

Product Overview

NCP3233: Step Down Converter Operates from 3V to 21V and delivers up to 20A

For complete documentation, see the data sheet.

The NCP3233 is a 20A step down converter (with internal MOSFETs) capable of operating from 3V to 21V without the need for an external bias. This fixed frequency converter offers high efficiency and the output can be adjusted to offer a voltage as low as 0.6V. An adjustable current limit allows the device to be used for multiple current levels. The part is offered in a thermally enhanced 6mm by 6mm QFN package.

ent, high efficiency voltage-mode synchronous buck converter which operates from 3 V to 21 V input and generates output voltages down to 0.6 V at up to 25 A DC load or 30 A instantaneous load.

Features

- Wide input voltage range from 3V to 21V
 - 300kHz, 500kHz, and 1MHz switching frequency
 - Lossless low-side FET current sensing
 - 0.6V internal reference voltage
 - External programmable soft-start
 - Pre-bias Start-up
 - Hiccup Mode Operation for all Faults
 - Adjustable Output Voltage
 - Adjustable current limit
 - Output Over-voltage Protection and Under-voltage Protection
- For more features, see the data sheet

Applications

- High current POL applications
- ASIC, FPGA, DSP and CPU Core and I/O Supplies

Benefits

- Allows same device to be used for 3.3V, 5V, and 12V bus rails
- User selectable option to allow optimized trade-off between efficiency and solution size
- Improve efficiency
- Low voltage output to accommodate low voltage cores
- Reduces in-rush current and prevents unwarranted overcurrent during start up
- Prevents reverse current flow
- Allows re-start if fault conditions are eliminated
- Flexibility
- Optimize for overcurrent conditions. Allow smaller inductors with lower saturation currents to be used for lower current applications

End Products

- Cellular Base Stations
- Telecom and Network Equipment
- Server and Storage System

Part Electrical Specifications

Product	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
NCP3233MNTXG	Pb-free Halide free	Active	Step-Down	Voltage Mode	3	16	0.6	20	95	500	QFN-40

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

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