



Product Overview

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**NCP5392: 2/3/4-Phase VR11.1 Controller**

For complete documentation, see the data sheet

**Product Description**

The NCP5392 provides up to a 4-phase buck solution which combines differential voltage sensing, differential phase current sensing, and adaptive voltage positioning to provide accurately regulated power for both Intel and AMD processors. Dual-edge pulse width modulation combined with inductor current sensing reduces system cost by providing the fastest initial response to dynamic load events. Dual-edge multiphase modulation reduces the total bulk and ceramic output capacitance required to meet transient regulation specifications. A high performance operational error amplifier is provided to simplify compensation of the system. Dynamic Reference Injection further simplifies loop compensation by eliminating the need to compromise between closed loop transient response and Dynamic VID performance.

**Features**

- Dual Edge PWM
- High Performance Operational Error Amplifier
- Dynamic Reference Injection
- DAC Range from 0.375V to 1.6V
- .5% System Voltage Accuracy from 1.0V to 1.6V
- True Differential Remote Voltage Sensing Amplifier
- Phase to Phase Current Balancing
- Differential Current Sense Amplifier for each Phase
- Frequency Range: 100kHz - 1.0MHz
- Meets Intels 11.0, 11.1 and AMD 6 bit Code specifications

**Benefits**

- Fewer output capacitors required resulting in reduced cost
- Ease of Use
- Ease of use and tuning
- Versatility
- Reduced cost
- Ease of Use
- Reduced cost
- Ease of Use
- Reduced cost and improved performance
- Versatility

**Applications**

- Desktop Processors
- Servers

**End Products**

- Desktop Processors

**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
NCP5392MNR2G	Pb-free Halide free	Active		2/3/4	Current/Voltage Mode	4.75	5.25	100 - 1000	10	QFN-40

**Package Availability**

Type	Pb-free	Standard
QFN-40	✓	

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