BP1808A
Boost, Buck and Buck-Boost DC/DC LED Driver

Description

The BP1808A is a DC/DC constant current LED driver with an integrated 80V/300mΩ MOSFET designed for a wide input-voltage range of 3V to 70V. The BP1808A can be configured as Buck, Boost and Buck-Boost topology.

With a current sense reference of 200mV, the LED current is programmed by an external current sense resistor and the power loss is minimized. The BP1808A allows both analog and PWM dimming by DIM pin.

The fixed 420kHz operating frequency minimizes size of external inductor, input and output capacitor. Current mode operation provides fast transient response and easy loop stability.

BP1808A offers rich protection functions including VDD under voltage protection, output over voltage protection, cycle-by-cycle peak current limit and thermal regulation.

The BP1808A adopts SOP8-EP package for enhanced power dissipation.

ESOP8 Package

Features

- Wide 3V to 70V Input Voltage Range
- Supporting Boost Buck-Boost Buck Topology
- Integrated 80V/300mΩ MOSFET
- ±3% LED Output Current Accuracy
- Combined Analog and PWM Dimming
- Fixed 420kHz operating Frequency
- Adjustable Soft-Start
- Cycle-by-Cycle Peak Current Limiting
- VDD Under Voltage Protection
- Programmable Over Voltage Protection
- Thermal Regulation Function
- Available in SOP8-EP Package

Applications

- MR16 LED Lighting
- Smart Dimming LED lighting
- Automotive LED Lighting
- Solar LED lighting
- Other LED Lighting

Typical Application (Boost)

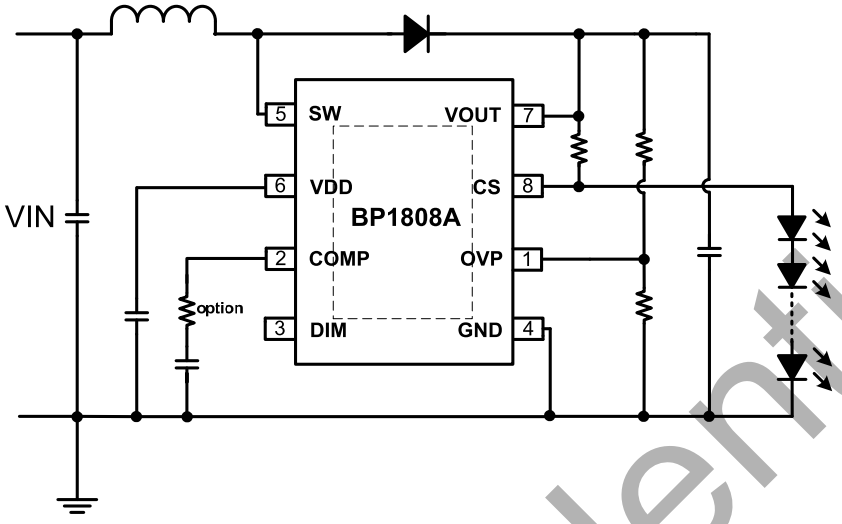
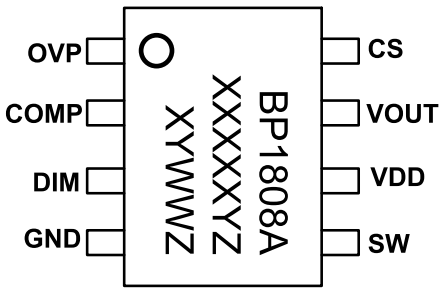


Figure 1. Typical application (Boost)

Ordering Information

Part Number	Package	Operating Temperature	Packing Method	Marking
BP1808A	SOP8-EP	-40 °C to 105 °C	Tape 4,000 pcs/Reel	BP1808A XXXXXYZ XYWWZ

Pin Configuration and Marking Information



XXXXXY: Lot Code
XY: Sign
YY: Week
Z: Option

Figure 2. Pin configuration

Pin Definition

Pin No.	Name	Description
1	OVP	Over Voltage Protection Pin.
2	COMP	Loop Compensation Pin.
3	DIM	Dimming Signal Input Pin.
4	GND	Ground Pin.
5	SW	Drain Connection of Internal Low-Side Switch.
6	VDD	Internal Regulator Output. Bypass VDD to GND with a 1uF ceramic capacitor.
7	VOUT	Output Voltage connect，IC Power Supply Pin.
8	CS	Current Sense Pin. Connect a resistor to VOUT to sense the LED current.

Disclaimer

The information provided in this datasheet is believed to be accurate and reliable. However, Bright Power Semiconductor (BPS) reserves the right to make changes at any time without prior notice.

No license, to any intellectual property right owned by BPS or any other third party, is granted under this document. BPS provides information in this datasheet "AS IS" and with all faults, and makes no warranty, express or implied, including but not limited to, the accuracy of the information provided in this datasheet, merchantability, fitness of a specific purpose, or non-infringement of intellectual property rights of BPS or any other third party. BPS disclaims any and all liabilities arising out of this datasheet or use of this datasheet, including without limitation consequential or incidental damages.

Disclaimer

The information provided in this datasheet is believed to be accurate and reliable. However, Bright Power Semiconductor (BPS) reserves the right to make changes at any time without prior notice.

No license, to any intellectual property right owned by BPS or any other third party, is granted under this document. BPS provides information in this datasheet "AS IS" and with all faults, and makes no warranty, express or implied, including but not limited to, the accuracy of the information provided in this datasheet, merchantability, fitness of a specific purpose, or non-infringement of intellectual property rights of BPS or any other third party. BPS disclaims any and all liabilities arising out of this datasheet or use of this datasheet, including without limitation consequential or incidental damages.