500kHz, 18V, 3.0A Synchronous Step-Down Converter

FEATURES

- High Efficiency: Up to 93%(@3.3V)
- 500KHz Frequency Operation
- 3.0A Output Current
- Low RDSON for internal switches: 80mΩ /40mΩ(top/bottom)
- 4.5V to 18V Input Voltage Range
- 0.6V Reference
- Instant PWM architecture to achieve fast transient responses
- Integrated internal compensation
- Stable with Low ESR Ceramic Output Capacitors
- Thermal Shutdown
- Inrush Current Limit and Soft Start
- Available in SOT23-6 Package

GENERAL DESCRIPTION

The STI3471 is a high-efficiency 500kHz switching frequency synchronous Buck DC-DC converter with capability of delivering 3A output current. STI3471 integrates main switch and synchronous switch with very low RDS(ON) to minimize the conduction loss. Low output voltage ripple and small external inductor and capacitor size are achieved with 500KHz switching frequency. It adopts the instant PWM architecture to achieve fast transient responses for high step-down applications.

The STI3471 requires a minimum number of readily available standard external components and is available in a 6-pin SOT23 ROHS compliant package.

APPLICATIONS

- Distributed Power Systems
- Digital Set Top Boxes
- Flat Panel Television and Monitors
- Notebook computer
- Wireless and DSL Modems

TYPICAL APPILCATION

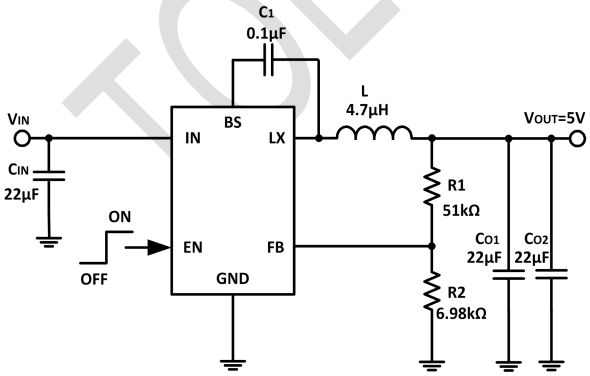

Figure 1. Basic Application Circuits

Efficiency

V_{OUT}=5V, L=4.7μH