

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

DESCRIPTION

The MT8233 is a 1.5MHz, 3A 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, thanks to its 100% duty cycle operation. The constant on-time control scheme simplifies loop compensation and offers excellent load transient response. MT8233 consumes extremely low 18 μ A quiescent current hence achieves superior light load efficiency. The high gain error amplifier in the control loop provides excellent load and line regulation. Proprietary adaptive on-time helps MT8233 to achieve nearly constant switching frequency across load range. MT8233 has cycle-by-cycle current limit and hiccup mode to protect over-load or short circuit fault conditions.

MT8233 is available in low profile 8 leads DFN 2mm x 2mm packages.

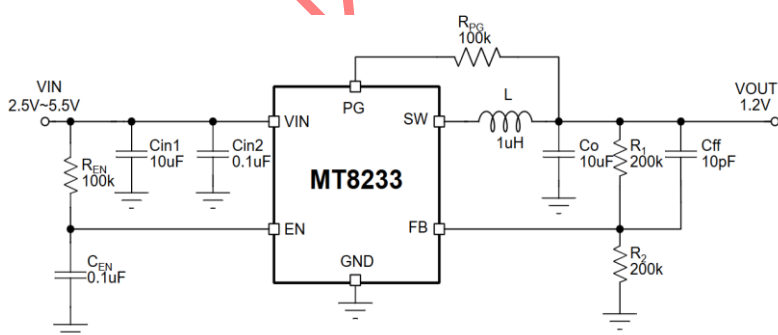
FEATURES

- 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
- +/- 1% 0.6V Feedback Voltage
- 1.5MHz Switching Frequency
- 18 μ A Low Quiescent Current
- Up to 95% Efficiency
- 100% Duty Cycle Operation
- Built-in Ron 85m Ω /52m Ω HS/LS Power Switches
- Internal 0.8msec 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 DFN2x2_8L
- Pb-Free RoHS Compliant

APPLICATIONS

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

TYPICAL APPLICATIONS



Efficiency

