

## Product Overview

### NCP1608: Power Factor Controller (PFC), Critical Conduction Mode, with Transconductance Error Amplifier

For complete documentation, see the data sheet.

The NCP1608 is an active power factor correction (PFC) controller specifically designed for use as a pre-converter in ac-dc adapters, electronic ballasts, and other medium power off-line converters (typically up to 350 W). It uses Critical Conduction Mode (CrM) to ensure near unity power factor across a wide range of input voltages and output power. The NCP1608 minimizes the number of external components by integrating safety features, making it an excellent choice for designing robust PFC stages.

#### Features

- No Input Voltage Sensing Requirement
  - High Precision Voltage Reference ( $\pm 1.6\%$  Over the Temperature Range)
  - Wide Control Range for High Power Application (>150 W) Noise Immunity
  - Integrated Undervoltage and Overvoltage Protection
  - Pin-to-Pin Compatible with Industry Standards
  - Accurate and Programmable On Time Limitation
  - Transconductance Error Amplifier
  - Very Low Startup Current Consumption ( $< 35 \mu\text{A}$ )
  - Low Typical Operating Current Consumption (2.1 mA)
  - Source 500 mA / Sink 800 mA Totem Pole Gate Driver
- For more features, see the data sheet

#### Benefits

- Reduced Standby Power Dissipation
- Accurate Output Voltage Regulation
- Improved Noise Immunity
- Open/Floating Feedback Loop Protection
- Second Source
- Accurate Maximum Output Power Limitation

#### Applications

- Any Power Factor Correction Stage Less Than 350 W

#### End Products

- Solid State Lighting
- Electronic Light Ballast
- AC Adapters
- TVs and Monitors
- All Off-Line Appliances Requiring Power Factor Correction

### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	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
NCP1608BDR2G	0.24	Pb-free Halide free	Active	CRM	Variable	Voltage Mode	Step-Up	Variable	20	500 / 800	9.5 - 12	No	Yes	No	SOIC-8

#### Application Diagram

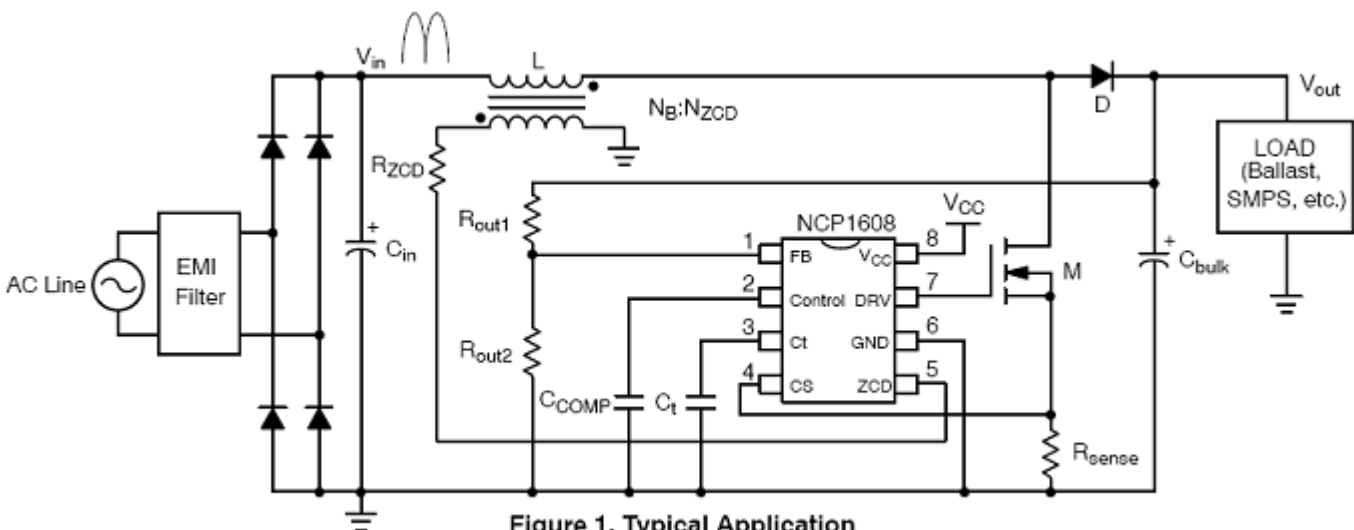


Figure 1. Typical Application

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