

Description

The BP6211B is a high-performance, high-integration, self-biased synchronous rectifier (SR) with a 60 V MOSFET integrated for flyback converters. It can replace the secondary diode rectifier for higher efficiency and power density.

The BP6211B supports discontinuous conduction mode (DCM), quasi-resonant (QR) and continuous conduction mode (CCM) operations. Robust operation in CCM is enabled with adaptive gate drive and faster turn-off speed with 4 A sink current and ultra-short turn-off delay.

The internal ringing detection circuitry prevents the IC from falsely turning on during DCM or QR operations. The internal turn-on blanking function prevents an accidental turn-off due to parasitic ringing. Ultra-short turn-on delay increases SR MOSFET conduction time to improve efficiency.

The BP6211B generates its own supply voltage without requiring auxiliary winding for low-side or high-side rectification. This feature makes it suitable for charger applications with a very low output voltage or wide output voltage range.

The BP6211B is available in an SOP-8 package.

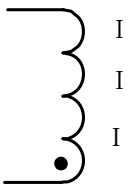
Features

- Integrated 60 V / 14 mΩ MOSFET
- Adaptive gate drive and faster turn-off speed
- Supports DCM, QR and CCM operations
- Ringing detection prevents false turn-on in DCM
- Supports low-side and high-side rectification
- Self-biased and no need for auxiliary winding for high-side rectification
- Supports wide output voltage range down to 0 V
- 4 A sink gate driver prevent false turn-on by the miller effect
- Ultra-short turn-on delay, increase conduction time, optimize efficiency
- Low quiescent current
- Compatible with energy efficiency regulation

SOP-8 Package

Applications

- QC, USB-PD and PPS AC-DC Chargers
- High Efficiency Adaptors
- High Efficiency and Power Density Flyback Converters

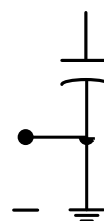


Fig

Typical Application



BP6211B





BP6211B

Fast Turn-Off Synchronous Rectifier for CCM/DCM Flyback Converter

Ordering Information

| Part Number | Package | Packing | Marking |
|-------------|---------|-------------------------------|------------------------------|
| BP6211B | SOP-8 | Tape & Reel 4,000 pcs/Reel | BP6211B XXXXXY ZZZZWXX |

Pin Configuration and Marking Information

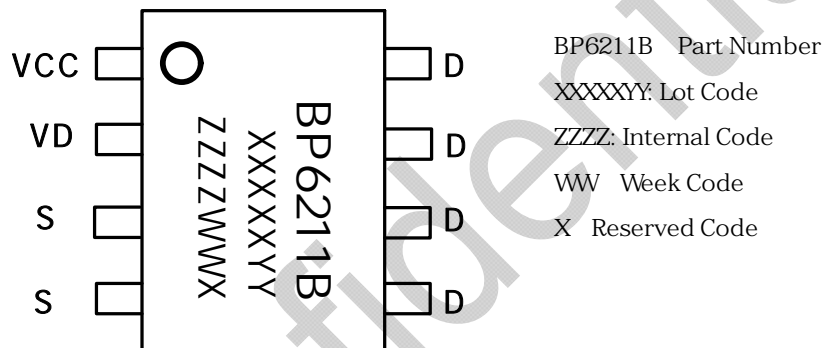


Figure 2. SOP-8 Pin Configuration

Pin Functions

| Pin NO. | Pin Name | Description |
|---------|----------|--|
| 1 | VCC | Linear regulator output. VCC is the supply of the BP6211B. |
| 2 | VD | MOSFET drain voltage sensing. VD is also used as the linear regulator input. |
| 3 4 | S | MOSFET source. S is also used as a reference for VCC. |
| 5 6 7 8 | D | MOSFET drain. |

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