24V Input 3A 1.2MHz Synchronous Step-Down DC/DC Converter

DESCRIPTION

The MT8983 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 MT8983 has synchronous mode operation for higher efficiency across the output current load range.

The MT8983 employs proprietary Constant On-Time (COT) control scheme providing superior transient response and maintaining constant switching frequency under the continuous conduction mode operation. An internal compensated error amplifier in the control loop provides excellent line and load regulation.

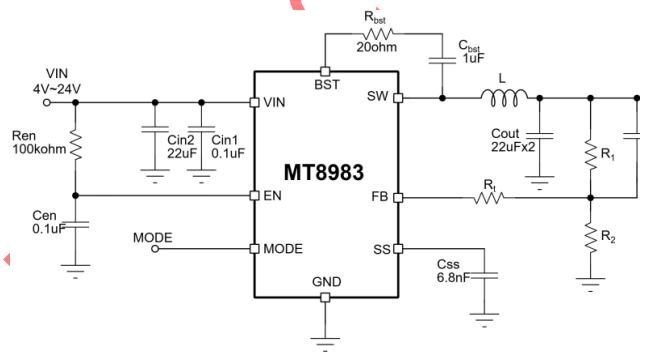
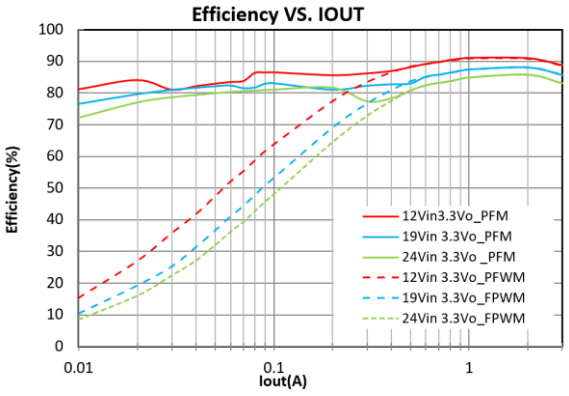
The MT8983 integrates extensive protection functions include: UVLO, OCP, UVP and thermal shutdown. The converter is available in a small 8pin SOT583 package.

FEATURES

- Wide Input Range from 4V to 24V
- Output Voltage Adjustable from 0.8 V to 24V
- 3A Continuous Output Current
- Support 100% Duty Cycle Low Dropout Operation
- Stable Operation with Low ESR Ceramic Capacitors
- Fast PWM COT Control with Superior Transient Performance
- 1.2MHz Switching Frequency
- Selectable Forced PWM, Auto-PFM/PWM and Ultrasonic Mode
- Configurable Soft-Start Time，Internal 1ms Soft-Start
- Integrated 67mΩ/ 37mΩ HS/LS Power Switches
- Accurate EN UVLO Threshold
- High Efficiency Operation at Light Load
- Pre-Biased Start-Up
- Over-Load and Short Circuit Hiccup Mode
- Thermal Shutdown with Auto Recovery
- Available in Small SOT583_8L
- Pb-Free RoHS Compliant

APPLICATIONS

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

Confidential Datasheet

TYPICAL APPLICATIONS