

5V Input 3A(4A Peak) 1.25MHz Synchronous Step-Down DC/DC Converter

DESCRIPTION

The MT8103 is a 1.25MHz, 3A continued (4A Peak) constant on-time (COT) controlled synchronous step-down converter. It can operate with input voltage from 2.5V to 5.5V and provides output range from 0.6V to input level. The constant on-time control scheme simplifies loop compensation and offers excellent load transient response. The high gain error amplifier in the control loop provides excellent load and line regulation. Proprietary adaptive on-time helps MT8103 to achieve nearly constant switching frequency across load range. MT8103 has cycle-by-cycle current limit and hiccup mode to protect over-load or short circuit fault conditions.

MT8103 is available in low profile 6 leads SOT563.

FEATURES

- Wide Input Range from 2.5V to 5.5V
- 3A Continuous Output Current (4A Peak)
- Proprietary Fast Transient Constant On Time Architecture Stable with low ESR Ceramic Output Capacitors
- +/- 1% 0.6V Feedback Voltage
- 1.25MHz Switching Frequency
- Up to 95% Efficiency
- 18µA Quiescent Current (MT8103N) PFM mode
- 100% Duty Cycle Operation
- Built-in Power Switches
HS/LS MOS:55mΩ/25mΩ @5V VIN
- Internal 1msec Soft-Start
- Cycle-by-cycle Current Limit Protection
- Over-Load and Short Circuit Hiccup Mode
- Open Drain Power Good Indication
- Output Discharge
- Thermal Shutdown Protection
- Available in Small SOT563
- Pb-Free RoHS Compliant

APPLICATIONS

- Solid-State and Hard Disk Drives
- Smart Phone and Tablets
- Wi-Fi RF Modules
- IoT peripherals device

TYPICAL APPLICATION

