

NCP1396

Controller, High Performance Resonant Mode, with High and Low Side Drivers



Product Overview

For complete documentation, see the data sheet.

The NCP1396 A/B offer everything needed to build a reliable and rugged resonant mode power supply. Its unique architecture includes a 500 kHz Voltage Controlled Oscillator whose control mode brings flexibility when an ORing function is a necessity, e.g. in multiple feedback paths implementations. Thanks to its proprietary high-voltage technology, the controller welcomes a bootstrapped MOSFET driver for half-bridge applications accepting bulk voltages up to 600 V. Protections featuring various reaction times, e.g. immediate shutdown or timer-based event, brown-out, broken opto-coupler detection etc., contribute to a safer converter design, without engendering additional circuitry complexity. An adjustable deadtime also helps lowering the shoot-through current contribution as the switching frequency increases.

Features

- Fast and slow fault detection, broken FB loop detection
- Adjustable dead-time
- Adjustable soft-start
- Brown-Out protection

Benefits

- Improved fault handling and robustness
- Prevents shoot-through currents and allows for optimization based on MOSFET characteristics
- Prevents damage from current spikes and startup and reduces EMI
- Protects against input voltage drops and simplifies PFC association

Applications

- FLat Panel Display Power Converters
- High Power AC/DC Adapters
- Industrial and Medical Power Sources
- Offline Battery Chargers

End Products

- Notebook Adapters
- LCD TVs

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
NCP1396ADR2G	0.4578		Active	Half-Bridge	Voltage Mode	Up to 500	Yes	Yes	Yes	Yes	Yes	20	500 / 1000	SOIC-16
NCP1396BDR2G	0.4578		Active	Half-Bridge	Voltage Mode	Up to 500	Yes	Yes	Yes	Yes	Yes	20	500 / 1000	SOIC-16