



## New Product Announcement Update

APR34xxx

# Diodes Expands its High-Efficiency Secondary-Side Synchronous Rectifier Family

The APR34xxx are secondary-side synchronous rectifiers, combining an N-MOSFET with an optimized driver circuit for synchronous rectification (SR). They provide a high-performance solution for 5V output Discontinuous Conduction Mode (DCM) power supplies.

All devices integrate an output voltage detect function for primary side regulation/control systems.

The APR34xxx senses the MOSFET's drain-to-source voltage, producing the necessary drive signals with a minimal number of external components.

The internal N-channel MOSFET has been optimized for low gate charge, low  $R_{DS(ON)}$  and fast switching speed with fast body diode reverse recovery performance.

The APR34150 has been optimized for driving generic PSR controllers, whereas other APR34xxx have been optimized for Diodes PSR controllers.

The APR34xxx are available in either SO-8 or SO-8EP packages.



### The Diodes Advantage

The APR34xxx provide high-performance, and cost-effective synchronous rectification solutions for power converters in portable consumer and home appliances.

- **Synchronous rectifiers with internal MOSFET:**  
Improved efficiency by reducing the secondary-side rectifier voltage drop and power dissipation
- **Simple synchronous rectification solutions for Generic PSR controllers (APR34150) and Diodes' PSR controllers (APR34xxx)**
- **Choice of low  $R_{DS(ON)}$  8, 15 or 32m $\Omega$  N-MOSFETs**  
Allows performance/cost-optimised solution dependent on load
- **Available in SO-8/8EP with minimal external components**  
Reduced BOM cost and solution size
- **Overvoltage Protection, VCC UVLO Protection**  
Increases system reliability and robustness

### Applications

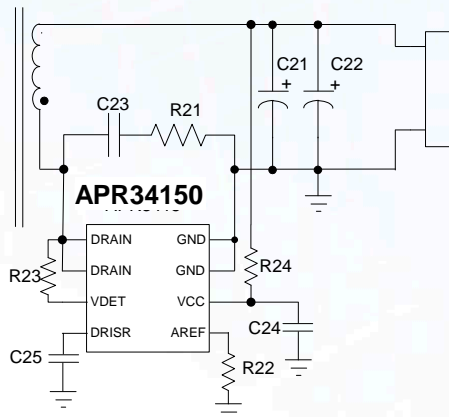
- 5V Adapters and chargers for: cell/cordless phones, ADSL modems, MP3 and other portable devices
- Standby and auxiliary power supplies for 5V systems



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## Typical Application Schematic:



## Diodes' Synchronous Rectification Solutions

Part Number	Internal Trigger Voltage (V)	Max. V <sub>CC</sub> (V)	Operating Current (µA)	Turn-Off Threshold Voltage (mV)	Internal MOSFET			Package	Operating Mode
					Max V <sub>DS</sub> (V)	R <sub>DS(ON)</sub> (Ω)	C <sub>ISS</sub> (pF)		
APR343	5.3	6	100	-12.5	External			SOT25	DCM
APR34309C	5.15	6	100	-8	50	8	1872	SO-8EP	DCM
APR34309CA	5.15	6	100	-8	50	8	4149	SO-8EP	DCM
APR3415	5.3	6	100	-12.5	50	15	1316	SO-8	DCM
<b>APR34150</b>	-	<b>6</b>	<b>100</b>	<b>-12.5</b>	<b>50</b>	<b>15</b>	<b>1316</b>	<b>SO-8</b>	<b>DCM</b>
APR34330C	5.15	6	100	-15	50	32	661	SO-8EP	DCM

To find out more information:

Synchronous Rectifiers Web page:

[http://diodes.com/catalog/synchronous\\_rectifiers\\_0810/](http://diodes.com/catalog/synchronous_rectifiers_0810/)

Datasheet:

<http://www.diodes.com/datasheets/APR343150.pdf>

## Ordering Information

Device	Temperature Range	Packaging	Reel Size	Quantity
<b>APR34150MTR-G1</b>	<b>-40 to +85</b>	<b>SO-8</b>	<b>13", 330mm</b>	<b>4,000</b>
APR3415MTR-G1	-40 to +85	SO-8	13", 330mm	4,000
APR3415MTR-G1	-40 to +85	SO-8	13", 330mm	4,000
APR34309CAMPTR-G1	-40 to +85	SO-8EP	13", 330mm	4,000
APR34309CMPTR-G1	-40 to +85	SO-8EP	13", 330mm	4,000
APR34330CMPTR-G1	-40 to +85	SO-8EP	13", 330mm	4,000