

## Product Overview

### NCP1336: Controller, Quasi-Resonant, Current Mode, with HV Start-Up

For complete documentation, see the data sheet.

The NCP1336 hosts a high-performance circuitry aimed at powering quasi-resonant converters. Capitalizing on a novel valley-lockout system, the controller shifts gears and reduces the switching frequency as the power loading becomes lighter. This results in a stable operation despite switching events always occurring in the drain-source valley. This system works down to the 4th valley and toggles to a variable frequency mode beyond, ensuring an excellent standby power performance. The controller takes benefit of a high-voltage start-up current source to provide a quick and lossless power-on sequence. To improve the safety in overload situations, the controller includes an Over Power Protection circuit which clamps the delivered power at high-line. Safety-wise, an adjustable timer relies on the feedback voltage to detect a fault. On version B, this fault triggers a triple-hiccup on the VCC pin which naturally reduces the average input power drawn by the converter. On version A, when a fault is detected, the controller is latched-off. Particularly well suited for adapter applications, the controller features two latch inputs: one dedicated to Over Temperature protection (OTP) which offers an easy means to connect a pull-down temperature sensor like an NTC, and a second one more classical that can be used to perform an accurate Over voltage Protection. Finally, a brownout pin which stops the circuit operation in presence of a low mains condition is included.

#### Features

- Valley Switching Operation with Valley-Lockout
- Loss-free Adjustable Over Power Protection
- Auto-recovery or Latched Short-Circuit Protection with adjustable timer
- Dedicated Overtemperature Protection Input
- Brown Out Protection
- High voltage startup current source

#### Benefits

- Improved efficiency with noise immunity
- Limits the peak current according to input line voltage
- Versatile short circuit protection for improved reliability
- Allows direct connection to NTC for accurate OTP
- Protects against drops in input mains voltage
- Provides a quick and lossless power-on sequence

#### Applications

- High Power Ac-Dc converters

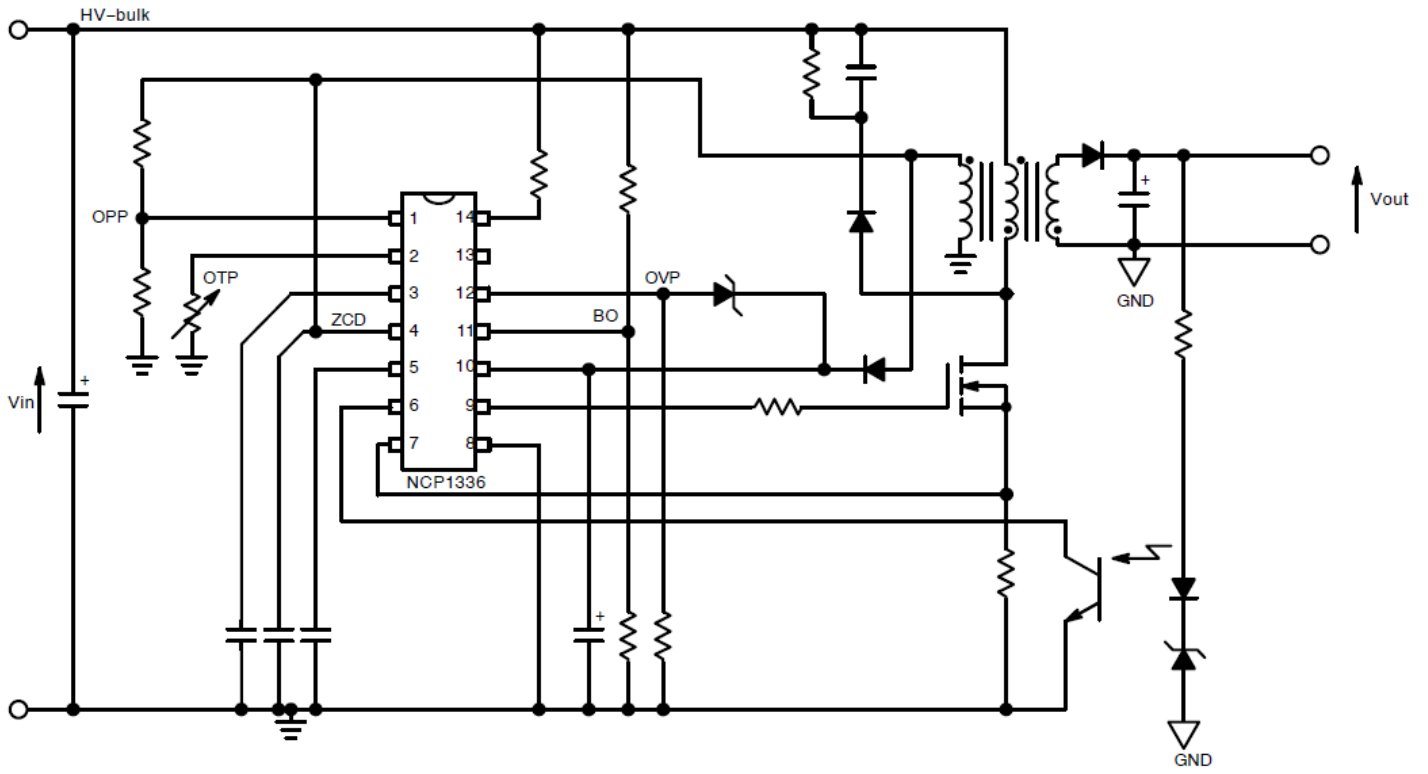
#### End Products

- Notebook Adapters
- Flat TV SMPS

### Part Electrical Specifications

Product	Pricing (\$/Unit)	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
NCP1336ADR2G	0.48	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	9 - 15	Yes	Yes	Yes	28	500 / 800	SOIC-14 NB
NCP1336BDR2G	0.48	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	9 - 15	Yes	Yes	Yes	28	500 / 800	SOIC-14 NB

# Application Diagram



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

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