

5V Input 1A(1.5A Peak) 2.5MHz Synchronous Step-Down Converter

DESCRIPTION

The MT8091 is a 2.5MHz, constant on-time (COT) controlled synchronous step-down converter. It can provide 1A continuous output current with input voltage from 2.7V to 6V. The MT8091 output range is from 0.6V to input level, thanks to its 100% duty cycle operation. 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 MT8091 to achieve nearly constant switching frequency across load range. MT8091 has cycle-by-cycle current limit and hiccup mode to protect over-load or short circuit fault conditions. MT8091 is available in low profile 6 leads DFN 1.5mm x 1.5mm packages.

FEATURES

- Wide Input Range from 2.7V to 6V
- Proprietary Fast Transient Constant On Time Architecture Stable with low ESR Ceramic Output Capacitors
- +/- 0.5% 0.6V Feedback Voltage
- 2.5MHz Switching Frequency
- 1A Continuous Output Current and 1.5A Peak Current
- 100% Duty Cycle Operation
- Built-in 108mΩ/78mΩ Power Switches
- Internal 0.8msec Soft-Start
- Cycle-by-cycle Current Limit Protection
- Input Under/Over Voltage Lockout
- Output Discharging Function in Shutdown
- Thermal Shutdown Protection
- Hiccup Mode for Short Circuit and Over-Load Protection
- Available in DFN1.5x1.5_6L Package
- Pb-Free RoHS Compliant

APPLICATIONS

- Solid-State and Hard Disk Drives
- Wi-Fi RF Modules
- DC/DC Micro Modules
- Smart Phone and Tablets

TYPICAL APPLICATION

