

## FAN6230A

# Secondary-Side Synchronous Rectification Controller for Flyback Converters

## Product Overview

For complete documentation, see the data sheet.

The FAN6230A is a secondary-side synchronous rectifier (SR) MOSFET controller for high efficiency applications. It has internal shunt regulator with low bias current and internal charge pump circuit to reduce external part counts, total cost and overall system power consumption. With the internal charge pump circuit, the FAN6230A guarantees stable operation of SR switching even with low bias voltage in CC regulation. The FAN6230A also features internally adjustable cable compensation that helps maintain precise constant voltage regulations at the end of cable.

Unlike the traditional SR current sensing methods, which measure the SR MOSFET drain voltage that is sensitive to the noise introduced by poor PCB layout. The FAN6230A utilizes a novel Linear-Prediction Timing Control (LPC) circuit to estimate the SR current zero crossing instant without additional current sensing circuitry.

While running in Green Mode, the FAN6230A shuts off the SR MOSFET and lowers its bias supply current to 500  $\mu$ A, so overall power consumption of the system is further reduced.

## Features

- Secondary-Side SR Controller for Flyback
- Seamless Transition between DCM and CCM
- Shunt Regulator Integrated (1.25 V Reference)
- Charge Pump Circuit Integrated for Low Output Voltage in CC Mode
- Output Cable Compensation Circuit Integrated
- PWM Frequency Tracking using Secondary side Winding Voltage
- Ultra Low VDD Operating Voltage for 5 V, 9 V, 12 V Output Application
- Ultra Low Green Mode Operating Current (Typical: 0.5 mA)
- Boost Entire Efficiency and Green-Mode Operation for Less Power Consumption at No Load Condition
- 16-Pin MLP33 Package

For more features, see the data sheet

## Applications

- AC-DC Merchant Power Supply
- Camcorder
- Consumer
- Comfort and Convenience
- DSC