NCP1681

Totem-Pole Continuous Conduction Mode (CCM) / Multi-mode (CrM-CCM) Power Factor Correction Controller

Product Overview

For complete documentation, see the data sheet.

The NCP1681 is a PFC controller IC designed to drive the bridgeless totem-pole PFC topology. The bridgeless totem-pole PFC is a power factor correction architecture that consists of a fast switching leg driven at the PWM switching frequency and a second leg that operates at the AC line frequency. This topology eliminates the diode bridge present at the input of a conventional PFC circuit, allowing significant improvement in the power stage efficiency. The controller can be configured to operate in Continuous Conduction Mode (CCM) or Multi-Mode (CrM-CCM) operation.

Features

- Totem Pole PFC Topology Eliminates Input Diode Bridge
- Continuous Conduction Mode (CCM) Operation At High Power Level
- Optional Multi-mode Operation With CCM at High Power & CrM at Medium Power Level
- Frequency Foldback in DCM With 25 kHz Minimum Frequency
- Skip Mode in Very Light Load Condition
- Novel Current Sense Scheme
- Digital Voltage Loop Compensation
- AC Line Monitoring Circuit & AC Phase Detection
- Near Unity Power Factor in All Operating Modes
- PFC OK Indicator

  For more features, see the data sheet

Applications

- Power Factor Correction
- Offline Power Supply

End Products

- Server Power
- Telecom 5G Power
- Networking Power
- Gaming Console Power Supplies
- UHD TV Power Supplies

Part Electrical Specifications

Product	Status	Compilance	PFC Mode	Frequency Operation	Control Mode	Topology	f_{sw} Typ (kHz)	V_{CC} Max (V)	Drive Cap. (mA)	UVLO (V)	Latch	UVP	Inhibition	Package Type	Case Outline	MSL Type	MSL Temp (°C)	Container Type	Container Qty.
NCP1681AAD2R2G	Active		CCM	Fixed	Current/Voltage Mode	Totem Pole	65	30	100 / 100	10.5	Yes	Yes	No	SOIC20 NB LESS PIN 17 & 19	751EZ.PDF	1	260	REEL	2500
NCP1681ABD2R2G	Active		CCM	Fixed	Current/Voltage Mode	Totem Pole	95	30	100 / 100	10.5	Yes	Yes	No	SOIC20 NB LESS PIN 17 & 19	751EZ.PDF	1	260	REEL	2500
NCP1681BAD2R2G	Active		MM	Variable	Current/Voltage Mode	Totem Pole	65 / Variable	30	100 / 100	10.5	Yes	Yes	No	SOIC20 NB LESS PIN 17 & 19	751EZ.PDF	1	260	REEL	2500