

## GENERAL DESCRIPTION

SGM61044 is a high frequency synchronous Buck converter with an input voltage range from 2.4V to 5.5V and a wide output current range, optimized for compact solutions. For SGM61044A, to keep the high efficiency in the whole load range, the device operates in pulse width modulation (PWM) mode at normal load and automatically enters the power-save mode (PSM) at light loads. The minimum static current is only 5.7 $\mu$ A to maintain its high efficiency. For SGM61044B, the device operates in force PWM mode at light and heavy loads.

With its adaptive hysteresis and pseudo-constant on-time control (AHP-COT) architecture, the load transient performance is excellent and the output voltage regulation accuracy is achieved.

The device is available in a Green UTDFN-1.5 $\times$ 1.5-6L package.

## FEATURES

- **AHP-COT Architecture for Fast Transient Regulation**
- **2.4V to 5.5V Input Voltage Range**
- **4A Output Current**
- **0.6V to 4V Wide Output Voltage Range**
- **Low Quiescent Current: 5.7 $\mu$ A (SGM61044A)**
- **100% Duty Cycle for the Lowest Dropout**
- **Output Discharge Function**
- **Power Good Output**
- **Thermal Shutdown**
- **Power-Save Mode at Light Loads: SGM61044A**
- **Force PWM Mode: SGM61044B**
- **Hiccup Short-Circuit Protection**
- **Available in a Green UTDFN-1.5 $\times$ 1.5-6L Package**

## APPLICATIONS

- Battery-Powered Applications
- Point-of-Load
- Processor Power Supplies
- Hard Disk Drives (HDD)/Solid State Drives (SSD)

## TYPICAL APPLICATION

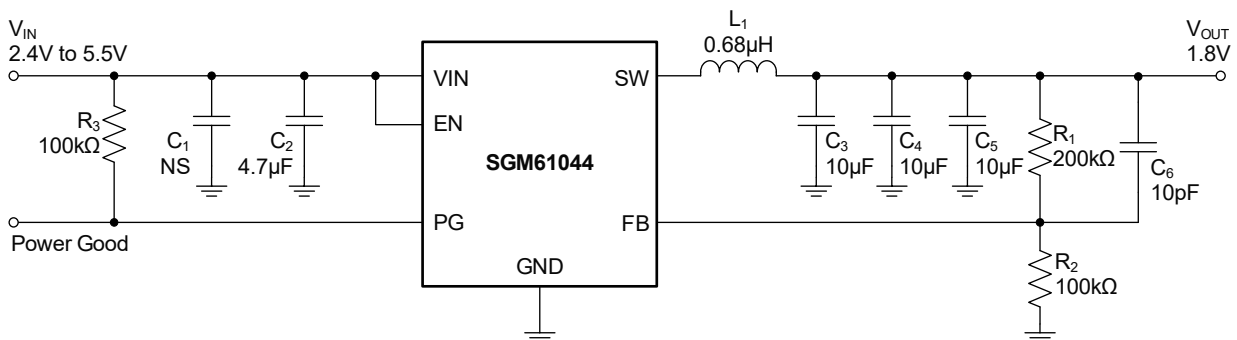


Figure 1. Typical Application Circuit











































