

5V Input 2A 2.5MHz Synchronous Step-Down Converter

DESCRIPTION

The MT3122 is a 2.5MHz, 2A constant on-time (COT) controlled synchronous step-down converter. It can operate with input voltage from 2.5V to 6V and provide 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. The high gain error amplifier in the control loop provides excellent load and line regulation. Proprietary adaptive on-time helps MT3122 to achieve nearly constant switching frequency across load range, as for operation mode:

- MT3122 is COT Forced PWM mode.

MT3122 has cycle-by-cycle current limit and hiccup mode to protect over-load or short circuit fault conditions.

MT3122 is available in low profile 6 leads DFN 1.5mm x 1.5mm packages.

FEATURES

- Wide Input Range from 2.5V to 6V
- Proprietary Fast Transient Constant On Time Architecture Stable with low ESR Ceramic Output Capacitors
- +/-1% 0.6V Feedback Voltage
- 2.5MHz Switching Frequency
- 2A Continuous
- 1.21V Accurate Enable Threshold
- Up to 95% Efficiency
- 100% Duty Cycle Operation
- Built-in HS/LS Ron150mΩ/115mΩ
- Internal 0.95msec 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 DFN1.5x1.5_6L Package
- 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

