

NCP3020

Synchronous PWM Controller



Product Overview

For complete documentation, see the data sheet.

The NCP3020 is a Synchronous Buck Controller (PWM Controller) designed to operate from a wide input range and is capable of producing an output voltage as low as 0.6 V. The NCP3020A provides integrated gate drivers and an internally set 300 kHz oscillator (600 kHz for the NCP3020B).

The NCP3020 has an externally compensated transconductance error amplifier with an internally fixed soft-start. Protection features include lossless current limit and Short Circuit Protection, Output Overvoltage protection, Output Undervoltage protection, and Input Undervoltage Lockout. The NCP3020 is currently available in a SOIC-8 package.

Features

- Input voltage from 4.7 V to 28 V
 - 0.6 V +/-1.5% Reference Voltage
 - 300 kHz Operation (NCP3020B - 600 kHz)
 - >1A Drive Capability
 - Current Limit and Short Circuit Protection
 - Output Overvoltage and Undervoltage Detection
 - Transconductance Amplifier with External Compensation
 - Integrated boost diode
 - Regulated Soft-start
 - AEC-Q100 and PPAP compliant (NCP3020)
- For more features, see the data sheet

Benefits

- Ability to regulate from different input voltage sources
- Capable of low output voltage operation
- Optimize for efficiency or size
- Ability to drive low R_{dson} high efficiency MOSFETs
- Advanced protection features
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- Ability to utilize all ceramic input and output capacitors
- Reduced number of support components and cost
- Closed loop regulation during soft-start prevents any spikes or droops
- Ideal for automotive applications

Applications

- DC/DC conversion
- LCD-TV

End Products

- Entry level and mid range servers
- Networking equipment
- Datacom / Computing

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
NCP3020ADR2G	0.3795	Pb H	Active	Step-Down	1	Voltage Mode	4.7		300	SOIC-8
NCP3020BDR2G	0.3795	Pb H	Active	Step-Down	1	Voltage Mode	4.7		600	SOIC-8
NCV3020ADR2G	0.5016	A Pb P H	Active	Step-Down	1	Voltage Mode	4.7		300	SOIC-8
NCV3020BDR2G	0.5072	A Pb P H	Active	Step-Down	1	Voltage Mode	4.7		600	SOIC-8

Application Diagram

