

Product Overview

NCP1522B: Buck Converter, DC-DC, 3 MHz, 600 mA

For complete documentation, see the data sheet.

The NCP1522B step-down DC-DC converter is a monolithic integrated circuit optimized for portable applications powered from one cell Li-Ion or three cell Alkaline/NiCd/NiMH batteries. The part, available in adjustable output voltage versions ranging from 0.9 V to 3.3 V, is able to deliver up to 600 mA. It uses synchronous rectification to increase efficiency and reduce external part count. The device also has a built-in 3 MHz (nominal) oscillator which reduces component size by allowing smaller inductors and capacitors. Automatic switching PWM/PFM mode offers improved system efficiency. Additional features include integrated soft-start, cycle-by-cycle current limiting and thermal shutdown protection. The NCP1522B is available in a space saving, low profile TSOP5 and UDFN6 packages.

Features

- 94% efficiency, 50 uA quiescent current, 0.3 uA shutdown current
- 3.0 MHz switching frequency
- Auto-switching between PWM and PFM mode at light load conditions
- Adjustable output voltage from 0.9V to 3.3V

Applications

- Power supply for application processor
- Power supply for processor with low core voltage

Benefits

- Extends battery life and 'play-time'
- Allows use of smaller inductor (down to 1uH) and capacitor
- Low power consumption at light loading

End Products

- Cellular phones, smart phones, and PDAs
- MP3 players and portable audio systems
- Digital still cameras and video cameras

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 |
|---------------|-------------------|------------------------|--------|-----------|--------------|-------------------------|-------------------------|------------------------|------------------------|----------------|---------------------------|-------------------|
| NCP1522BMUTBG | 0.3333 | Pb-free Halide free | Active | Step-Down | Voltage Mode | 2.7 | 5.5 | 0.9 to 3.3 | 0.6 | 95 | 3000 | UDFN-6 |
| NCP1522BSNT1G | 0.3333 | Pb-free Halide free | Active | Step-Down | Voltage Mode | 2.7 | 5.5 | 0.9 to 3.3 | 0.6 | 95 | 3000 | TSOP-5 / SOT-23-5 |

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

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