

NCP13992

Current Mode Resonant Controller with Integrated High Voltage Drivers, High Performance

Product Overview

For complete documentation, see the data sheet.

The NCP13992 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 NCP13992 features a dedicated output to drive the PFC controller. This feature together with dedicated quiet skip mode technique further improves light load efficiency of the whole application. The NCP13992 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

- Quiet Skip Mode technique
- Current Mode Control Scheme
- Automatic Dead-time with Maximum Dead-time Clamp

Applications

- Half Bridge Resonant Converter
- Offline Power Supply





































Benefits

- Improves Light Load Efficiency avoiding transformer acoustic noise
- Built-in safety protection, improved transient response
- Improved efficiency

End Products

- Notebook Adapters
- LCD, LED and OLED TV
- High Power AC/DC Adapter
- Industrial and Medical Power Supply
- Computing Power Supply

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
NCP13992AADR 2G	0.69	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	15.8	Yes	Yes	Yes	20	500 / 1000	SOIC-16 NB
NCP13992ABDR 2G	0.7003	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	11.9	Yes	No	Yes	20	500 / 1000	SOIC-16 NB
NCP13992ACDR 2G	0.7313	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	15.8	Yes	Yes	Yes	20	500 / 1000	SOIC-16 NB
NCP13992ADDR 2G	0.6907	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	15.8	Yes	Yes	No	20	500 / 1000	SOIC-16 NB
NCP13992AEDR 2G	0.7416	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	15.8	Yes	Yes	Yes	20	500 / 1000	SOIC-16 NB
NCP13992AFDR 2G	0.7416	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	11.9	Yes	No	Yes	20	500 / 1000	SOIC-16 NB
NCP13992AGDR 2G	0.7416	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	15.8	Yes	Yes	Yes	20	500 / 1000	SOIC-16 NB
NCP13992AHDR 2G	0.7416	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	11.9	Yes	Yes	Yes	20	500 / 1000	SOIC-16 NB
NCP13992AJDR 2G	0.7113	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	15.8	Yes	No	Yes	20	500 / 1000	SOIC-16 NB
NCP13992AKDR 2G	0.7113	 	NEW	Half-Bridge	Current Mode	Up to 750 kHz	Yes	11.9	Yes	Yes	Yes	20	500 / 1000	SOIC-16 NB
NCP13992ALDR 2G	0.7113	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	11.9	Yes	Yes	Yes	20	500 / 1000	SOIC-16 NB
NCP13992AMD R2G	0.7113	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	15.8	Yes	No	Yes	20	500 / 1000	SOIC-16 NB
NCP13992ANDR 2G	0.7846	 	NEW	Half-Bridge	Current Mode	Up to 750 kHz	Yes	15.8	Yes	No	Yes	20	500 / 1000	SOIC-16 NB
NCP13992ARDR 2G	0.7113	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	15.8	Yes	No	Yes	20	500 / 1000	SOIC-16 NB
NCP13992ASDR 2G	0.7113	 	NEW	Half-Bridge	Current Mode	Up to 750 kHz	Yes	11.9	Yes	Yes	Yes	20	500 / 1000	SOIC-16 NB
NCP13992ATDR 2G	0.726	 	NEW	Half-Bridge	Current Mode	Up to 750 kHz	Yes	15.8	Yes	Yes	Yes	20	500 / 1000	SOIC-16 NB
NCP13992AUDR 2G	0.726	 	Active	Half-Bridge	Current Mode	Up to 750 kHz	Yes	11.9	Yes	No	Yes	20	500 / 1000	SOIC-16 NB
NCP13992AWD R2G	0.7466	 	NEW	Half-Bridge	Current Mode	Up to 750 kHz	Yes	11.9	Yes	No	Yes	20	500 / 1000	SOIC-16 NB