

Product Overview

NCP1337: Controller, Quasi-Resonant Current Mode, with Overpower Compensation

For complete documentation, see the data sheet.

The NCP1337 combines a true current mode modulator and a demagnetization detector which ensures full Borderline/Critical Conduction Mode in any load/line conditions together with minimum drain voltage switching (Quasi-Resonant operation). The transformer core reset detection is done internally, without using any external signal, due to the Soxyless concept. The frequency is internally limited to 130 kHz, preventing the controller to operate above the 150 kHz CISPR-22 EMI starting limit. By monitoring the feedback pin activity, the controller enters skip mode as soon as the power demand falls below a predetermined level. As each restart is softened by an internal soft-skip™, and as the frequency cannot go below 25 kHz, no audible noise can be heard. The NCP1337 also features an efficient protective circuitry which, in presence of an overcurrent condition, disables the output pulses and enters a safe burst mode, trying to restart. Once the default has gone, the device auto-recovers. Also included is a bulk voltage monitoring function (known as brown-out protection), an adjustable overpower compensation, and a VCC OVP. The controller immediately restarts after any of these conditions, unless the fault timer has timed out. Finally, an internal 4.0 ms soft-start eliminates the traditional startup stress. NCP1338 vs NCP1337: When a BO condition is applied, both controllers stop. When the BO condition is removed, NCP1337 doesn't restart if the fault timer has timed out; whereas NCP1338 always restarts (if Vcc is higher than 12 V).

Features

- Valley switching/QuasiResonant Operation
- Soft-skip Mode with Minimum Switching Frequency for Standby
- Current-Mode with Overpower Compensation
- Auto-Recovery Short-Circuit Protection Independent of Auxiliary Voltage
- Overvoltage Protection
- Brown-Out Protection
- Two Externally Triggerable Fault Comparators (one for a disable function, and the other for a permanent latch)
- Internal 4.0 ms Soft-Start
- 500 mA Peak Current Drive Sink Capability
- 130 kHz Max Frequency

For more features, see the data sheet

Benefits

- High efficiency and low EMI
- High efficiency in light load conditions, with noise-free operation

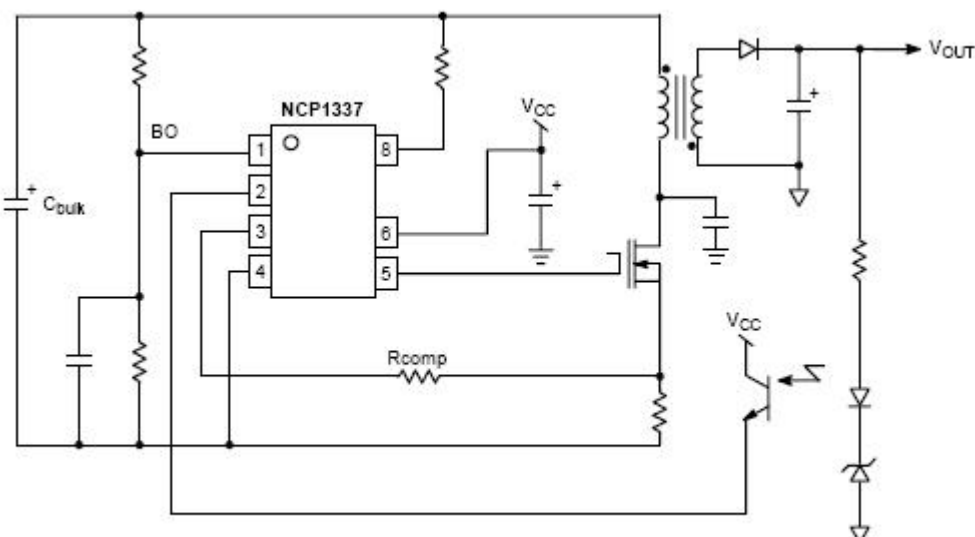
Applications

- AC-DC Adapters for Notebooks, etc.
- Offline Battery Chargers
- Auxiliary Power Supplies (USB, Appliances, TVs, etc.)

End Products

- Consumer Electronics (DVD Players, Set-Top Boxes, TVs, etc.)

Application Diagram



Typical Application Schematic

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

Created on: 5/6/2021