SmartRectifier IC Enhances Protection and Efficiency in AC-DC Supplies

International Rectifier

EL SEGUNDO, Calif. - International Rectifier today introduced the IR11672A SmartRectifier IC with advanced Minimum On Time (MOT) protection circuitry for energy-efficient AC-DC power converters for laptops, LCD and PDP televisions, game consoles, and server and telecom Switch Mode Power Supplies (SMPS).

Featuring IR's proprietary 200V IC technology, the IR11672A is a smart secondary-side synchronous rectification (SR) controller designed to drive N-Channel power MOSFETs used as synchronous rectifiers in isolated flyback and resonant half-bridge converters. As a result of the device's MOT protection circuitry, reverse current is prevented at very light load or no load conditions in both flyback and resonant half-bridge converters, while power shutdown spikes that cause avalanche breakdown in resonant half-bridge converters are minimized during power off for highly reliable operation.

"The IR11672A SmartRectifier's advanced MOT protection circuit offers a high level of accuracy and reliability in a variety of transformer switching modes and applications that require optimum system efficiency and power density in a compact design. Moreover, because the device operates in lower power burst mode, it enables compliance with ‘0.3W Standby', California Energy Commission (CEC) and Energy Star standards," said Tom Ribarich, director, IR's Energy Saving Products Business Unit.

The IR11672A accurately determines turn-on and turn-off based on MOSFET drain

sensing voltage in close proximity to zero current transition, eliminating the need for additional components including heatsink to simplify design. Ruggedness and noise immunity are accomplished using an advanced blanking scheme and double-pulse suppression to allow reliable operation in fixed and variable frequency applications.

Other key features include maximum 500kHz switching frequency, enable pin, anti-bounce logic and UVLO protection, 7A peak turn-off gate drive current, micropower start-up and ultra low quiescent current. The IR11672A also features 10.7V gate drive clamp, 50ns turn-off propagation delay and a wide Vcc operating range from 11.3V to 20V. The device is offered lead free and is RoHS compliant.

Specifications

Part Number

SOURCE [1]

Source URL (retrieved on *10/22/2014 - 10:22pm*):
http://www.ecnmag.com/news/2009/12/smartrectifier-ic-enhances-protection-and-efficiency-ac-dc-supplies

Links:
[1] http://www.irf.com/whats-new/nr091203.html