CS51313

Synchronous CPU Buck Controller Capable of Implementing Multiple Linear Regulators

The CS51313 is a synchronous dual NFET Buck Regulator Controller. It is designed to power the core logic of the latest high performance CPUs. It uses the V^2™ control method to achieve the fastest possible transient response and best overall regulation. It incorporates many additional features required to ensure the proper operation and protection of the CPU and Power system. The CS51313 provides the industry's most highly integrated solution, minimizing external component count, total solution size, and cost.

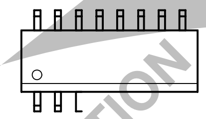
The CS51313 is specifically designed to power Intel's Pentium® II processor and includes the following features: 5–bit DAC with 1.2% tolerance, Power Good output, overcurrent hiccup mode protection, overvoltage protection, V_{CC} monitor, Soft Start, adaptive voltage positioning and adaptive FET non–overlap time. A precision reference trimmed to 1.0% is also externally available for use by other regulators. The CS51313 will operate over an 8.4 V to 14 V range and is available in 16 lead narrow body surface mount package.

Features

- Synchronous Switching Regulator Controller for CPU V_{CORE}
- Dual N–Channel MOSFET Synchronous Buck Design
- V^2 Control Topology
- 200 ns Transient Loop Response
- 5–Bit DAC with 1.2% Tolerance
- Hiccup Mode Overcurrent Protection
- 40 ns Gate Rise and Fall Times (3.3 nF Load)
- 65 ns Adaptive FET Non–Overlap Time
- Adaptive Voltage Positioning
- Power Good Output Monitors Regulator Output
- V_{CC} Monitor Provides Undervoltage Lockout
- OVP Output Monitors Regulator Output
- Enable Through Use of the COMP Pin
- +1.23 V Reference Voltage Available Externally

http://onsemi.com

MARKING DIAGRAM



PIN CONNECTIONS

ORDERING INFORMATION

Device	Package	Shipping
CS51313GD16	SO−16	48 Units/Rail
CS51313GDR16	SO−16	2500 Tape & Reel