Product Overview

NCP1341: Quasi-Resonant Controller, High-Voltage, Featuring Valley Lock-Out Switching with Power Excursion Mode (PEM)

For complete documentation, see the data sheet.

The NCP1341 is a highly integrated quasi-resonant flyback controller suitable for designing high-performance off-line power converters. With an integrated active X2 capacitor discharge feature, the NCP1341 can enable no-load power consumption below 30 mW.
The quasi-resonant current-mode flyback stage features a proprietary valley-lockout circuitry, ensuring stable valley switching. This system works down to the 6th valley and transitions to a frequency foldback mode to reduce switching losses. As the load decreases further, the NCP1341 enters quiet-skip mode to manage the power delivery.
The NCP1341 integrates power excursion mode (PEM) to minimize transformer size in designs requiring high transient load capability. If transient load capability is not desired, the NCP1340 offers the same performance and features without PEM.
To help ensure converter ruggedness, the NCP1341 implements several key protective features such as internal brownout detection, a non-dissipative Over Power Protection (OPP) for constant maximum output power regardless of input voltage, a latched over voltage and NTC-ready over-temperature protection through a dedicated pin, and line removal detection to safely discharge the X2 capacitors when the line is removed.

Features

- QR Frequency Jittering
- New Quiet-Skip Technology
- Integrated HV Startup with Brownout Protection
- Valley Switching Operation with Valley Lockout
- Integrated X2 Capacitor Discharge Capability
- NTC Compatible Fault Pin
- High Drive Capability: -500 mA / +800 mA
- Latch input for OVP and OTP implementations
- Power Excursion Mode (PEM)

Benefits

- Reduces EMI Signature
- Ensures Operation Outside Audible Range
- Provides an efficient power-on source and protects agaisnts drops in input mains voltage
- Maximizing the efficiency over the entire power range
- Eliminates the need for a X2 resistors
- Extra protection against high temperature or other fault conditions
- Enables faster switching of primary-side MOSFET
- Simple implementation of required protection functions
- Minimize transformer size in designs requiring high transient load capability

Applications

- Medium or High Power AC-DC Adapters
- Ultra High Density AC-DC Adapters
- Computer Power Supplies
- Phone and Tablet Adapters

End Products

- Notebook Adpaters
- Flat TV SMPS
- Computer Power Supplies
- Phone and Tablet Adapters

Part Electrical Specifications

Product	Compliance	Status	Topology	Control Mode	f_{sw} Typ (kHz)	Stand-by Mode	UVLO (V)	Short Circuit Protection	Latch	Soft Start	V_{CC} Max (V)	Drive Cap. (mA)	Package Type
NCP1341A1D1R2G	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	9	Yes	Yes	Yes	30	500 / 800	SOIC-9 NB
NCP1341B1D1R2G	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	9	Yes	No	Yes	30	500 / 800	SOIC-9 NB
NCP1341B1DR2G	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	9	Yes	No	Yes	30	500 / 800	SOIC-8
NCP1341B4D1R2G	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	9	Yes	No	Yes	30	500 / 800	SOIC-9 NB

For more information please contact your local sales support at www.onsemi.com.
Created on: 10/15/2019