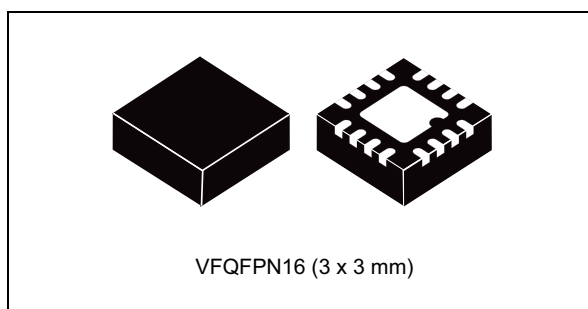


6 A step-down monolithic switching regulator

Data brief



Features

- Integrated 17 mΩ MOSFETs for high efficiency
- 6 A continuous output current
- 2.8 V to 6 V input voltage (VIN)
- 2.9 V to 5.5 V supply voltage (VCC)
- Adjustable output voltage down to 0.6 V
- 1% output voltage accuracy
- Programmable switching frequency
- Programmable OCP threshold
- PSKIP mode to optimize light load efficiency
- Embedded bootstrap diode
- Thermally compensated lossless current sense
- OV/UV/OC and overtemperature protection
- Programmable soft-start for inrush current limitation
- Soft-off with integrated discharge resistor
- Power Good output
- VFQFPN16 3 x 3 mm compact package

Applications

- Subsystem power supply
- CPU, DSP and FPGA power supplies
- Distributed power supply
- General DC-DC converters

Description

The PM8906 device is a high efficiency monolithic step-down switching regulator designed to deliver an up to 6 A continuous current. The IC operates from 2.8 V to 6 V input voltage (VIN).

The PM8906 features a low resistance integrated NMOS and a proprietary pulse-skipping mode for optimum efficiency over all the loading range.

The voltage mode control loop allows the widest range of output filters. The current sense is internally thermally compensated for optimum precision.

The integrated 0.6 V reference allows the regulation of output voltages with ± 1% accuracy overtemperature variations. The switching frequency can be selected among three values in the range from 0.75 MHz to 2.0 MHz.

The soft-start duration can be selected within three values for optimum output voltage rising time programming.

The PM8906 device provides precise dual-threshold overcurrent protection as well as over/undervoltage and overtemperature protection. A PGOOD output easily provides real-time information on the output voltage.

The PM8906 device is available in a VFQFPN16 3 x 3 mm package.

Table 1. Device summary

Order code	Package	Packaging
PM8906TR	VFQFPN16 (3 x 3 mm)	Tape and reel

Revision history

Table 2. Document revision history

Date	Revision	Changes
10-Mar-2014	1	Initial release.

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