BP3368

Isolated Two-Stage Dimmable LED Driver with High PF

Description

BP3368 is an isolated two-stage high-performance AC/DC LED driver controller for dimmable applications. It combines Boost PFC control and Flyback control in single chip to provide high PF and constant LED current. BP3368 virtually realizes tight LED current regulation and eliminates all flicker even in universal input voltage and in the entire dimming range.

BP3368 operates in BCM (Boundary Conduction Mode) mode and quasi-resonant mode to provide high efficiency and low EMI. BP3368 allows Boost stage to use single-winding inductor to simplify the design. Integrated HV start-up circuit results in a startup time of less than a half second. Proprietary primary side control algorithms used by the BP3368 enables excellent line regulation and load regulation in all operating conditions, without the need for any external loop compensation components, minimizing the BOM cost.

BP3368 works directly with PWM or analog dimming signal to realize linear analog dimming for flicker-free LED lighting. The dimming range of BP3368 is from 5% to 100% with a dim-to-off hysteresis of 2%.

BP3368 enables multiple protection to ensure high reliability of LED driver.

BP3368 is packaged in SOP-16.

Features

- 85VAC~305VAC wide input voltage
- High PF (> 0.95) and low THD (< 10%) over entire input voltage range. THD<20% above 25% load
- Integrated with HV start-up circuit, start-up time <0.5s
- Tight LED current (+/-3%)
- Single-winding Boost inductor
- Wide dimming range from 5% to 100%, compatible with PWM or analog dimming signal; support dim to off
- Fast and smooth soft-start of Flyback stage
- Built-in compensation circuit for line regulation and load regulation
- Multiple protections
  - LED open and short protection
  - CS2 short protection
  - Boost OVP
  - Brown out protection
  - OTP

Application

- LED Ceiling Lights
- LED Street Lamp
- High-performance Dimmable LED Luminaire

Typical Application

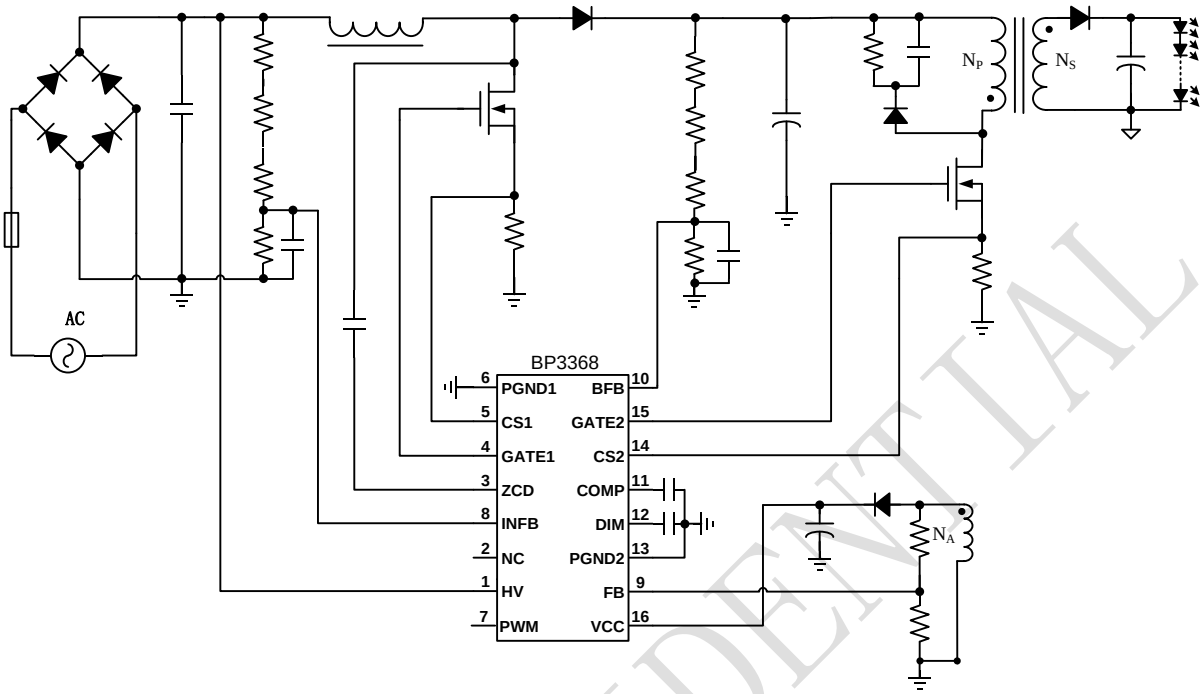

Fig.1 BP3368 for Non-Dimming Application

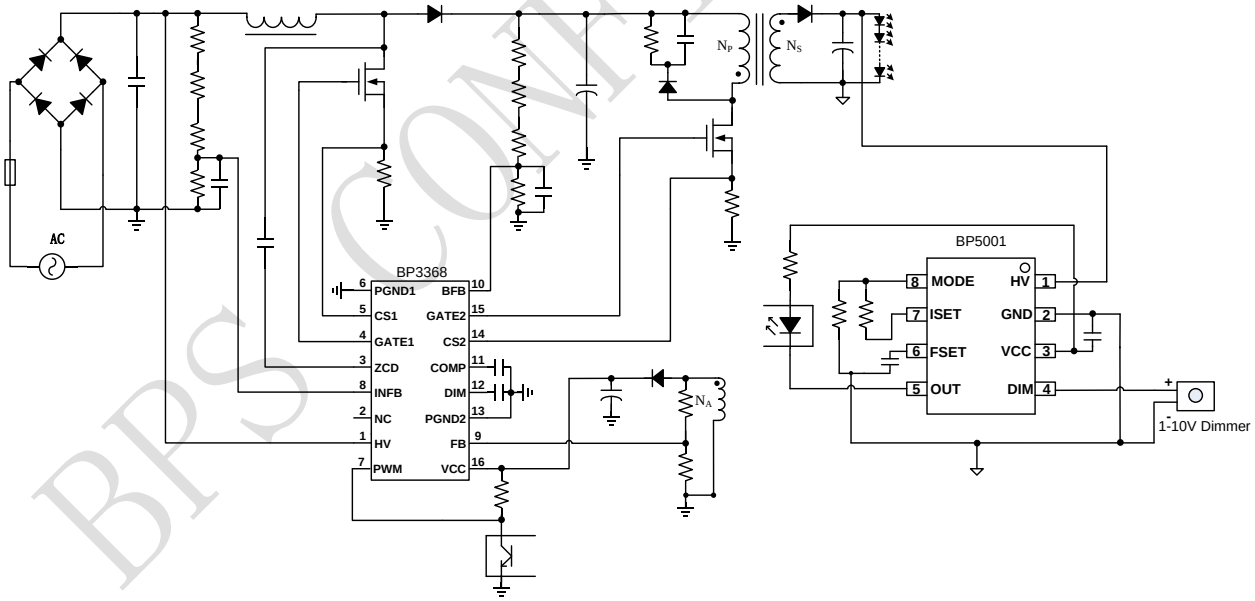

Fig.2 BP3368 for 1-10V Dimming Application

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