

## 3A Synchronous Step-Down Converter

### GENERAL DESCRIPTION

The YB2430 are high-efficiency, high frequency synchronous step-down DC-DC regulator ICs capable of delivering up to 3A output currents. The YB2430 can operate over a wide input voltage range from 2.5V to 6.0V and integrate main switch and synchronous switch with very low RDS(ON) to minimize the conduction loss.

It is ideal for powering portable equipment that runs from a single cell Lithium-Ion (Li+) battery. The output voltage can be regulated as low as 0.6V. The YB2430 can also run at 100% duty cycle for low dropout operation, extending battery life in portable system. This device offers two operation modes, PWM control and PFM Mode switching control, which allows a high efficiency over the wider range of the load.

The YB2430 is offered in a low profile 6-pin, thin QFN2X2 package, and is available in an adjustable version.

### FEATURES

- High Efficiency: Up to 96%
- 1.1MHz Constant Frequency Operation
- 3A Output Current
- No Schottky Diode Required
- 2.5V to 6.0V Input Voltage Range
- Output Voltage as Low as 0.6V
- PFM Mode for High Efficiency in Light Load
- 100% Duty Cycle in Dropout Operation
- Low Quiescent Current: 40 $\mu$ A
- Short Circuit Protection
- Thermal Fault Protection
- Inrush Current Limit and Soft Start
- QFN2X2-6 package

### APPLICATIONS

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

### TYPICAL APPLICATION

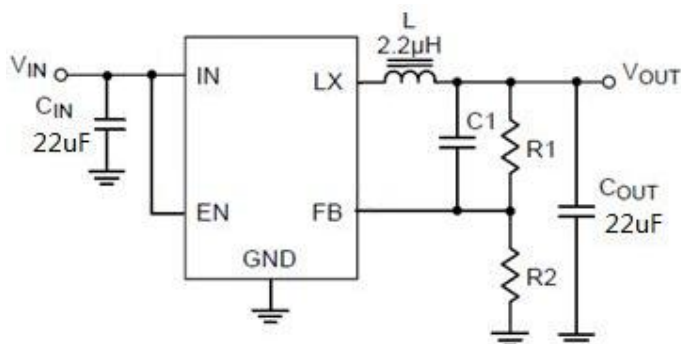


Figure 1: High Efficiency Step-down Converter