

2.7V to 30V Input 55µA Quiescent Current Synchronous Boost Controller

Description

The MT5086 is a high efficiency synchronous Boost PWM controller that drives all N-channel power MOSFETs to step up output voltage up to 30V. Synchronous rectification increases efficiency, reduces power losses and eases thermal requirements, allowing the MT5086 to be used in high power step-up applications. The 2.7V to 30V input voltage range supports a wide range of battery and AC powered inputs. The 55µA no load quiescent current extends operating run time in battery-powered systems.

The adjustable operating frequency (100kHz to 1MHz) can be synchronized to an external clock with the internal PLL. The MT5086 also features a precision 1.203V reference and a power good output indicator. The MODE/SYNC pin selects between pulse skipping mode and force PWM mode at light loads.

Features

- 2.7V to 30V (40V Abs Max) Input Range
- 30V Maximum Output Voltage
- ±1.5% 1.203V Reference Voltage
- Low Quiescent Current 55µA
- Shutdown Supply Current 3.5µA
- Adjustable Input UVLO through EN pin
- Resistor or Inductor DCR Current Sensing
- Adjustable Frequency from 100kHz to 1MHz with Synchronization Capability to an external clock
- Output Voltage Power Good Indicator
- Internal 5.4V LDO for Gate Drive Supply
- Cycle-by-Cycle Current Limit
- Thermal Shutdown
- QFN3mm×3mm_16L Packages
- Pb-Free ROHS compliant

Application

- 5V,9V,12V,20V and 24 VDC Bus Power
- Power Banks and Electronic Cigarette
- USB-PD and Thunderbolt Ports for PCs
- Tablet Computer Accessories
- Industrial Battery Powered Systems
- RF Power Amplifiers
- Synchronous Flyback

Typical Application

