



## NCP6151: VR12 2 -, 3 -, 4 -Phase CPU Controller + 1 -Phase GPU Controller

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Overview

Specifications

[»View Material Composition](#)

[»No Product Change Notifications exist](#)

### Product Description

NCP6151/NCP6151A dual output four plus one phase buck solution is optimized for Intel VR12 compatible CPUs. The controller combines true differential voltage sensing, differential inductor DCR current sensing, input voltage feed -forward, and adaptive voltage positioning to provide accurately regulated power for both desktop and notebook applications. The control system is based on dual edge pulse width modulation (PWM) combined with DCR current sensing providing the fastest initial response to dynamic load events and reduced system cost. It also sheds to single phase during light load operation and can auto frequency scale in light load while maintaining excellent transient performance.

### Features

- Meets Intel VR12/IMVP7 specifications
- Current mode dual edge modulation for fastest initial response to transient loading
- Dual high performance operational error amplifier
- One digital soft start ramp for both rails

### Applications

- Desktop and notebook processors

### Technical Information

[Application Notes \(1\)](#)

[Package Drawings \(2\)](#)

### Availability and Samples

Product	Status	Pb-free	Description	Package		MSL*	Container		Budgetary Price/Unit
				Type	Case Outline		Type	Qty.	
NCP6151AD52MNR2G	Active		VR12 2 -, 3 -, 4 -Phase CPU Controller + 1 -Phase GPU Controller	QFN-52	485AV	1	Tape and Reel	2500	<a href="#">Sample</a>
NCP6151D52MNR2G	Active		VR12 2 -, 3 -, 4 -Phase CPU Controller + 1 -Phase GPU Controller	QFN-52	485AV	1	Tape and Reel	2500	<a href="#">Sample</a>
NCP6151NS52MNR2G	Active		VR12 2 -, 3 -, 4 -Phase CPU Controller + 1 -Phase GPU Controller	QFN-52	485BE	1	Tape and Reel	2500	<a href="#">Sample</a>
NCP6151S52MNR2G	Active		VR12 2 -, 3 -, 4 -Phase CPU Controller + 1 -Phase GPU Controller	QFN-52	485BE	1	Tape and Reel	2500	<a href="#">Sample Inventory</a>

Moisture Sensitivity level (MSL) for surface mount devices (lead free measured at 260°C reflow, non lead free at 235°C reflow)

### Products

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Do you also need MOSFET / IGBT Drivers ?  
Do you also need MOSFETs?

### New Products

[NCP1090](#)  
[NCP1091](#)  
[NCP1092](#)  
[NCP1093](#)  
[NCP1094](#) : Integrated PoE detection, classification, and 'hot swap' controllers

IEEE802.3 compliant with 40 W supported over single Ethernet pair (NCP1093/4) 3 kV cable discharge and superior ESD immunity for enhanced durability Higher power than competing devices in the same form factor

### Design Support

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