

Synchronous Rectifier Controller

DESCRIPTION

The EUP9293 is a high performance controller used to secondary side synchronous rectifier (SR).

The fundamental of EUP9293 is utilized N-channel MOSFET power devices used for secondary side synchronous to emulate a near-ideal diode rectifier. This method not only directly reduces power dissipation of the rectifier but also reduces primary side losses as well.

The EUP9293 is applied voltage-second balancing control method and not directly connected to the MOSFET drain, so it is ideal for flyback power supplies over the wide-output voltage range. The SR drive turn-off threshold is not related to the MOSFET RDS(on), which allows optimizing for maximum conduction time.

The EUP9293 will shut down gate driver immediately according to SYNC drop down when the primary side NMOS turning on.

The EUP9293 offers a frequency detector to automatically switch to standby mode during low power conditions and pin fault protections. It is compatible with DCM, QR and CCM operation

FEATURES

- Secondary-Side SR Optimized Controller for 5V to 24V Flyback Systems
- Volt-Second Balance SR On-Time Control
- Compatible with Primary-Side and Second-Side Control
- Supports DCM and QR operation
- SYNC Interface for CCM Operation
- Short Pin Fault Protection
- Available in SOT23-6 Packages
- RoHS Compliant and 100% Lead (Pb)-Free Halogen-Free

APPLICATIONS

- Switching Mode Power Supply(DCM, QR and CCM)
- Chargers for Smart Phones and Tablets
- High Efficiency Auxiliary Power in Server Desktop and Appliance Application

Typical Application Circuit

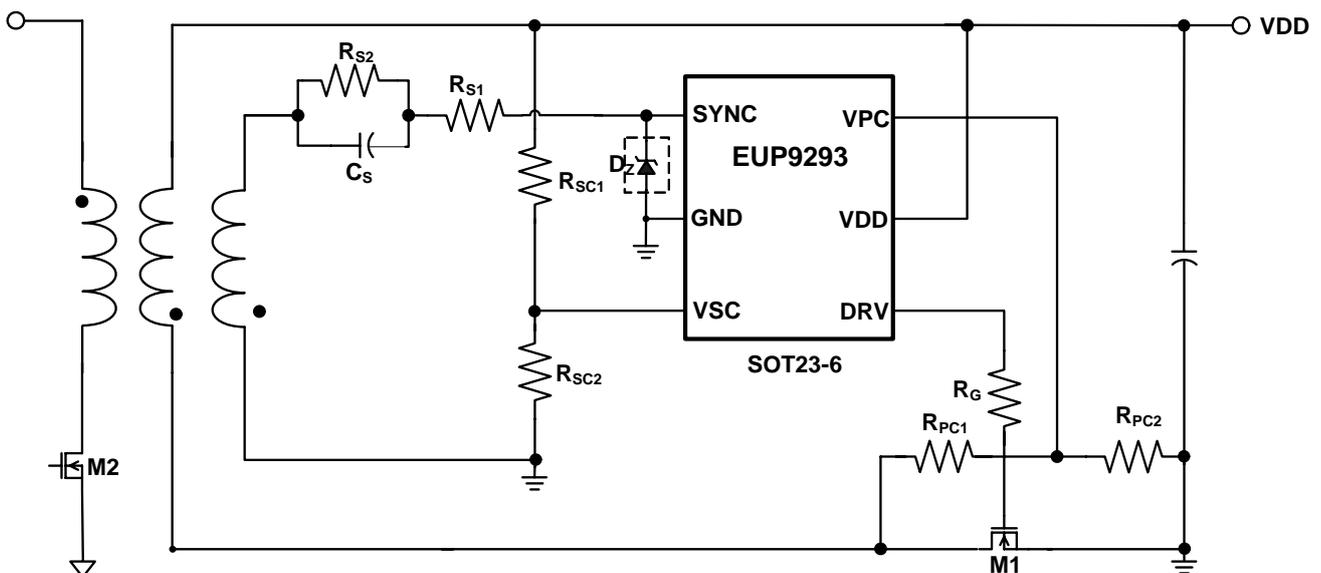


Figure 1. Typical Application