



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## Product Overview

### NCP81111: 3 Phase VR12.5-6 High Speed Digital Controller with SVID and I2C Interfaces

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 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	Compliance	Status	Topology	Phases	Control Mode	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	f <sub>sw</sub> Typ (kHz)	t <sub>res</sub> Typ (ns)	Package Type
NCP81111MNDFTXG	Pb-free Halide free	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000		QFN-32
NCP81111MNI0TXG	Pb-free Halide free	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000		QFN-32
NCP81111MNI2TXG	Pb-free Halide free	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000		QFN-32
NCP81111MNI3TXG	Pb-free Halide free	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000		QFN-32
NCP81111MNTXG	Pb-free Halide free	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000		QFN-32
NCP81111MNVQTXG	Pb-free Halide free	Active	Step-Down	1/2/3	Voltage Mode	4.75	5.25	1000 - 5000		QFN-32

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