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ON Semiconductor®

Energy Efficient Innovations

Product Overview

NCP1422: Boost Converter, Sync-Rect, PFM, DC-DC, 800 mA, with True-Cutoff and Ring-Killer

For complete documentation, see the data sheet.

NCP1422 is a monolithic micropower high frequency step-up switching converter IC specifically designed for battery-operated hand-held electronic products up to 800mA loading. It integrates Sync-Rect to improve efficiency and to eliminate the external Schottky Diode. High switching frequency (up to 1.2 MHz) allows for a low profile, small-sized inductor and output capacitor to be used. When the device is disabled, the internal conduction path from LX or BAT to OUT is fully blocked and the OUT pin is isolated from the battery. This True-Cutoff function reduce the shutdown current to typically only 50nA. Ring-Killer is also integrated to eliminate the high-frequency ringing in discontinuous conduction mode. In addition to the above, Low-Battery Detector, Logic-Controlled Shutdown, Cycle-by-Cycle Current Limit and Thermal Shutdown provide value-added features for various battery-operated applications. With all these functions ON, the quiescent supply current is typical only 8.5 uA. This device is available in compact and low profile DFN10 package.

Features

- Output Current up to 800 mA at VIN = 2.5 V and VOUT = 3.3 V
- High Switching Frequency, up to 1.2MHz
- Anti-Ringing Ring-Killer for Discontinuous Conduction Mode
- Low Quiescent Current of 8.5 μA
- 1.0V Startup at No Load Guaranteed
- Output Voltage from 1.5V to 5V Adjustable
- 1.5A Cycle by Cycle Current Limit
- On Chip Thermal Shutdown with Hysteresis
- Housed in Space-Saving and Low Profile DFN10 package
- Pb-Free Package is Available

  For more features, see the data sheet

Applications

- Personal Digital Assistants (PDA)
- Handheld Digital Audio Products
- Camcorders and Digital Still Cameras
- Conversion from one to two Alkaline, NiMH, NiCd battery cells to 3.0-5.0V or one Lithium-ion cells to 5.0V
- While LED Flash for Digital Cameras

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
NCP1422MNR2G	Pb-free Halide free	Active	Step-Up	Current/Voltage Mode	1	5.5	1.5 to 5.0	0.8	Up to 94	Up to 1200	DFN-10

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

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