

Product Overview

NCP81242: Single-Phase Synchronous Buck Regulator with Integrated Power MOSFETs for VR12 Embedded CPUs

For complete documentation, see the data sheet.

The NCP81242 is a single-phase synchronous buck regulator with integrated power MOSFETs to provide a high-efficiency and compact-footprint power management solution for VR12 embedded CPUs. The device is able to deliver up to 14 A TDC output current on an adjustable output with SVID interface. Operating in high switching frequency up to 1.2 MHz allows employing small size inductors and capacitors while maintaining high efficiency due to integrated solution with high performance power MOSFETs. Current-mode RPM control with feedforward from both input power supply and output voltage ensures stable operation over a wide operation condition.

Features

- 5V to 20V Input Voltage Range
- Adjustable Output Voltage with SVID Interface
- Integrated Gate Driver and Power MOSFETs
- 500kHz ~ 1.2MHz Switching Frequency
- Feedforward Operation for Input Supply Voltage and Output Voltage
- Overcurrent, Over/Undervoltage, and Thermal protection
- 5 V to 20 V Input Voltage Range
- 1.0 V/1.5 V Fixed Boot Voltage
- Adjustable Output Voltage with SVID Interface
- Up to 14 A TDC Output Current

For more features, see the data sheet

Benefits

- Optimized for Ultrabook and notebook applications
- Programmable DVID Feed-Forward to Support Fast DVID
- Small form-factor design
- Reduced output filter size and cost
- Fast line transient response and DVID transition
- Protected against faults

Applications

- Integrated POL

End Products

- Ultrabook
- Notebook
- Server
- Microservers , Storage devices , Embedded CPU's

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	Control Mode	V _{CC} Min (V)	V _{CC} Max (V)	V _O Typ (V)	I _O Typ (A)	Efficiency (%)	f _{sw} Typ (kHz)	Package Type
NCP81242MNTXG	1.2666	Pb-free Halide free non AEC-Q and PPAP	Active	Forward	Current Mode	5	20	Adjustable	14	-	500	QFN-48

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

Created on: 1/21/2021