



The Future of Analog IC Technology®

# MP5417

2.8V-5.5V, Power Management IC with Four Buck Converters, Two LDOs, Input Voltage Supervisory for PFI, I<sup>2</sup>C Interface, and 2 GPIO Pins

**PRELIMINARY SPECIFICATIONS SUBJECT TO CHANGE**

## DESCRIPTION

The MP5417 is a complete power management solution that integrates four high-efficiency, step-down, DC/DC converters, two low-dropout regulators, and two controllable GPO ports.

The constant-on-time (COT) control DC/DC converter provides fast transient response. The 1.5MHz, default, fixed switching frequency during continuous conduction mode (CCM) reduces the external inductor and capacitor values greatly. Four DC/DC converters work with 90-degree phase-shift mode. Full protection features include under-voltage lockout (UVLO), over-current protection (OCP), and thermal shutdown.

The output voltage is adjustable through the I<sup>2</sup>C bus or preset by the one-time programmable (OTP) function. The power-on/-off sequence is also programmable by the OTP or can be controlled through the I<sup>2</sup>C bus online. Two GPO pins can be used to expand the power rails needed for different applications.

The MP5417 requires a minimal number of external components and is available in a space-saving, 28-pin QFN (4mmx4mm) package.

## FEATURES

- Four High-Efficiency Step-Down Converters
  - Buck1: 4A DC/DC Converter
  - Buck2: 2A DC/DC Converter
  - Buck3: 4A DC/DC Converter
  - Buck4: 2A DC/DC Converter
  - 2.8V to 5.5V Operating Input Range
  - Adjustable Switching Frequency
  - Programmable Forced PWM, Auto PFM/PWM Mode
  - Hiccup Over-Current Protection (OCP)
- Two Low-Dropout Regulators
  - Two 300mA Low Noise LDOs
  - 100mV Dropout at 300mA Load
- System
  - I<sup>2</sup>C Bus and OTP
  - Programmable Power Failure Threshold
  - Open-Drain Power Fail Output Pin
  - Flexible Power On/Off Sequence via OTP
  - Flexible DC/DC, LDO On/Off Control
- Available in a Small QFN-28 (4mmx4mm) Package

## APPLICATIONS

- Solid-State Drives (SSDs)
- Smart TVs
- MID, Tablet
- POS Machine
- IP Camera

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### TYPICAL APPLICATION

