

# NCP1607

## Cost Effective Power Factor Controller

The NCP1607 is an active power factor 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 250 W). It utilizes Critical Conduction Mode (CRM) to ensure unity power factor across a wide range of input voltages and power levels. The NCP1607 minimizes the number of external components. The integration of comprehensive safety protection features makes it an excellent choice for designing robust PFC stages. It is available in a SOIC-8 package.

### General Features

- “Unity” Power Factor
- No Need for Input Voltage Sensing
- Latching PWM for Cycle by Cycle On Time Control (Voltage Mode)
- High Precision Voltage Reference ( $\pm 1.6\%$  over the Temperature Range)
- Very Low Startup Current Consumption ( $\leq 40 \mu\text{A}$ )
- Low Typical Operating Current (2.1 mA)
- Source 500 mA / Sink 800 mA Totem Pole Gate Driver
- Undervoltage Lockout with Hysteresis
- Pin to Pin Compatible with Industry Standards
- This is a Pb-Free Device
- This Device uses Halogen-Free Molding Compound

### Safety Features

- Programmable Overvoltage Protection
- Open Feedback Loop Protection
- Accurate and Programmable On Time Control
- Accurate Overcurrent Detector

### Typical Applications

- AC-DC Adapters, TVs, Monitors
- Off Line Appliances Requiring Power Factor Correction
- Electronic Light Ballast



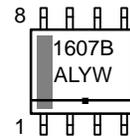
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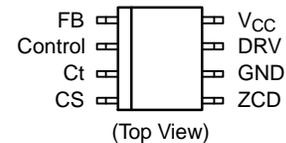
SO-8  
D SUFFIX  
CASE 751

### MARKING DIAGRAMS



A = Assembly Location  
L = Wafer Lot  
Y = Year  
W = Work Week  
▪ = Pb-Free Package

### PIN CONNECTION



### ORDERING INFORMATION

Device	Package	Shipping†
NCP1607BDR2G	SOIC-8 (Pb-Free)	2500 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

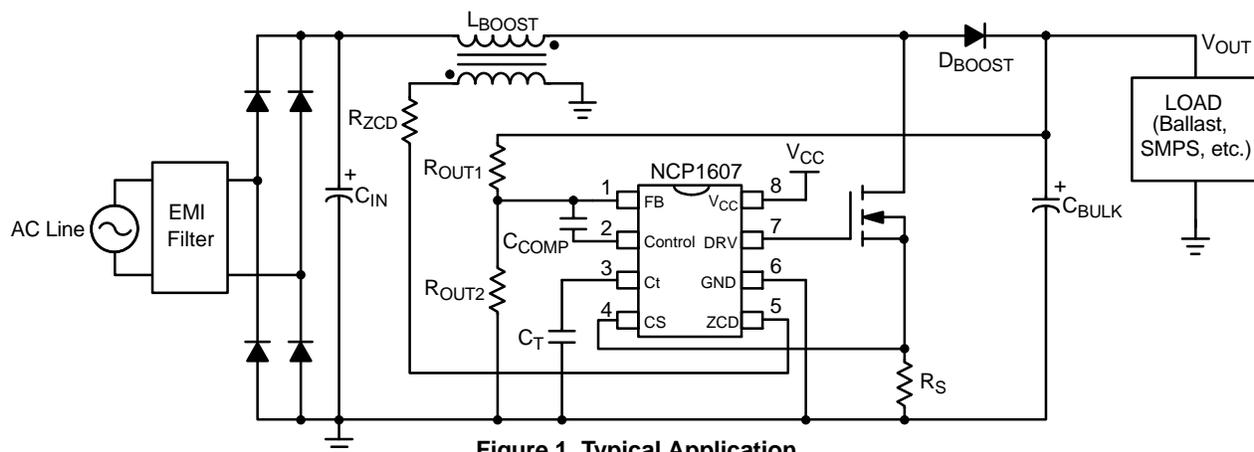


Figure 1. Typical Application

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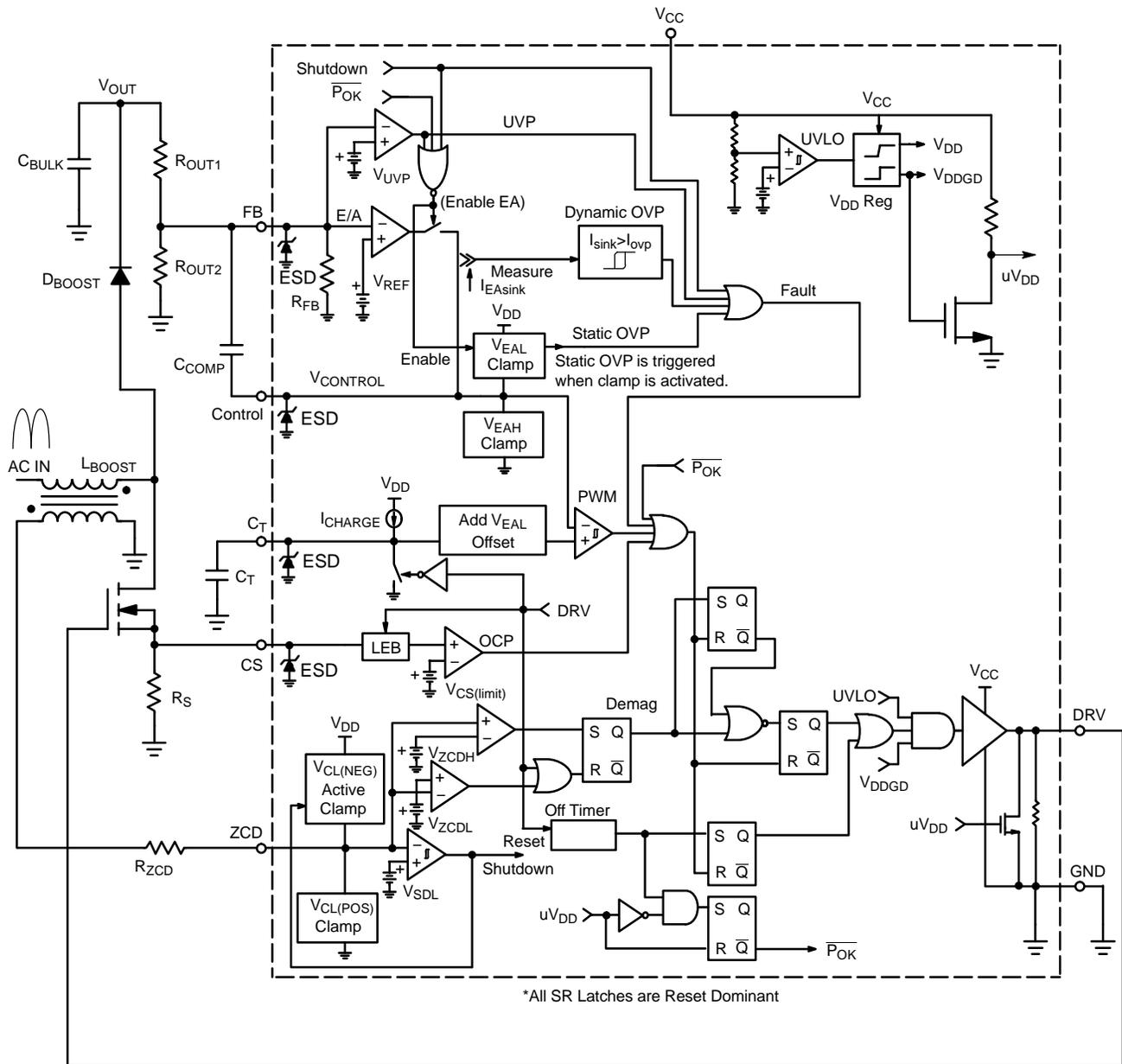


Figure 2. Block Diagram