

2MHz, 600mA Synchronous Step-Down Converter with Low Quiescent Current

GENERAL DESCRIPTION

The APS1086 is a 2 MHz constant frequency, high efficiency, slope compensated current mode PWM step-down DC-to-DC converter. The device integrates a main switch and a synchronous rectifier for high efficiency without an external Schottky diode. The APS1086 can operate from a 2.5V to 5.5V input voltage and is ideal for powering portable equipment that runs from a single cell lithium-Ion (Li+) battery. It can supply 600mA output current and can also run at 100% duty cycle for low dropout operation, extending battery life in portable system.

The APS1086 features a Power Saving Mode which reduces quiescent current to just 30µA and significantly improves efficiency at light load.

The APS1086 is offered in a low profile (1mm) 5-pin, SOT package, and is available in an adjustable version and fixed output voltage of 1.2V, 1.5V and 1.8V.

APPLICATIONS

- Cellular and Smart Phones
- PDAs
- MP3 Player
- DSP Core Supplies
- Digital Still and Video Cameras
- Portable Instruments

FEATURES

- High Efficiency: Up to 96%
- 2 MHz Constant Switching Frequency
- 600mA Output Current at $V_{IN}=3.0V$
- Integrated Main switch and synchronous rectifier.
- No Schottky Diode Required
- 2.5V to 5.5V Input Voltage Range
- Available in Fixed Output Voltages and Adjustable Version
- Output Voltage as Low as 0.6V
- 100% Duty Cycle in Dropout
- Low Quiescent Current: 30µA
- <1uA Shutdown Current
- Slope Compensated Current Mode Control for Excellent Line and Load Transient Response
- Short Circuit and Thermal Fault Protection
- Space Saving 5-Pin Thin SOT23 package

Order Information

Part Number	Top Mark	Temp Range
APS1086ES5	H1XY*	-40°C to +85°C
APS1086ES5-1.2	H2XY	
APS1086ES5-1.5	H3XY	
APS1086ES5-1.8	H4XY	

*Note XY = Manufacturing Date Code

Typical Application

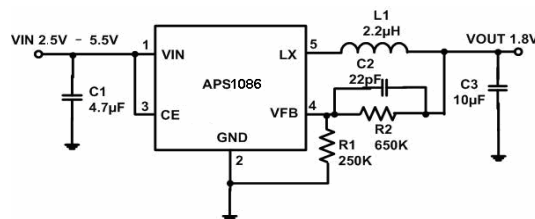


Figure1. Basic Application Circuit with APS1086 Adjustable Version