



New Product Announcement

APR34910

Secondary-Side Synchronous Rectifier with Internal 10m Ω , 100V N-Channel MOSFET Increases Efficiency in up to 65W Adaptors

The DIODES™ APR34910 is a low secondary-side synchronous rectifier-switcher used in power adaptors for smartphones, laptops, and STBs.

With its low 10m Ω $R_{DS(ON)}$ and 100V N-channel MOSFET, the APR34910 reduces secondary-side rectifier power losses, increases efficiency, and provides a high-performance solution.

The APR34910 supports continuous conduction mode (CCM), discontinuous conduction mode (DCM), and quasi-resonant (QR) flyback operation.

Its short turn-on and turn-off delays reduce power loss and eliminate false triggering to keep safe operation without adding any external components or circuitry.

The APR34910 is internally charged by a pulse linear regulator (PLR) supporting operation with a voltage output of 3.3V to 24V. This enables it to support secondary voltage rails of 3.3V, 5V, 12V, and 20V as well as other non-standard voltage rails.

The APR34910 is available in the SO-8 package with its drain pins all on one side, which helps the device meet creepage requirements.

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The DIODES™ Advantage

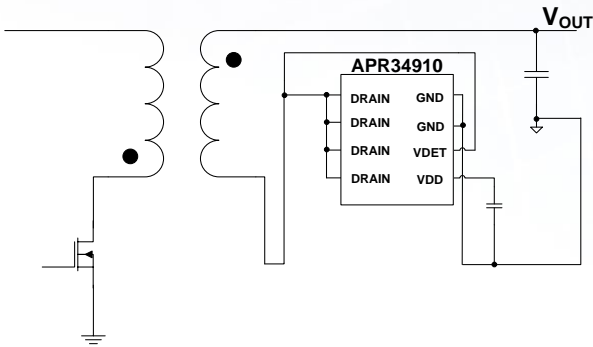
The APR34910 is a high-performance, cost-effective, synchronous rectification solution for up to 65W power in portable, consumer, and home automation applications.

- **Supports CCM, DCM, and Quasi-Resonant PWM Controller Modes**
Optimizes efficiency and performance
- **Very Fast Turn-On and Turn-Off Delay**
Reduces power loss and ensures safe operation
- **Built-In Regulator Supports Both High-Side and Low-Side Rectifier Configurations**
Provides flexibility and simplicity to system design
- **Internal 100V and 10m Ω $R_{DS(ON)}$ N-Channel MOSFET**
Reduces power dissipation, bill of materials (BOM), and layout size in up to 65W adaptors

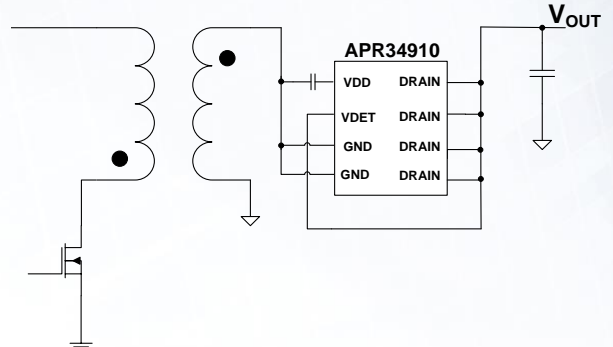
Applications

- Smartphone fast-chargers
- Notebook computer adaptors
- Set-top box power supplies

Typical Application



Low-Side Configuration



High-Side Configuration

Product Portfolio

Part Number	Supporting Mode	Operating Current	Turn-Off Threshold Voltage	Turn-Off Delay	Turn-On Delay	Drain Rating	Switching FET $R_{DS(ON)}$	Package
		μA	mV	ns	ns	V	m Ω	
APR34910	CCM/QR/DCM	190	-7	15	30	100	10	SO-8

Ordering Information

Orderable Part Number	Package	Moisture Sensitivity	Packing	
			Carrier	Quantity per Reel
APR34910S-13	SO-8	MSL-3	13" Tape and Reel	4000