

Description

The BP2329AJ is a high precision non-isolated buck controller with active PFC, specially designed for universal input offline constant current LED lighting. The controller with on-chip PFC circuit achieves high power factor and low THD. Operating in critical conduction mode, the power MOSFET switching loss is reduced and the inductor is fully utilized.

The BP2329AJ utilizes patent pending floating ground structure. The inductor current is sensed during the whole switching cycle. So it achieves high precision output current control, and excellent line regulation and load regulation.

The BP2329AJ offers rich protection functions to improve the system reliability, including LED open circuit protection, LED short circuit protection, VCC under voltage protection, CS resistor open circuit protection and cycle by cycle current limit. All the protection functions are auto-recovery. The system reliability is further improved by the thermal regulation function. The output current is reduced when the controller is over temperature.

Features

- Active PFC for High Power Factor and Low THD
- System Efficiency up to 95%
- $\pm 3\%$ LED Output Current Accuracy
- Excellent Line and Load Regulation
- Critical Conduction Mode Operation
- Ultra Low (33uA) Start Up Current
- Ultra Low (300uA) Operating Current
- LED Short/Open Protection
- Current Sensing Resistor Open Protection
- Cycle by Cycle Current Limit
- VCC Under Voltage Protection
- Auto Fault Recovery
- Thermal Regulation Function
- Available in Tiny SOT23-6 Package

Applications

- GU10/E27 LED Bulb, Spot Light
- PAR30, PAR38 Lamp
- T8/T10 LED String
- Other LED Lighting

Typical Application

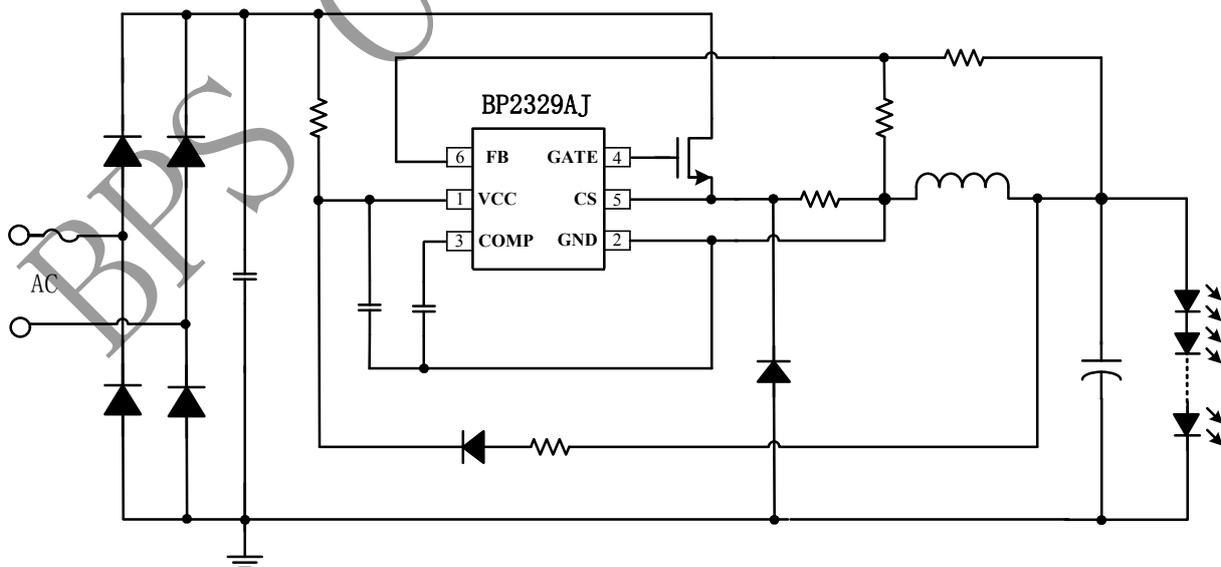


Figure 1. Typical application circuit for BP2329AJ

Ordering Information

| Part Number | Package | Operating Temperature | Packing Method | Marking |
|-------------|---------|-----------------------|------------------------|---------|
| BP2329AJ | SOT23-6 | -40 °C to 105 °C | Tape 3,000 Pcs/Reel | 2329AJ |

Pin Configuration

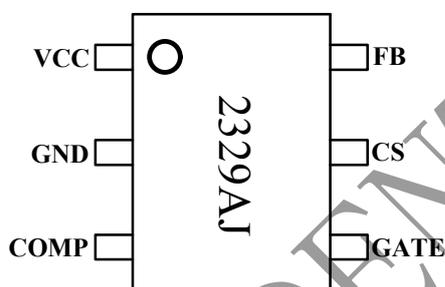


Figure 2. Pin configuration

Pin Definition

| Pin No. | Name | Description |
|---------|------|--|
| 1 | VCC | Power Supply Pin. Connect a bypass capacitor from this pin to GND. |
| 2 | GND | Ground. |
| 3 | COMP | Loop Compensation Node. This pin connects a capacitor to GND for stabilization of the control loop, achieving accurate LED current, high Power Factor and low THD. |
| 4 | GATE | Gate Driver Pin. Connect this pin to the gate of external power MOSFET. |
| 5 | CS | Current Sense Pin. Connect a resistor to GND to sense the inductor current. |
| 6 | FB | Feedback Voltage Input Pin. This pin detects the inductor demagnetization signal and the output voltage. |

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