

Product Overview

NCP1599: Synchronous Buck Converter, 1 MHz, 3.0 A

For complete documentation, see the data sheet.

The NCP1599 is a fixed 1 MHz, high-output-current, synchronous PWM converter that integrates a low-resistance, high-side P-channel MOSFET and a low-side N-channel MOSFET. The NCP1599 utilizes internally compensated current mode control to provide good transient response, ease of implementation, and excellent loop stability. It regulates input voltages from 3.0 V to 5.5 V down to an output voltage as low as 0.8 V and is able to supply up to 3.0 A of load current. The NCP1599 includes an internally fixed switching frequency (FSW), and an internal soft-start to limit inrush current. Other features include cycle-by-cycle current limiting, short-circuit protection, power saving mode and thermal shutdown.

Features

- Input voltage range of 2.7 V to 5.5 V
- Internal 140mΩ / 90mΩ MOSFETs
- Cycle-by-Cycle Current Limiting
- Overtemperature Protection
- Start-up with Pre-Biased Output Load
- 0.8 V +/- 1.5% Reference Voltage
- Power Saving Mode During Light Load

Benefits

- Ability to be used with 3.3 V or 5 V rail
- High efficiency at full load
- Protection feature
- Protection feature
- Compatible with uP Core and I/O requirements
- Ability to output low output voltage
- Increased efficiency at light load

Applications

- +5V DC-DC Regulator

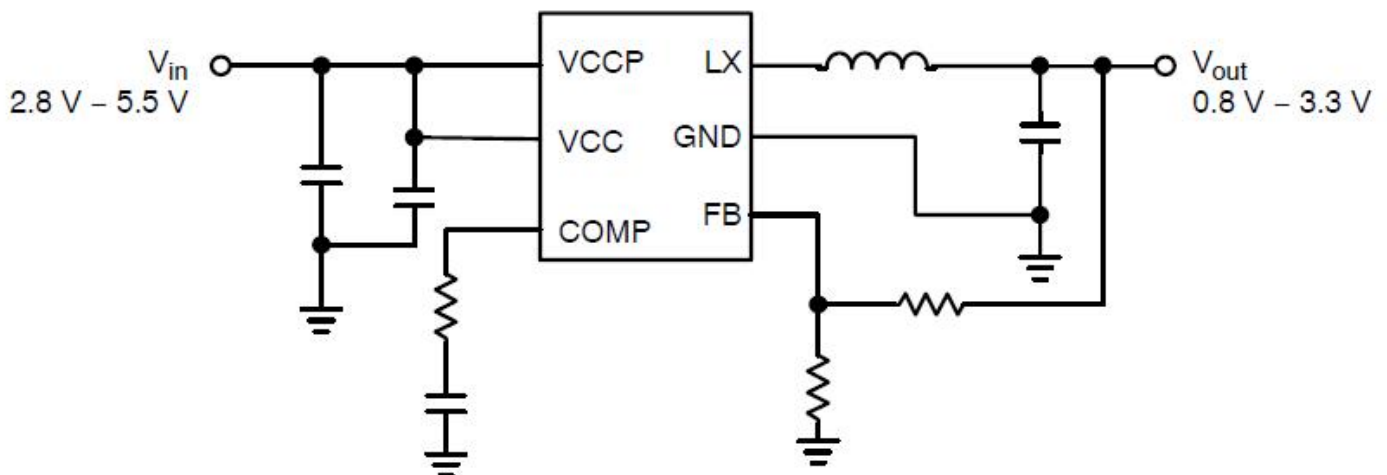
End Products

- Set-Top-Box
- LCD-TV / DTV / Plasma TV
- USB Powered Devices

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
NCP1599MNTWG	Pb-free	Active	Step-Down	Voltage Mode	3	5.5	Adjustable	3	90	1000	DFN-6

Application Diagram



NCP1599 Application Circuit

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

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