BP62110
Fast Turn-Off CCM/DCM Synchronous Rectifier Controller

Description

The BP62110 is a high-performance synchronous rectifier (SR) controller designed for high efficiency and power density flyback converter.

The BP62110 is compatible with discontinuous conduction mode (DCM), quasi-resonant (QR) and continuous conduction mode (CCM) operations. Robust operation in CCM is further enhanced with pre-turn-off control method, intelligent gate-driver-voltage, faster turn-off speed with 4A sink current and short turn-off delay.

The BP62110 has multiple features that improve performance. The internal ringing detection circuitry prevents the BP62110 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 device generates its own supply voltage without requiring auxiliary winding for low-side or high-side rectification. The feature makes it suitable for charger applications with a low output voltage requirement, or any other adapter applications.

The BP62110 is available in an SOT23-6 package.

SOT23-6 Package

Features

- Support DCM，QR and DCM operations
- Pre-turn-off Control Method and Faster Turn-Off Speed
- Ringing Detection Prevents False Turn-On during DCM
- Supports low-side and high-side rectification
- Dose not Require Auxiliary Winding for High-Side or Low-Side Rectification
- Support Wide Output Range down to 0V
- 4A Sink Gate Driver for Avoiding False Turn-On at the Region of Miller Platform
- Ultra-Short Turn-On Delay, increase SR MOSFET Conduction Time
- Low Quiescent Current
- Compatible with Energy efficiency regulations

Applications

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

Typical Application

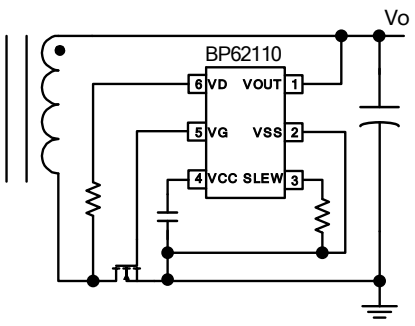
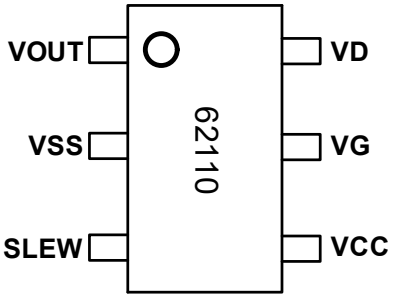


Figure 1. BP62110 Typical Applications

Order Information

Part Number	Package	Packing	Marking
BP84147	SOP-8	Tape & Reel 4000 PCS/Reel	62110

Pin Configuration and Making Information



62110：Part Number

Figure 2. SOT23-6 Pin Configuration

Pin Functions

Pin No.	Pin Name	Description
1	VOUT	VOUT is output capacitance voltage sensing input and one of Linear regulator inputs. It can be connected to output capacitance positive terminal or VCC pin.
2	VSS	VSS is the internal ground reference of the BP62110. VSS is also used as a SR MOSFET source sensing reference for VD.
3	SLEW	Programming for turn-on signal slew rate detection. SLEW prevents the SR controller from turning on falsely by ringing below the turn-on threshold at VD in DCM or QR operations. Any signal slower than the pre-set slew rate cannot turn on VG.
4	VCC	Linear regulator output. VCC is the supply of the BP62110.
5	VG	VG is the output of gate driver. Connect VG to the gate of SR MOSFET
6	VD	VD is one of internal linear inputs and SR MOSFET drain voltage sensing input.

Disclaimer

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