NCP81111

3 Phase VR12.5-6 High Speed Digital Controller with SVID and I2C Interfaces

Product Overview

For complete documentation, see the data sheet.

The NCP81111 is a high performance digital single output three phase VR12.5-6 compatible buck solution optimized to operate at frequencies up to 5 MHz for Intel CPU applications. The NCP81111 and can also work as a general purpose I2C controlled multiphase voltage regulator. The NCP81111 is designed to support the NCP81163 digital phase doubler IC which expands the capability of the part to 6 phases for high current handling. The controller includes true differential voltage sensing, differential current sensing, digital input voltage feed-forward, DAC feed forward, and adaptive voltage positioning.

Features

- Meets Intel®'s VR12.5 Specifications
- On Board EEPROM for User Configuration
- High Performance Digital Architecture
- Dynamic Reference Injection
- Fully Differential Voltage Current Sense Amplifiers
- "Lossless" DCR Current Sensing for Current Balancing
- Thermally Compensated Inductor Current Sensing for Droop
- User Adjustable Internal Compensation

Applications

- Multi-phase voltage regulator for Intel processors
- General Purpose I2C Controlled Multiphase Regulators

End Products

- Desktop PC
- Notebook PC
- Servers

Part Electrical Specifications

Product	Pricing ($/Unit)	Compliance	Status	Topology	Phases	Control Mode	V_{CC} Min (V)	V_{CC} Max (V)	f_{SW} Typ (kHz)	Package Type
NCP81111MNDFTXG	1.5065	Pb H	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000	QFN-32
NCP81111MNI0TXG	1.8078	Pb H	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000	QFN-32
NCP81111MNI2TXG	1.8078	Pb H	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000	QFN-32
NCP81111MNI3TXG	1.8078	Pb H	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000	QFN-32
NCP81111MNTXG	1.8078	Pb H	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000	QFN-32