

5V Input 1.5A Synchronous Step-Down Converter Module

DESCRIPTION

The MTM003 is a complete 1.5A, DC/DC synchronous step-down convertor module with built-in switching regulator, output capacitor and Inductor for small dimension application. The MTM003 uses constant-on-time (COT) control architecture which simplifies loop compensation and offers excellent load transient response. The MTM003 consumes extremely low 15µA 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 MTM003 to achieve nearly constant switching frequency across load range. The MTM003 can operate with input voltage from 2.5V to 6V and provide output range from 0.6V to input level, thanks to 100% duty cycle operation. The MTM003 has cycle-by-cycle current limit and hiccup mode to protect over-load or short circuit fault conditions.

The MTM003 is available in compact and low profile 7 leads LGA 3mm x 3mm packages.

FEATURES

- Input Range from 2.5V to 6V
- 1.5A Continuous, 2A Peak
- +/-2% Fixed and Adjustable Output from 0.6V
- Built-in 100mΩ/80mΩ Power Switches
- Built-in Inductor and Output Capacitors
- 2.5MHz Switching Frequency
- 15µA Low Quiescent Current
- 1.21V Accurate Enable Threshold
- Up to 95% Efficiency
- 100% Duty Cycle Operation
- Internal 1msec Soft-Start
- Cycle-by-cycle Current Limit Protection
- Over-Load and Short Circuit Hiccup Mode
- Open Drain Power Good Indication
- Output Discharging Function
- Thermal Shutdown Protection
- Available in Small LGA3mmx3mm_7L Package
- Pb-Free RoHS Compliant

APPLICATIONS

- Solid-State and Hard Disk Drives
- USB-TypeC Earphone
- Smart Phone and Tablets
- WiFi RF Modules
- DC/DC Micro Modules

Typical Applications

