



MPM3684

18V 15A Step-Down Power Module in 12x15x4mm QFN

DESCRIPTION

The MPM3684 is an easy-to-use fully integrated 15A step- · Complete 15A DC-to-DC Solution down DC/DC power module. It integrates the DC/DC • Wide Input Voltage Range from 2.5V: converter, power inductor, input/output capacitors and the • -- 2.5V to 18V with External 5V Bias necessary resistors/capacitors in a compact QFN • -- 4.5V to 18V with Internal Bias 12mmX15mmX4mm package. This total power solution needs • 1% Reference Voltage Over 0°C to 70°C Junction Temperature as few as two external components (one resistor and one Range capacitor) to work. MPM3684 can deliver 15A output current · Adaptive COT Control for Ultrafast Transient Response over a wide input supply voltage range with excellent load and • Programmable Switching Frequency from 200KHz to 1MHz line regulation.

The MPM3684 uses Constant-On-Time (COT) control to • Programmable Soft-Start Time with Default 3ms provide fast transient response and ease the loop • Non-latch OCP, OVP and Thermal Shutdown stabilization.

The default under voltage lockout threshold is internally set • 12 x 15 x 4 (mm) QFN package around 4.1V, but a resistor network on the enable pin can increase this threshold. The MPM3684 has an internal LDO to APPLICATIONS power the control circuits and the integrated power devices. This LDO can be disabled by an external 5V to boost the efficiency.

The MPM3684 has an internal about 3ms soft start (SS) timer. It can be increased with an extra SS capacitor. An open drain power good signal indicates that the output voltage is within nominal voltage range.

The MPM3684 has fully integrated protection features that include over-current protection, over-voltage protection and thermal shutdown.

FEATURES

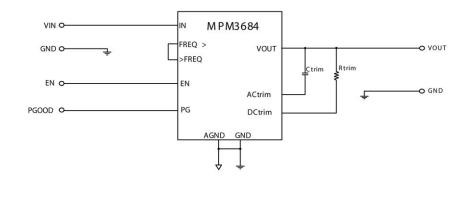
- Support Pre-Bias Start Up

- Output Adjustable from 0.65V to 5V

- · Telecom and Networking Systems
- · Base Stations
- Servers
- · Personal Video Recorders
- · Flat Panel Television and Monitors
- · Distributed Power Systems

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TYPICAL APPLICATION



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