

Product Overview

NCP1014: High Voltage Switching Regulator for Offline SMPS

For complete documentation, see the data sheet.

The NCP101X series integrates a fixed-frequency current-mode controller and a 700 V voltage MOSFET. Housed in a PDIP7 package, the NCP101X offers everything needed to build a rugged and low-cost power supply, including soft-start, frequency jittering, short-circuit protection, skip-cycle, a maximum peak current setpoint and a Dynamic Self-Supply (no need for an auxiliary winding). Unlike other monolithic solutions, the NCP101X is quiet by nature: during nominal load operation, the part switches at one of the available frequencies (65-100-130 kHz). When the current setpoint falls below a given value, e.g. the output power demand diminishes, the IC automatically enters the so-called skip cycle mode and provides excellent efficiency at light loads. Because this occurs at typically 1/4 of the maximum peak value, no acoustic noise takes place. As a result, standby power is reduced to the minimum without acoustic noise generation.

Features

- Built-in 700V MOSFET with Typical RdsON of 11 or 22 Ohms
- Large Creepage Distance between High-Voltage Pins
- Current- Mode Fixed Frequency Operation: 65kHz - 100kHz - 130kHz
- Skip-Cycle Operation at Low Peak Currents Only: No Acoustic Noise!
- Dynamic Self-Supply, No Need of an Auxiliary Winding
- Internal 1ms Soft-Start
- Auto-Recovery Internal Output Short-Circuit Protection
- Latched Overvoltage Protection with Auxiliary Winding Operation
- Frequency Jittering for better EMI Signature
- Below 100 mW Standby Power if Auxiliary Winding is Used

For more features, see the data sheet

Applications

- Auxiliary Power Supplies

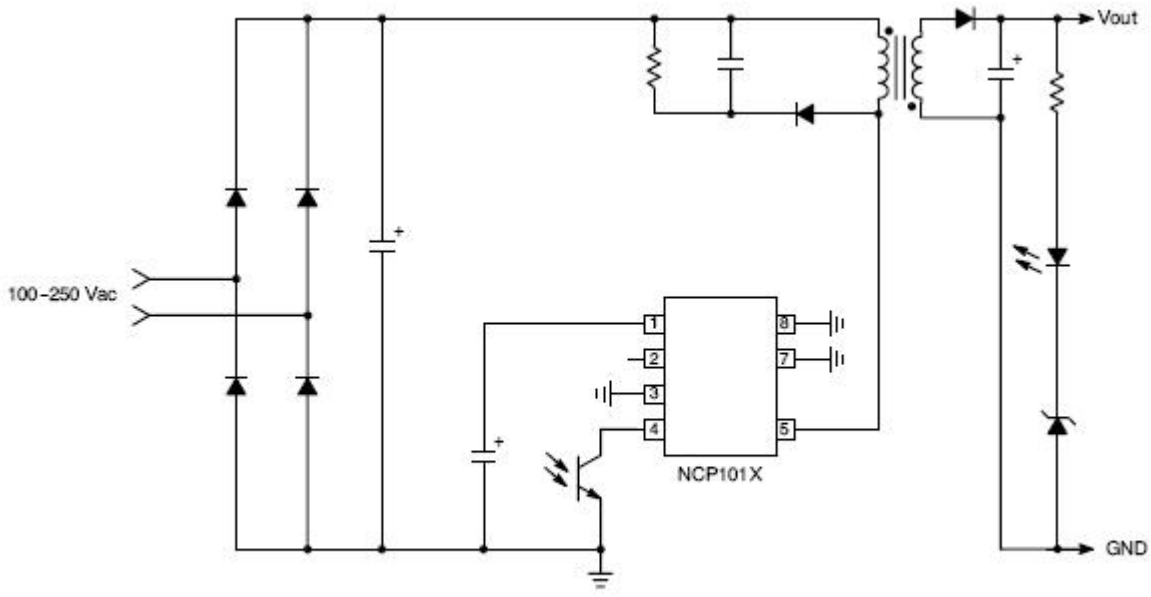
End Products

- Low Power AC/DC Adapter for Chargers

Part Electrical Specifications

| Product | Compliance | Status | Control Mode | f _{sw} Typ (kHz) | f _{jitter} Typ (%) | Stand-by Mode | R _{DS(O)} Typ (Ω) | V _{(BR)PSS} Max (V) | I _{Peak} (mA) | HV Start-up Min (V) | DSS (mA) | UVLO | Short Circuit Protection | Over Power Compensation | Brown-out | Latch | Package Type |
|-----------------|------------------------|--------|--------------|---------------------------|-----------------------------|---------------|----------------------------|------------------------------|------------------------|---------------------|----------|------|--------------------------|-------------------------|-----------|-------|-----------------------|
| NCP1014AP065G | Pb-free Halide free | Active | Current Mode | 65 | Yes | Yes | 11 | 700 | 450 | Yes | 8 | Yes | Yes | No | No | Yes | PDIP-7 |
| NCP1014AP100G | Pb-free Halide free | Active | Current Mode | 100 | Yes | Yes | 11 | 700 | 450 | Yes | 8 | Yes | Yes | No | No | Yes | PDIP-7 |
| NCP1014ST100T3G | Pb-free Halide free | Active | Current Mode | 100 | Yes | Yes | 11 | 700 | 450 | Yes | 8 | Yes | Yes | No | No | Yes | SOT-223-4 / TO-261-4D |
| NCP1014ST65T3G | Pb-free Halide free | Active | Current Mode | 65 | Yes | Yes | 11 | 700 | 450 | Yes | 8 | Yes | Yes | No | No | Yes | SOT-223-4 / TO-261-4D |

Application Diagram



Typical Application Example

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

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