18V 500KHz 6A Fast-PWM Synchronous Step-Down Converter

DESCRIPTION

The MT8965 is a fully integrated high efficiency synchronous step-down converter which requires minimum number of external components. It offers very compact solution with up to 6A continuous output current over a wide input range.

The MT8965 employs proprietary Constant On-Time (COT) control scheme providing superior transient response and maintaining constant switching frequency under the continuous conduction mode operation. The external ramp compensation network allows stable operation with ultra-low equivalent series resistance (ESR) output ceramic capacitors. An internal compensated error amplifier in the control loop provides excellent line and load regulation.

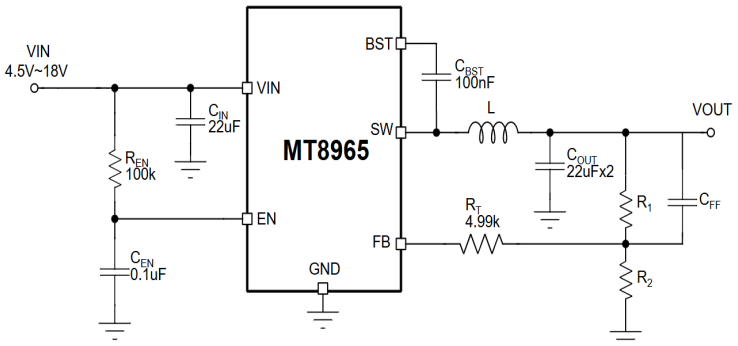
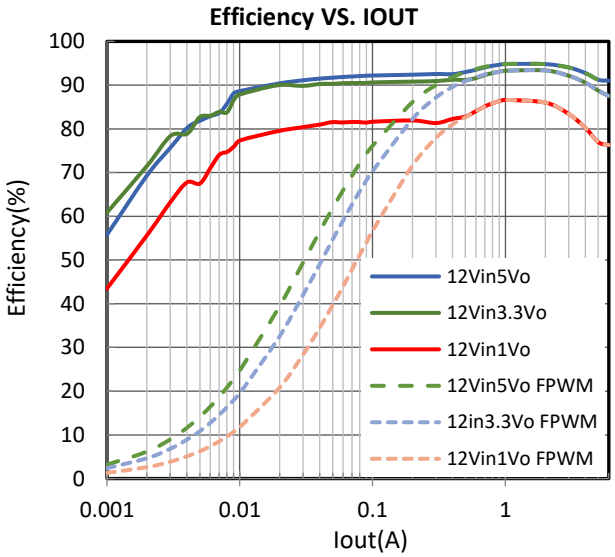
The MT8965 integrates extensive protection functions including: UVLO, OCP, UVP and thermal shutdown. The converter is available in a small 6pin TSOT236 and a 10 lead DFN2.5mmx1.5mm package.

FEATURES

- Input Voltage Range: 4.5V to 18V
- Output Voltage range: 0.6V to 18V
- 6A continuous output current
- Support 100% duty cycle Low Dropout Operation
- Stable operation with low ESR ceramic output capacitors
- Fast PWM COT control with superior transient performance and stable switching frequency.
- 500KHz Switching frequency
- Internal 1.1ms Soft-Start
- Integrated 30mΩ/ 19mΩ HS/LS Power Switches
- Accurate EN UVLO threshold
- High Efficiency Operation at light load
- Thermal Shutdown with Auto recovery.
- Hiccup mode short circuit protection
- Available in a TSOT23_6L and DFN2.5x1.5_10L package.

APPLICATIONS

- Laptop Computer
- Tablet PC
- Networking Systems
- Personal Video Recorders
- Flat Panel Television and Monitors
- Distributed Power Systems

Confidential Datasheet

TYPICAL APPLICATIONS