

## Product Overview

### NCP1207A: PWM Controller, Free Running Quasi-Resonant Current Mode

For complete documentation, see the data sheet.

The NCP1207A/B combines a true current mode modulator and a demagnetization detector to ensure full borderline/critical Conduction Mode in any load/line conditions and minimum drain voltage switching (Quasi-Resonant operation). Due to its inherent skip cycle capability, the controller enters burst mode as soon as the power demand falls below a predetermined level. As this happens at low peak current, no audible noise can be heard. For the NCP1207A, an internal 8.0 micro s timer prevents the free-run frequency to exceed 125 kHz (therefore below the 150 kHz CISPR-22 EMI starting limit), while the skip adjustment capability lets the user select the frequency at which the burst foldback takes place. For the NCP1207B, the internal timer duration is reduced to 4.5 micro s to allow operation at higher frequencies (up to 200 kHz). The Dynamic Self-Supply (DSS) drastically simplifies the transformer design in avoiding the use of an auxiliary winding to supply the NCP1207A/B. This feature is particularly useful in applications where the output voltage varies during operation (e.g. battery chargers). Due to its high-voltage technology, the IC is directly connected to the high-voltage DC rail. As a result, the short-circuit trip point is not dependent upon any VCC auxiliary level. The transformer core reset detection is done through an auxiliary winding which, brought via a dedicated pin, also enables fast overvoltage Protection (OVP). Once an OVP has been detected, the IC permanently latches off. Finally, the continuous feedback signal monitoring implemented with an overcurrent fault protection circuitry (OCP) makes the final design rugged and reliable.

### Features

- Free-Running Borderline/Critical Mode Quasi-Resonant Operation
- Current-Mode with Adjustable Skip-Cycle capability
- Auto-Recovery Over Current Protection
- 500 mA Peak Current Source/Sink Capability
- Internal 1.0 ms SoftStart
- Internal 8.0  $\mu$ s Minimum TOFF
- Latched Over Voltage Protection
- Adjustable skip level
- Pb-Free Packages are Available

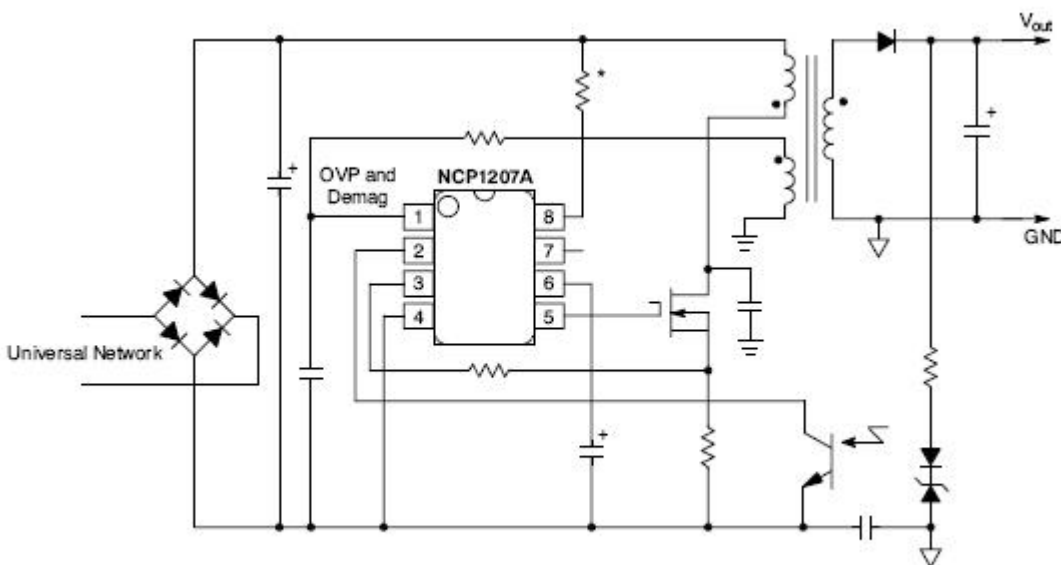
### Applications

- Auxiliary power supplies

### End Products

- AC/DC adapters for notebook
- Offline battery chargers
- Consumer electronics (DVD player, set-top box, TV)

### Application Diagram



Typical Application

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

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