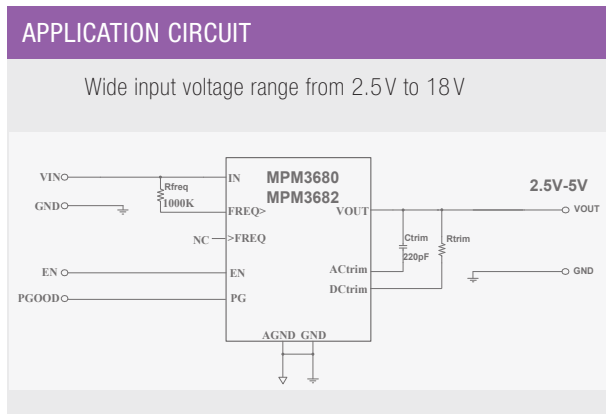


## 6 A/10 A STEP-DOWN POWER MODULES – MPM3680/82

The **MPM3680/82** are easy-to-use fully integrated 6A/10A step-down DC/DC power modules. They integrate the DC/DC converter, power inductor, input/output capacitors and the necessary resistors/capacitors in a compact QFN 12mm×12mm×4mm package. This total power solution needs as few as two external components (one resistor and one capacitor) to work. MPM3680/82 can deliver 6A/10A output current over a wide input supply voltage range with excellent load and line regulation. The MPM3680/82 use Constant-On-Time (COT) control to provide fast transient response and ease the loop stabilization. The default under voltage lockout threshold is internally set around 4.1 V, but a resistor network on the enable pin can increase this threshold. The MPM3680/82 has an internal LDO to power the control circuits and the integrated power devices. This LDO can be disabled by an external 5V to boost the efficiency. The MPM3680/82 have an internal about 3 ms 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 MPM3680 /82 have fully integrated protection features that include over-current protection, over-voltage protection and thermal shutdown.

### APPLICATIONS

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



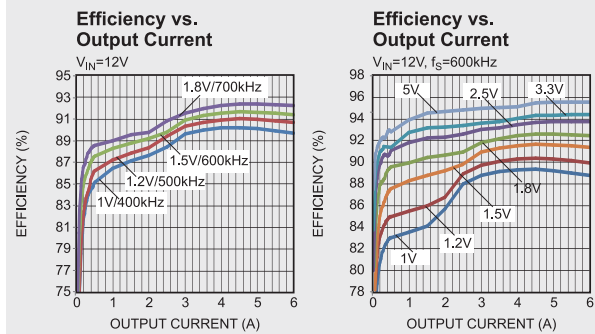
### FEATURES

- » Complete 6A/10A DC-to-DC Solution
- » Wide input voltage range from 2.5V
  - 2.5V to 18V with external 5V bias
  - 4.5V to 18V with internal bias
- » 1% Reference Voltage Over 0°C to 70°C junction temperature range
- » adaptive COT control for ultrafast transient response
- » Programmable Switching Frequency from 200 kHz to 1 MHz
- » Support pre-bias start up
- » Programmable soft-start time with default 3 ms
- » Non-latch OCP, OVP and thermal shutdown
- » Output adjustable from 0.65V to 5V
- » QFN-57 (12mm×12mm×4mm) package

### EFFICIENCY VS. OUTPUT CURRENT

#### MPM3680

$V_{IN}=12V$ ,  $V_{OUT}=1.2V$ ,  $T_A=25^\circ C$ , unless otherwise noted.



#### MPM3682

$V_{IN}=12V$ ,  $V_{OUT}=1.2V$ ,  $T_A=25^\circ C$ , unless otherwise noted.

