

SmartJitter™ Multi-Mode Flyback Controller

General Description

The RT7740GAD/GHD is an enhanced high-efficiency multi-mode PWM flyback controller, incorporating Richtek's proprietary SmartJitter™ technology. The innovative SmartJitter™ technology is used to reduce EMI emissions of a switch-mode power supply in green mode, and at the same time eliminate the output ripple due to frequency jittering. In operation, the RT7740GAD/GHD features a multi-mode control scheme, operating from the continuous-conduction mode (CCM) to the discontinuous-conduction mode (DCM) with valley switching, to achieve high efficiency and the optimal performance with high efficiency.

The RT7740GAD/GHD operates as a current-mode PWM controller for flyback converters. It contains comprehensive and programmable protection features, consisting of propagation delay compensation, output over-voltage protection (OVP), external over-temperature protection (OTP), and bulk-capacitor brown-in/brown-out protection. With above features, the RT7740GAD/GHD enables one to achieve a cost-effective and compact design for a wide-range AC-DC conversion applications. It is available in an SOT-23-6 package.

Features

- **Proprietary SmartJitter™ Technology**
 - ▶ Reducing EMI Emissions of SMPS
 - ▶ Eliminating Frequency-Jittering-Induced Output Ripple
- **Operating in Continuous-Conduction Mode (CCM), Discontinuous-Conduction Mode (DCM), DCM with Valley-Switching**
- **Ultra-low Start-Up Current (< 3μA)**
- **Accurate Over-Current Protection (OCP)**
- **Programmable Line Compensation**
- **Programmable Output Over-Voltage Protection**
- **Programmable External Over-Temperature Protection**
- **Programmable Bulk-Capacitor Brown-In/Brown-Out Protection**
- **Driver Capability : 200mA/–300mA**
- **High Noise Immunity**

Applications

- Switching AC-DC Adapter
- NB Adapter
- TV/Monitor Standby Power
- PC Peripherals

Simplified Application Circuit

