

24V 1.4MHz 3A Fast-PWM Synchronous Step-Down Converter

DESCRIPTION

The MT8693 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 3A continuous output current over a wide input range.

The MT8693 employs proprietary Constant On-Time (COT) control scheme providing superior transient response and maintaining constant switching frequency under the continuous conduction mode operation. The internal ramp compensation network allows stable operation with ultra-low equivalent series resistance (ESR) output ceramic capacitors without using external compensation network. An error amplifier in the control loop provides excellent line and load regulation.

The MT8693 integrates extensive protection functions include: UVLO, OCP, UVP and thermal shutdown. The converter is available in a small SOT23_6L package.

FEATURES

- Input Voltage Range from 4V to 24V
- Output Voltage Adjustable from 0.6V to 24V
- 3A continuous output current
- Support 100% duty cycle Low Dropout Operation
- Stable operation with output low ESR ceramic capacitors
- Fast PWM COT control with superior transient performance
- 1.4MHz Switching Frequency
- Internal 1.2ms Soft-Start
- Integrated 70mΩ/ 47mΩ HS/LS Power Switches
- Accurate EN UVLO threshold
- Thermal Shutdown with Auto recovery.
- Hiccup mode at short circuit protection
- Available in a SOT23_6L Package

APPLICATIONS

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

TYPICAL APPLICATIONS

