

## 3.5V to 16V Input, 20A Sync Step-Down Converter

### Features

- ★ VIN Input Voltage Range: 2.6 V to 16V with External Bias VCC voltage, or 3.5V to 16V with Internal Bias VCC
- ★ Output Voltage Range: 0.6V to 5.5V, and 90% Max Duty Cycle
- ★ Excellent Load and Line Regulations with 1% Voltage Accuracy.
- ★ Turbo Constant-On Time (TCOTTM) Control with Fast Transient Response.
- ★ Programmable Soft-Start Time
- ★ Programmable Switching Frequency: 600kHz, 800kHz and 1MHz
- ★ Junction Temperature Range from -40°C to 125°C
- ★ Built-In OVP/UVLP/OCP/NOCP
- ★ Non-Latch UVLO and OTP Protection
- ★ QFN-21 3x4mm package
- ★ RoHS Compliant and Halogen Free

### General Description

The PS1213B is a high-power density, fully integrated synchronous buck converter. It works with wide input voltage range and can support up to 20A continuous output current at defined conditions. LDO is integrated internally, which is very suitable for single input supply condition. External bias is optional for maximizing the efficiency. A differential sensing scheme and a 0.6V internal feedback reference voltage achieve  $\pm 1\%$  output voltage tolerance over full temperature range. The PS1213B provides excellent line and load regulation.

The PS1213B uses Turbo Constant-On Time (TCOTTM) to control the algorithm with fast transient response. Pure MLCC output capacitors can be used to save space and cost.

The PS1213B has fully integrated protection features including OCP, NOCP, OVP, UVP and over temperature protection (OTP).

The PS1213B is available in a QFN 3mm x 4mm package with 21-Pin.

Moisture Sensitivity Level 3.

### Applications

- ★ Computers and Servers POLs
- ★ Telecom/Datacom POLs
- ★ Point of Load Module

### Typical Application Circuit

