HL9760

Secondary-Side MOSFET Integrated Synchronous Rectifier Controller for Flyback Converters

Overview

The HL9760 is part of the flyback synchronous rectifier controller family of devices integrated with MOSFET. It is a flyback converter that supports operation in discontinuous conduction mode (DCM), quasi-resonant (QR), and continuous conduction mode (CCM). The control circuitry turns on the gate of synchronous rectification (SR) MOSFET in forward mode and turns off the gate when the SR MOSFET current drops to certain value. The HL9760 integrates the gate clamp circuitry to pull down the gate when the parasitic of MOSFET causes the mis-triggered turn on of the SR MOSFET during startup, which increases the reliability of the system.

Features

- Integrated 8mΩ Rds(on) MOSFET
- Compatibility of continuous conduction mode (CCM), quasi-resonant (QR), and discontinuous conduction mode (DCM)
- Wide input voltage ranges up to 28V
- Optimized SR gate turn-off threshold control
- Proprietary CCM SR turn-off control algorithm
- Minimized SR turn-on/off propagation delay
- SR MOSFET gate passive clamp
- Low power saving mode
- Highly efficient QFN5x6 package

Applications

- USB PD Quick Chargers for Smartphones, Feature Phones, and Tablet PCs
- Power Adapters for Portable Devices
- Flyback Power Supplies with Fixed or Variable Output Voltage

Simplified Application Diagrams

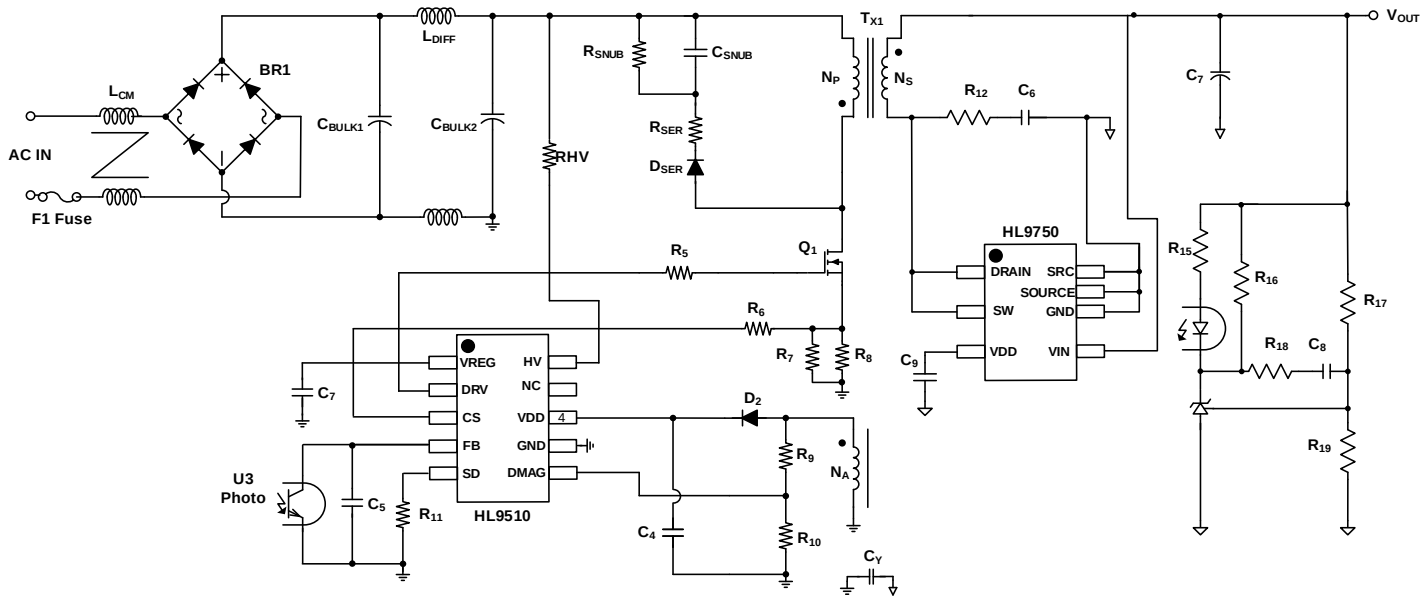

Figure 1. Low Side SR Application Diagram

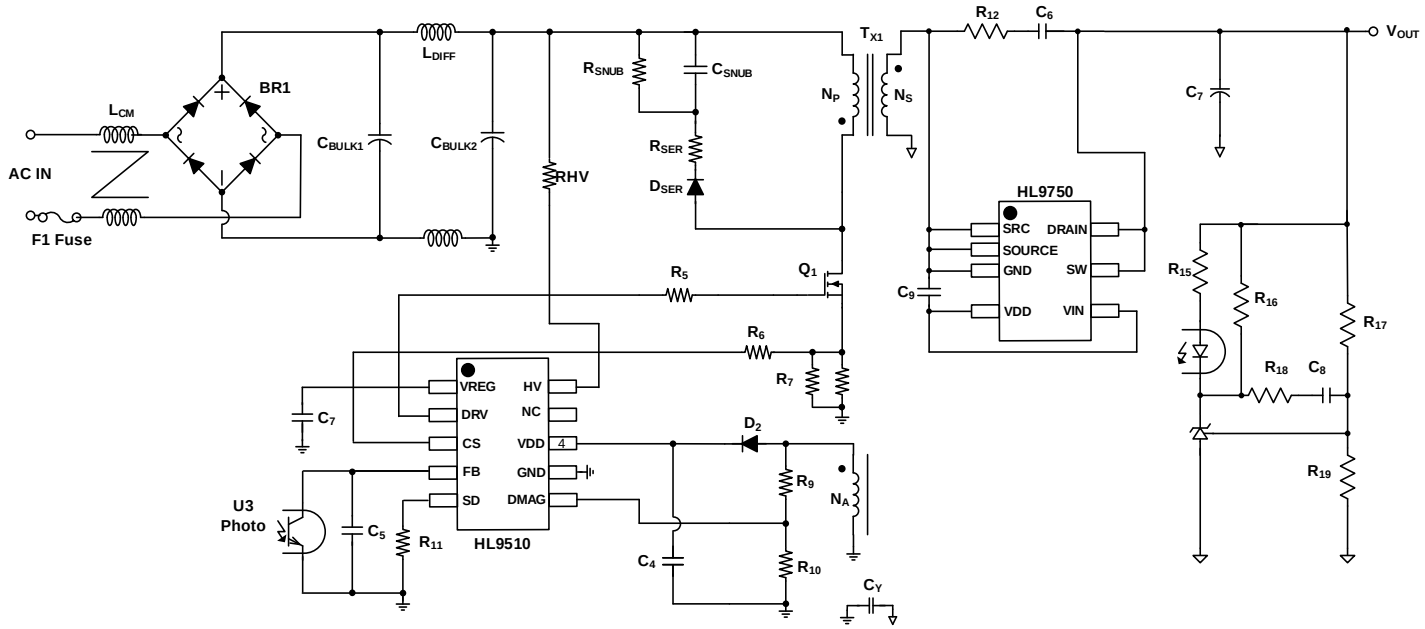

Figure 2. High Side SR Application Diagram

Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
HL9760	-40°C to +125°C	QFN 5x6	5K/Tape & Reel

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