

## Product Overview

### NCP1652: Power Factor Controller (PFC), High Efficiency, Single Stage

For complete documentation, see the data sheet.

The NCP1652 is a highly integrated controller for implementing power factor correction (PFC) and isolated step down ac-dc power conversion in a single stage, resulting in a lower cost and reduced part count solution. This controller is ideal for notebook adapters, battery chargers and other off-line applications with power requirements between 75 W and 150 W. The single stage is based on the flyback converter and it is designed to operate in continuous conduction (CCM) or discontinuous conduction (DCM) modes. The NCP1652 increases the system efficiency by incorporating a secondary driver with adjustable nonoverlap delay for controlling a synchronous rectifier switch in the secondary side, an active clamp switch in the primary or both. In addition, the controller features a proprietary Soft-Skip™ to reduce acoustic noise at light loads. Other features found in the NCP1652 include a high voltage startup circuit, voltage feedforward, brown out detector, internal overload timer, latch input and a high accuracy multiplier.

#### Features

- Dual Control Outputs with Adjustable Non Overlap Delay for Driving a Synchronous Rectifier Switch, an Active Clamp Switch or Both
  - Voltage Feedforward
  - Frequency Jittering
  - Proprietary Soft-Skip™ at Light Loads
  - High Accuracy Multiplier
  - Brown Out Detector
  - Internal 150 ms Fault Timer
  - Independent Latch-Off Input Facilitates Implementation of Overvoltage and Overtemperature Fault Detectors
  - Single Stage PFC and Isolated Step Down Converter
  - Continuous or Discontinuous Conduction Mode Operation
- For more features, see the data sheet

#### Benefits

- Improves Efficiency
- Improves Loop Response
- Reduces EMI Signature
- Reduces Acoustic Noise
- Reduces Input Line Harmonics

#### Applications

- High Current Battery Chargers
- Front Ends for Distributed Power Systems
- High Power Solid State Lighting

#### End Products

- Notebook Adapter

# Application Diagram

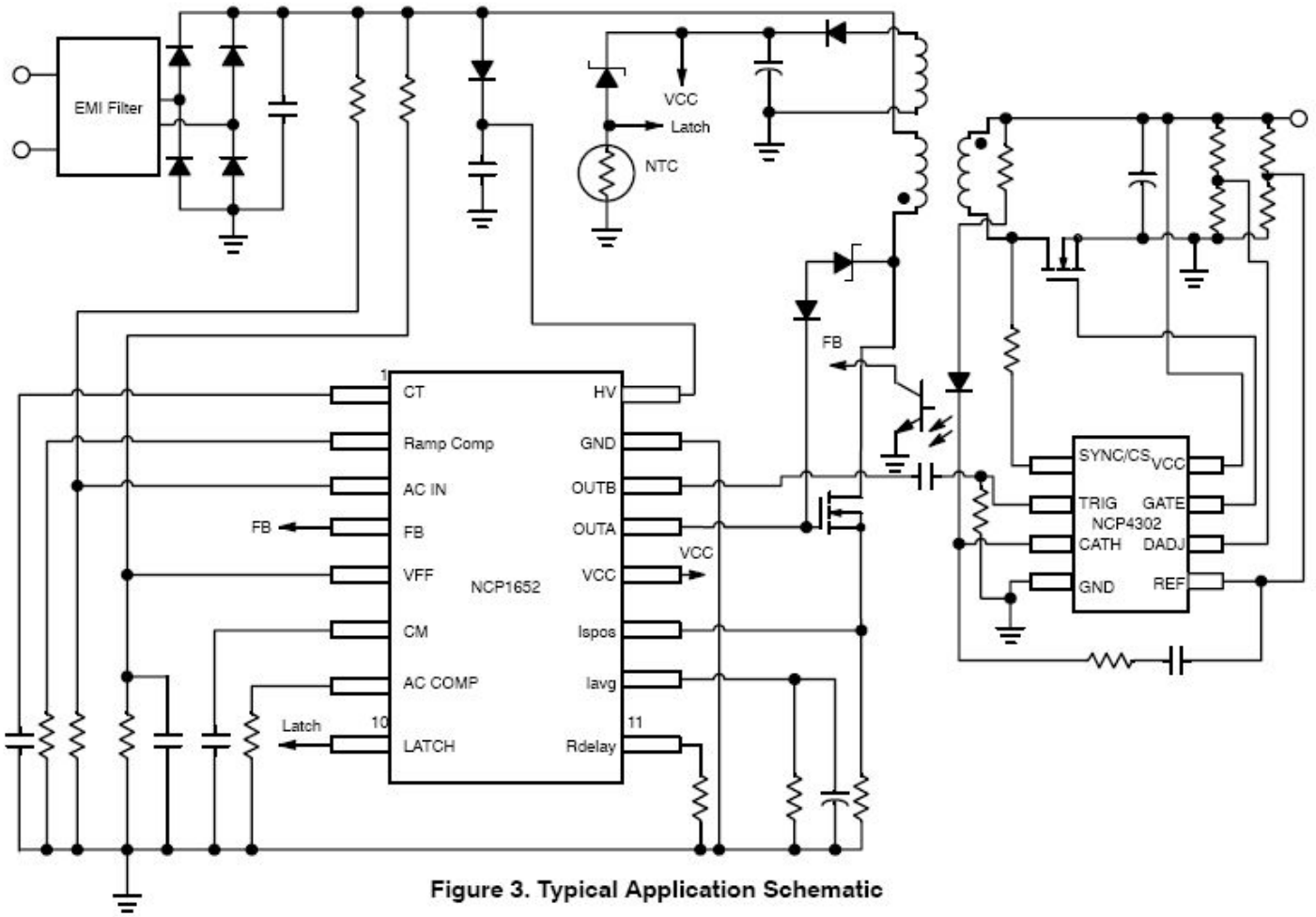


Figure 3. Typical Application Schematic

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

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