5V Input 1A 6MHz Step-Down DC/DC Converter

DESCRIPTION

The MT8891 is a 6MHz, 1A constant on-time (COT) controlled synchronous step-down converter. It can operate with input voltage from 2.5V to 6V and provide Fixed Output Voltage 0.9V, 1.1V, 1.2V and 2.8V. The constant on-time control scheme simplifies loop compensation and offers excellent load transient response. MT8891 consumes extremely low 11μA 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 MT8891 to achieve nearly constant switching frequency across load range. MT8891 has cycle-by-cycle current limit and hiccup mode to protect over-load or short circuit fault conditions.

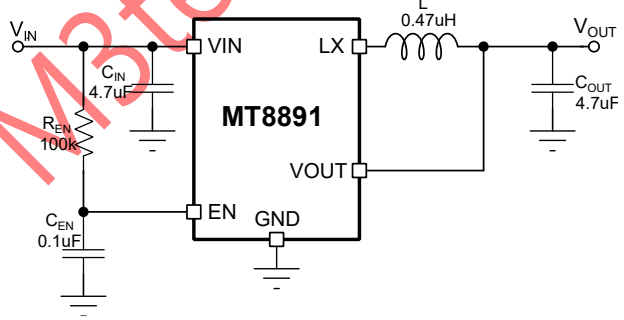
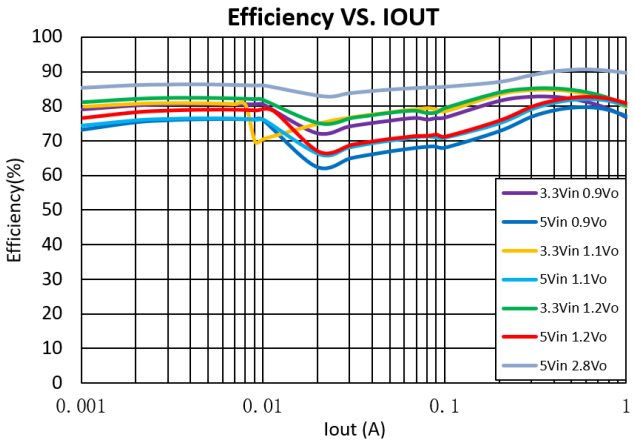
MT8891 is available in a compact WLCSP_5L package.

FEATURES

- Wide Input Range from 2.5V to 6V
- Proprietary Fast Transient Constant On Time Architecture Stable with low ESR Ceramic Output Capacitors
- +/- 2% VOUT accuracy
- 6MHz Switching Frequency
- 11μA Low Quiescent Current
- 1A Continuous Output Current,1.8A Peak Current
- 100% Duty Cycle Operation
- Built-in HS/LS Ron 115mΩ/50mΩ, Vin=5V Switches
- Internal 200μsec Soft-Start
- Cycle-by-cycle Current Limit Protection
- Over-Load and Short Circuit Hiccup Mode
- Input Under/Over Voltage Lockout
- Output Discharging Function in Shutdown
- Thermal Shutdown Protection
- Hiccup Mode for Short Circuit and Over-Load Protection
- Available in WLCSP_5L Package
- Pb-Free RoHS Compliant

APPLICATIONS

- Camera module
- DC/DC Micro Modules
- Smart Phone and Tablets
- Wireless Earphones / Headset
- Wearable devices
- Portable game consoles

M3tek Confidential Datasheet

TYPICAL APPLICATION