

# 2.3MHz, 6V/1.0A Synchronous Step-Down Converter

### **FEATURES**

- . High Efficiency: Up to 94%
- . 2.3MHz Frequency Operation
- . 1.0A Output Current
- . Input OVP 6.1V
- No Schottky Diode Required
- 2.5V to 6V Input Voltage Range
- Output Voltage as Low as 0.6V
- 100% Duty Cycle in Dropout
- . Low Quiescent Current: 40µA
- Slope Compensated Current Mode Control for
  Excellent Line and Load Transient Response
- . Short Circuit Protection
- Thermal Fault Protection
- . Inrush Current Limit and Soft Start
- Input over voltage protection (OVP)
- <1µA Shutdown Current
- SOT23-5 Package

## **APPILCATION CIRCUITS**



#### **GENERAL DESCRIPTION**

The TMI3101 is a constant frequency, current mode PWM step-down converter. The device integrates a main switch and a synchronous rectifier for high efficiency without an external Schottky diode. 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 TMI3101 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.

#### APPLICATIONS

Cellular and Smart Phones

- Wireless and DSL Modems
- PDA/MID/PAD
- Digital Still and Video Cameras



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