

5V 3A 1MHz Synchronous Step-Down DC/DC Converter

DESCRIPTION

The MT3013 is a 3A high frequency synchronous Step Down DC/DC converter using constant frequency, current mode architecture. The device integrates main switch and synchronous rectifier switch for high efficiency without an external schottky diode. To maximize light load efficiency, The MT3013 draws only 40µA quiescent current to improve light load efficiency. In shutdown, The MT3013 reduces supply current less than 1µA. The MT3013 can supply 3A of load current from 2.5V to 6.0V input voltage. The output voltage can be regulated as low as 0.6V. The switching frequency is internally set at 1MHz. The MT3013 automatically operates PSM or PWM mode depending on the external load. The MT3013 has built-in internal Soft Start, Short Circuit Protection and OTP functions, allowing the use of small surface mount inductors and capacitor. The MT3013 is available in a low profile DFN2x2mm_8L package.

FEATURES

- Input Voltage Range from 2.5V to 6.0V
- +/- 2% 0.6V Feedback Voltage Accuracy
- 1MHz Switching Frequency
- Continuous Output Current up to 3A
- Low Quiescent Current of 40µA
- 0.1µA Shutdown Current
- 100% Duty Cycle Operation
- Built-in 110/80mΩ Power Switch
- Internal Soft-Start
- Cycle-by-Cycle Current Limit Protection
- Over-Load and Hiccup Mode Short Circuit
- Thermal Shutdown Protection
- PWM with Power Saving Mode
- Available in a Small DFN2x2mm_8L Package
- Pb-Free RoHS Compliant

APPLICATIONS

- Solid-State and Hard Disk Drives
- Wireless and DSL Card
- Portable/Handheld Device
- STB, TV, Sound Bar, MP3 Player
- Microprocessor and DSP Core Supply

Typical Applications

