

5V Input 1A 1.5MHz 350nA I<sub>Q</sub> Synchronous Step-Down Converter

## DESCRIPTION

The MT8361 is a 1.5MHz, constant on-time (COT) controlled synchronous step-down converter with super-low I<sub>Q</sub> of 350nA. It can provide 1A output current with input voltage from 2.0V to 5.5V. The MT8361 family offers a wide range of output voltage from 0.8V to 1.8V with an external selection resistor.

Device	Fixed VOUT VSET=GND	Selectable Output Voltages
MT8361DWBR	1.8 V	0.8 V – 1.6 V in 50-mV steps

The constant on-time control scheme simplifies loop compensation and offers excellent load transient response. MT8361 consumes extremely low quiescent current hence achieves superior light load efficiency. The high gain error amplifier in the control loop provides excellent load and line regulation. MT8361 has a cycle-by-cycle current limit and hiccup mode to protect over-load or short circuit fault conditions.

MT8361 is available in a small 6-pin WCSP package.

## FEATURES

- 350nA Operating Quiescent Current
- 100% Duty- Cycle Operation with 0.5uA I<sub>Q</sub>
- Input Range from 2.0V to 5.5V
- 18 Selectable Output Voltage from 0.8V to 1.8V through VSET pin
- +/- 1% VOUT Voltage
- 1.5MHz Switching Frequency
- 1A Continuous Output Current
- Built-in 215mΩ/105mΩ Power Switches
- Internal Soft-Start
- Cycle-by-cycle Current Limit Protection
- Input Under/Over Voltage Lockout
- Output Discharging Function in Shutdown
- Hiccup Mode for Short Circuit and Over-Load Protection
- Thermal Shutdown Protection
- Available in WCSP\_6L package.
- Pb-Free RoHS Compliant

## APPLICATIONS

- Wearable Electronics
- Headsets, Headphones, and Earbuds
- Medical Sensor Patches
- Smart Phone and Tablets
- Solid-State and Hard Disk Drivers
- DC/DC Micro Modules

## TYPICAL APPLICATIONS

