable of supplying 3.3V at 100mA from a single AA cell input, the device contains an internal NMOS switch and PMOS synchronous rectifier. A switching frequency of 1.2MHz minimizes solution footprint by allowing the use of tiny, low profile inductors and ceramic capacitors. The current mode PWM design is internally compensated, reducing external parts count. The PN2261 features continuous switching at light loads. Anti-ringing control circuitry reduces EMI concerns by damping the inductor in discontinuous mode, and the device features low shutdown current of under 1uA. The device is available in the small profile (1.1mm) SOT23-6L package.

Applications

- Cellular and Smart Phones
- Microprocessors and DSP Core Supplies
- Wireless and DSL Modems
- MP3 Player
- Digital Still and Video Cameras
- Portable Instruments

Typical Application Circuit

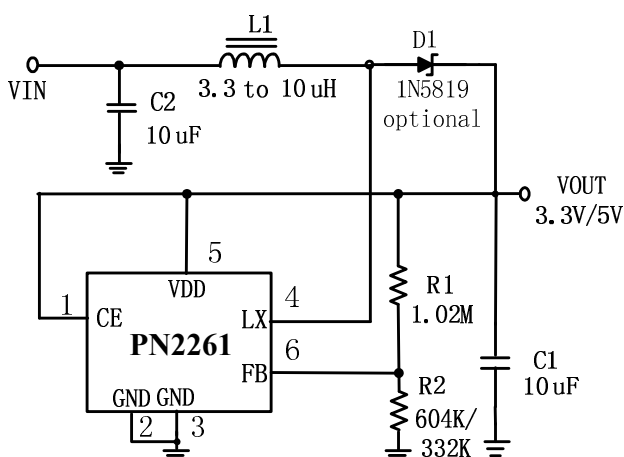


Figure 1. Basic Application Circuit with PN2261 Adjustable Version

Features

- High Efficiency: Up to 92%
- 1.2MHz Constant Switching Frequency
- 3.3V Output Voltage at $I_{OUT}=100mA$ from a Single AA Cell; 5.0V Output Voltage at $I_{OUT}=500mA$ from one Li battery.
- Start-up Voltage: 1.0V
- Integrated main switch and synchronous rectifier. No Schottky Diode Required
- 2.5V to 5V Output Voltage Range
- Automatic Pulse Skipping Mode Operation
- Tiny External Components
- $<1\mu A$ Shutdown Current
- Anti-ringing Control Reduces EMI
- Space Saving 6-Pin SOT23 Package

Package

SOT23-6L

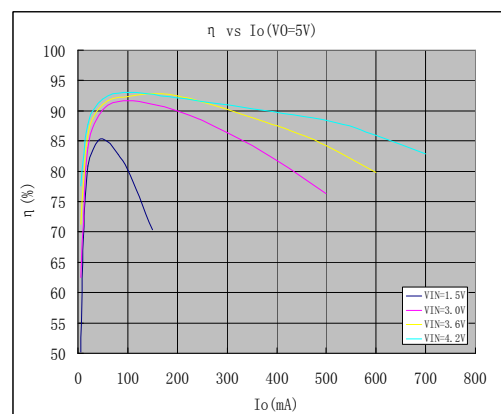
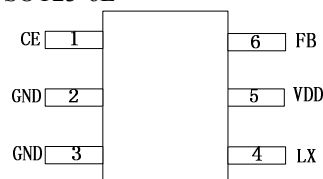


Figure 2. Typical Efficiency Curve