Product Overview

NCP81246: Three-Rail Multi Phase Buck Controller for IMVP8

For complete documentation, see the data sheet.

The NCP81246 is a 3 Rail Multi Phase Buck solution is optimized for Intel IMVP8 compatible CPUs. It contains a two-phase, and two single-phase rails supporting Core, GT and SA in the following configurations 2ph-1ph-1ph, 1ph-2ph-1ph and 1ph-1ph-1ph. The part is designed for Notebook and Ultrabook applications.
The two-phase controller combines true differential voltage sensing, differential inductor DCR current sensing, input voltage feed-forward, and adaptive voltage positioning to provide accurately regulated power.
The two single-phase controllers can be used for Core, GT or SA rails. Both make use of ON Semiconductor's patented high performance RPM operation. RPM control maximizes transient response while allowing for smooth transitions between discontinuous frequency scaling operation and continuous mode full power operation. The single-phase rails have an ultra low offset current monitor amplifier with programmable offset compensation for ultra high accuracy current monitoring.
The NCP81246 offers three internal MOSFET Drivers with a single external PWM signal

Features

- 3 Internal Drivers
- High performance RPM control system
- Dual Edge Modulation for multiphase rails
- Dynamic VID Feed-Forward
- Adaptive Voltage Positioning (AVP)
- Switching Frequency Range of 300 kHz – 750 kHz
- Phase to Phase dynamic current balance

Benefits

- Allow high integration which reduces total solution PCB footprint
- New 1 phase architecture reduces compensation components PWM output provides routing flexibility
- Fastest Initial Response to Transient Loading

Applications

- Embedded Systems

Part Electrical Specifications

Product	Compliance	Status	Topology	Phases	Control Mode	V_{CC} Min (V)	V_{CC} Max (V)	f_{SW} Typ (kHz)	Package Type
NCP81246MNTXG	Pb-free Halide free	Active	Step-Down	1/2	Voltage Mode	4.75	5.25	300 - 750	QFN-52

For more information please contact your local sales support at www.onsemi.com.
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