

## Product Overview

### NCP1423: Boost Converter, Sync-Rect, PFM, DC-DC, 400 mA, with True-Cutoff and Ring-Killer

For complete documentation, see the data sheet.

NCP1423 is a monolithic micropower high frequency step-up switching converter IC specially designed for battery operated hand-held electronic products up to 400mA loading. It integrates Synchronous Rectifier for improving efficiency as well as eliminating the external Schottky Diode. High switching frequency (up to 600 KHz) allows low profile inductor and output capacitor being used. When the IC is disabled, internal conduction path from LX or BAT to OUT is blocked, OUT pin is isolated from the battery. This achieves True-Cutoff. Ring-Killer is also integrated to eliminate the high frequency ringing in discontinuous conduction mode. Low-Battery Detector, Cycle-by-Cycle Current Limit, Overvoltage-Protection and Thermal Shutdown provide value-added features for various battery operated application. With all these functions ON, the quiescent supply current is only 9.0uA. This device is available in compact Micro-10 package

### Features

- High Switching Frequency, up to 600 kHz
  - Low Quiescent Current of 9.0 uA
  - Low Battery Detector
  - 0.8 V Startup at No Load Guaranteed
  - Ring-Killer for Discontinuous Conduction Mode
  - Thermal Shutdown
  - 1.2 A Cycle by Cycle Current Limit
  - Output Current up to 400 mA @ VOUT = 3.3 V, 200 mA @ VOUT = 1.8 V
  - Overvoltage Protection
  - Low Profile and Minimum External Part
- For more features, see the data sheet

### Applications

- Wireless Optical Mouse
- Wireless Headsets
- Internet Audio Players
- Personal Digital Assistants (PDAs)
- Handheld Instruments

### Part Electrical Specifications

| Product      | Pricing (\$/Unit) | Compliance             | Status | Topology | Control Mode         | V <sub>CC</sub> Min (V) | V <sub>CC</sub> Max (V) | V <sub>O</sub> Typ (V) | I <sub>O</sub> Typ (A) | Efficiency (%) | f <sub>sw</sub> Typ (kHz) | Package Type |
|--------------|-------------------|------------------------|--------|----------|----------------------|-------------------------|-------------------------|------------------------|------------------------|----------------|---------------------------|--------------|
| NCP1423DMR2G | 0.5067            | Pb-free<br>Halide free | Active | Step-Up  | Current/Voltage Mode | 0.8                     | 6                       | 1.8 to 3.3             | 0.4                    | 92             | Up to 600                 | Micro10      |

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com).

Created on: 4/6/2020