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ON Semiconductor®

Energy Efficient Innovations

Product Overview



NCP1399: Current Mode Resonant Controller (Integrated High Voltage Drivers, High Performance)

For complete documentation, see the data sheet.

The NCP1399 is a high performance current mode controller for half bridge resonant converters. This controller implements 600 V gate drivers, simplifying layout and reducing external component count. The built-in Brown-Out input function eases implementation of the controller in all applications. In applications where a PFC front stage is needed, the NCP1399 features a dedicated output to drive the PFC controller. This feature together with dedicated skip mode technique further improves light load efficiency of the whole application. The NCP1399 provides a suite of protection features allowing safe operation in any application. This includes: overload protection, over-current protection to prevent hard switching cycles, brown-out detection, open optocoupler detection, automatic dead-time adjust, overvoltage (OVP) and overtemperature (OTP) protections.

Features

- High-Frequency Operation from 20 kHz up to 750 kHz
- Current Mode Control Scheme
- Automatic Dead-time with Maximum Dead-time Clamp

Benefits

- Optimize for physical size or highest efficiency
- Built-in safety protection, improved transient response
- Improved efficiency

Applications

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

End Products

- Notebook Adapters
- LCD-TV / LED-TV

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
NCP1399AADR2G	Pb-free Halide free	Active	Half-Bridge	Current Mode	up to 400	Yes	8.9	Yes	Yes	Yes	20	1500 / 1000	SOIC-16 NB
NCP1399ACDR2G	Pb-free Halide free	Active	Half-Bridge	Current Mode	up to 400	Yes	8.9	Yes	Yes	Yes	20	1500 / 1000	SOIC-16 NB
NCP1399AFDR2G	Pb-free Halide free	Active	Half-Bridge	Current Mode	up to 400	Yes	8.9	Yes	Yes	Yes	20	1500 / 1000	SOIC-16 NB
NCP1399AGDR2G	Pb-free Halide free	Active	Half-Bridge	Current Mode	up to 400	Yes	8.9	Yes	Yes	Yes	20	1500 / 1000	SOIC-16 NB
NCP1399AHDR2G	Pb-free Halide free	Active	Half-Bridge	Current Mode	up to 400	Yes	8.9	Yes	Yes	Yes	20	1500 / 1000	SOIC-16 NB
NCP1399AIDR2G	Pb-free Halide free	Active	Half-Bridge	Current Mode	up to 400	Yes	8.9	Yes	Yes	Yes	20	1500 / 1000	SOIC-16 NB
NCP1399AMDR2G	Pb-free Halide free	Active	Half-Bridge	Current Mode	up to 400	Yes	8.9	Yes	Yes	Yes	20	1500 / 1000	SOIC-16 NB
NCP1399ANDR2G	Pb-free Halide free	Active	Half-Bridge	Current Mode	up to 400	Yes	8.9	Yes	Yes	Yes	20	1500 / 1000	SOIC-16 NB
NCP1399APDR2G	Pb-free Halide free	Active	Half-Bridge	Current Mode	up to 400	Yes	8.9	Yes	Yes	Yes	20	1500 / 1000	SOIC-16 NB
NCP1399BADR2G	Pb-free Halide free	Active	Half-Bridge	Current Mode	up to 400	Yes	8.9	Yes	Yes	Yes	20	1500 / 1000	SOIC-16 NB

For more information please contact your local sales support at www.onsemi.com.

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