

5V Input 3A 1.5MHz Synchronous Step-Down DC/DC Converter

DESCRIPTION

The MT8173 is a 1.5MHz, 3A continued constant on-time (COT) controlled synchronous step-down converter. It can operate with input voltage from 2.5V to 5.5V and provide 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 MT8173 to achieve nearly constant switching frequency across load range. MT8173 has cycle-by-cycle current limit and hiccup mode to protect over-load or short circuit fault conditions.

MT8173 is available in low profile 5 leads DFN 1.5mm x 1.0mm.

FEATURES

- Wide Input Range from 2.5V to 5.5V
- 3A Continuous Output Current
- Proprietary Fast Transient Constant-On-Time Architecture Stable with low ESR Ceramic Output Capacitors
- +/- 0.5% 0.6V Feedback Voltage
- 1.5MHz Switching Frequency
- Up to 95% Efficiency
- 100% Duty Cycle Operation
- Built-in Power Switches
- HS/LS MOS: 60mΩ/30mΩ
- Internal 0.8msec Soft-Start
- Cycle-by-cycle Current Limit Protection
- Over-Load and Short Circuit Hiccup Mode
- Output Discharge
- 18μA Low Quiescent Current for MT8173N
- MT8173A_FPWM/MT8173N_PFM mode operation
- Thermal Shutdown Protection
- Available in Small DFN 1.5x1.0_5L
- Pb-Free RoHS Compliant

APPLICATIONS

- Solid-State and Hard Disk Drives
- Wireless/Networking Cards
- Portable and Mobile Devices
- WiFi RF Modules
- DC/DC Micro Modules

TYPICAL APPLICATION

