

## Product Overview

### NCP1397: Controller, High Performance, Resonant Mode, with Integrated High Voltage Drivers

For complete documentation, see the data sheet.

The NCP1397 is a high performance controller that can be utilized in half bridge resonant topologies such as series resonant, parallel resonant and LLC resonant converters. It integrates 600 V gate drivers, simplifying layout and reducing external component count. With its unique architecture, including a 500 kHz Voltage Controlled Oscillator whose control mode permits flexibility when an ORing function is required, the NCP1397 delivers everything needed to build a reliable and rugged resonant mode power supply. The NCP1397 provides a suite of protection features with configurable settings to optimize any application. These include: auto-recovery or fault latch-off, brown-out, open optocoupler, soft-start and short-circuit protection. Deadtime is also adjustable to overcome shoot through current.

NCV1397 offers an Automotive certified version (AEC-Q100/PPAP)

#### Features

- Adjustable minimum switching frequency with 3% accuracy
- Brown-out input
- 1 A / 0.5 A Peak Current Sink / Source Drive
- Timer-based OCP input with auto-recovery
- Second latched OCP level
- Adjustable deadtime from 100 ns to 2 us
- Adjustable soft-start

#### Benefits

- Keeps the converter operation in the right region & simplifies design
- Simple PFC association
- High gate drive capability
- Allows transient overload, protects against overpower
- Protects application in case of short circuit
- Prevents shoot-through currents and allows for optimization based on MOSFET characteristics
- Reduces startup currents

#### Applications

- Flat panel display power converters
- High power AC/DC adapters for notebooks
- Computing power supplies
- Industrial and medical power sources
- Offline battery chargers

#### End Products

- Notebook Adapters
- LCD TVs
- ATX power supplies

### 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
NCP1397ADR2G	0.6	Pb-free Halide free	Active	Half-Bridge	Current /Voltage Mode	Up to 500	No	9.5/10.5	Yes	Yes	Yes	20	500 / 1000	SOIC-16
NCP1397BDR2G	0.6	Pb-free Halide free	Active	Half-Bridge	Current /Voltage Mode	Up to 500	No	9.5/10.5	Yes	Yes	Yes	20	500 / 1000	SOIC-16
NCV1397ADR2G	0.7333	AEC Qualified PPAP Capable Pb-free Halide free	Active	Half-Bridge	Current /Voltage Mode	Up to 500	No	9.5/10.5	Yes	Yes	Yes	20	500 / 1000	SOIC-16
NCV1397BDR2G	0.7333	AEC Qualified PPAP Capable Pb-free Halide free	Active	Half-Bridge	Current /Voltage Mode	Up to 500	No	9.5/10.5	Yes	Yes	Yes	20	500 / 1000	SOIC-16

# Application Diagram

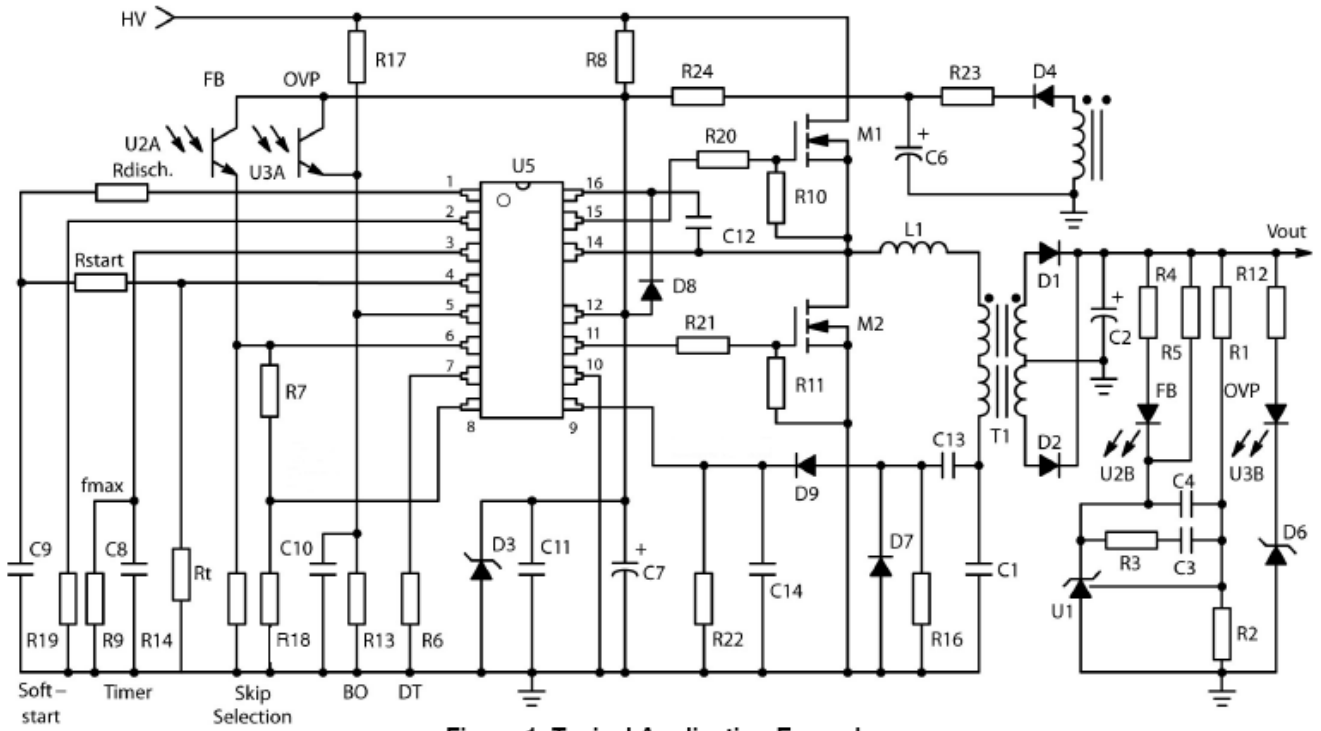


Figure 1. Typical Application Example

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