

## Product Overview

### NCP1342: Quasi-Resonant Flyback Controller with Valley Lock-Out Switching

For complete documentation, see the data sheet.

The NCP1342 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 NCP1342 can enable no-load power consumption below 30 mW.

The NCP1342 features proprietary valley-lockout circuitry, ensuring stable valley switching. This system works down to the 6th valley and transitions to frequency foldback mode to reduce switching losses. As the load decreases further, the NCP1342 enters quiet-skip mode to manage the power delivery while minimizing acoustic noise.

To ensure light load performance with high frequency designs, the NCP1342 incorporates Minimum Peak Current Modulation (MPCM) to reduce the switching frequency quickly. To help ensure converter ruggedness, the NCP1342 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 overvoltage and NTC-ready overtemperature protection through a dedicated pin, and line removal detection to safely discharge the X2 capacitors when the ac line is removed.

#### Features

- Minimum Peak Current Modulation for Rapid Frequency Foldback (RFF)
- QR Frequency Jittering
- Quiet-Skip Technology
- Integrated HV Startup with Brownout Protection
- Valley Switching Operaton 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 implementation

#### Applications

- Medium or High Power AC-DC Adapters
- Ultra High Density AC-DC Adapters
- USB PD Compliant

#### Benefits

- Fast reduction of switching frequency for improved light load efficiency
- Reduces EMI Signature
- Ensures Operation Outside Audible Range
- Provides an efficient power-on source and protects against drops in input mains voltage
- Maximizes the efficiency over the entire power range
- Eliminates the need for a X2 resistor
- Extra protection against high temperature or other fault conditions
- Enables faster switching of primary-side MOSFET
- Simple implementation of required protection functions

#### End Products

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

## Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	Control Mode	f <sub>sw</sub> Typ (kHz)	Stand-by Mode	UVLO (V)	Short Circuit Protection	Latch	Soft Start	V <sub>CC</sub> Max (V)	Drive Cap. (mA)	Package Type
NCP1342AMAACD1R2G	0.44	Pb-free Halide free	Active	Flyback	Current Mode	variable	Yes	9	Yes	No	Yes	30	500 / 800	SOIC-9 NB
NCP1342AMDCCDR2G	0.4267	Pb-free Halide free	Active	Flyback	Current Mode	variable	Yes	9	Yes	No	Yes	30	500 / 800	SOIC-8
NCP1342AMDCDAD1R2G	0.44	Pb-free Halide free	Active	Flyback	Current Mode	variable	Yes	9	Yes	No	Yes	30	500 / 800	SOIC-9 NB
NCP1342ANACECD1R2G	0.44	Pb-free Halide free	Active	Flyback	Current Mode	variable	Yes	9	Yes	No	Yes	30	500 / 800	SOIC-9 NB
NCP1342ANACED1R2G	0.44	Pb-free Halide free	NEW	Flyback	Current Mode	Variable	Yes	9	Yes	No	Yes	30	500 / 800	SOIC-9 NB
NCP1342ANDAAD1R2G	0.44	Pb-free Halide free	Active	Flyback	Current Mode	variable	Yes	9	Yes	No	Yes	30	500 / 800	SOIC-9 NB
NCP1342ANDBDD1R2G	0.44	Pb-free Halide free	NEW	Flyback	Current Mode	Variable	Yes	9	Yes	No	Yes	30	500 / 800	SOIC-9 NB
NCP1342BMDCDAD1R2G	0.44	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	9	Yes	Yes	Yes	30	500 / 800	SOIC-9 NB
NCP1342BMDCDDD1R2G	0.44	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	9	Yes	Yes	Yes	30	500 / 800	SOIC-9 NB
NCP1342DADBDD1R2G	0.44	Pb-free Halide free	Active	Flyback	Current Mode	Variable	Yes	9	Yes	Yes	Yes	30	500 / 800	SOIC-9 NB

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