

Product Overview

NCP1080: Integrated PoE-PD and DC-DC converter controller, 13 W

For complete documentation, see the data sheet.

The NCP1080 is a member of ON Semiconductor's Power over Ethernet Powered Device (PoE-PD) product family and represents a robust, flexible and highly integrated solution targeting demanding Ethernet applications. It combines in a single unit an enhanced PoE-PD interface fully compliant with the IEEE 802.3af specification and a flexible and configurable DC-DC converter controller. The NCP1080's exceptional capabilities offer new opportunities for the design of products powered directly over Ethernet lines, eliminating the need for local power adapters or power supplies and drastically reducing the overall installation and maintenance cost. ON Semiconductor's unique manufacturing process and design enhancements allow the NCP1080 to deliver up to 13 W of regulated power to support PoE applications according to the IEEE 802.3af standard. This device leverages the significant cost advantages of PoE-enabled systems to a broad spectrum of products in markets such as VoIP phones, wireless LANs, security cameras, point of sales terminals, RFID readers, industrial Ethernet, etc. The integrated current mode DC-DC controller facilitates isolated and non-isolated flyback, forward and buck converter topologies. It has all the features necessary for a flexible, robust and highly efficient design including programmable switching frequency, duty cycle up to 80 percent, slope compensation, and soft start up. The NCP1080 is fabricated in a robust high voltage process and integrates a rugged vertical N-channel DMOS with a low loss current sense technique suitable for the most demanding environments and capable of withstanding harsh environments such as hot swap and cable ESD events.

Features

- Delivers up to 13 W
- Full operation to $T_J=150^{\circ}\text{C}$
- Robust 3.0 kV cable ESD protection
- Exposed TSSOP-20 EP package

Applications

- Power over Ethernet Powered Device (PoE-PD) interface and integrated DC-DC converter controller

Benefits

- Support for traditional PoE apps
- Wide operating temperature range
- Extended operation in harsh environments
- Thermally enhanced package for higher output current

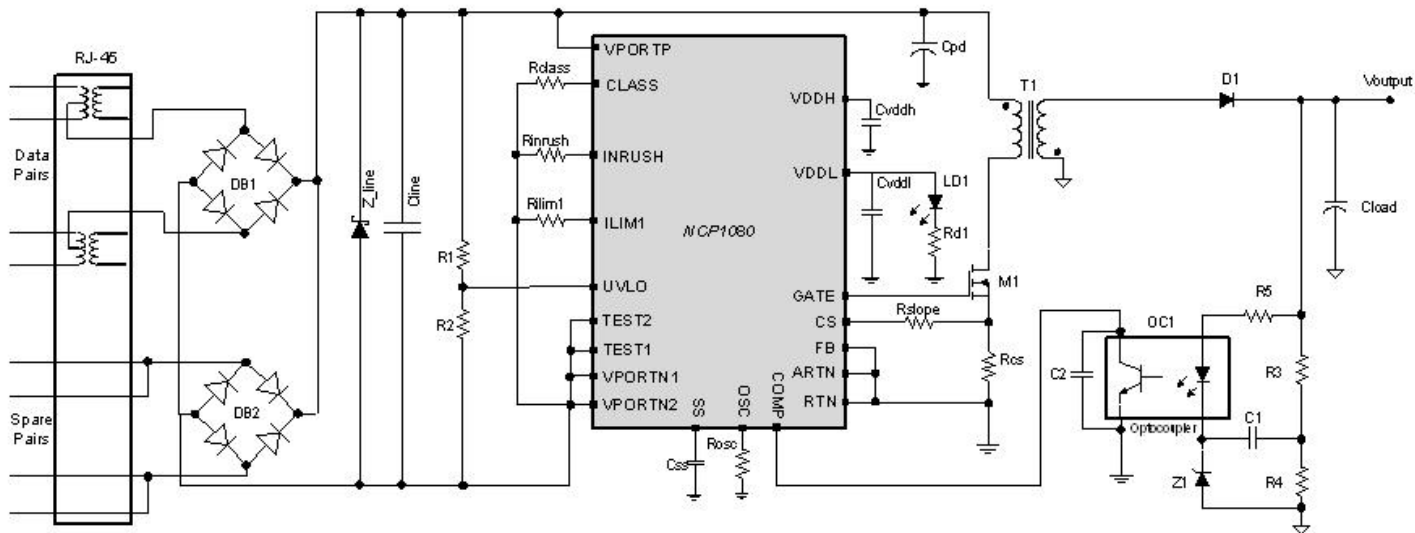
End Products

- VoIP phones
- WLAN access points
- Box security cameras
- Industrial Ethernet HMI and UPS backed PLCs and IOMs
- Point of Sales terminals

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	Phases	Control Mode	V _{CC} Min (V)	V _{CC} Max (V)	f _{sw} Typ (kHz)	Package Type
NCP1080DEG		Pb-free	Active	Flyback	1	Current Mode	0	57	250	TSSOP-20
		Halide free								
NCP1080DER2G		Pb-free Halide free	Active	Flyback	1	Current Mode	0	57	250	TSSOP-20

Application Diagram



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

Created on: 4/1/2020