

PowerZero[™] Multi-Mode Flyback Controller

General Description

The RT7789D series is an enhanced high-efficiency multimode PWM flyback controller, incorporating Richtek's proprietary PowerZeroTM and SmartJitterTM technology. The innovative PowerZeroTM technology, featuring an integrated HV device, provides an excellent green power solution, while the SmartJitterTM technology can reduce EMI emissions of a switch-mode power supply in green mode as well as eliminate output ripple due to frequency jittering. Also, the RT7789D series features a multi-mode control scheme, operating from continuous-conduction mode (CCM) to discontinuous-conduction mode (DCM) with valley switching, to achieve high efficiency and optimal performance.

The RT7789D is a current-mode PWM controller for flyback converters. It integrates comprehensive and programmable protection features, which include brown-in/brown-out protection, VDD over-voltage protection (VDD OVP), output over-voltage and under-voltage protection (Output OVP and UVP), secondary rectifier short-circuit protection (SRSP), and external over-temperature protection (External OTP). For constant output power regulation, a resistor connected to CS pin can be used to achieve accurate line compensation across the universal input voltage range. With the above features, the RT7789D enables a cost-effective and compact design for a wide range of AC-DC conversion applications. It is available in a SOP-8 package.

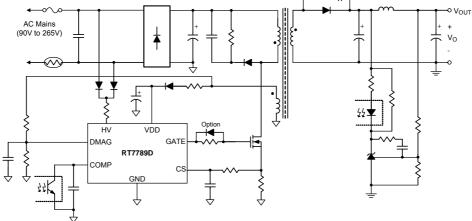
Features

- Proprietary PowerZero[™] Technology
 - ▶ Integrating a 700V Start-up Device
 - ▶ Brown-In/Brown-Out Protection
- Proprietary SmartJitterTM Technology
 - ▶ Reducing EMI Emissions of SMPS
 - ► Eliminating Frequency-Jittering-Induced Output Ripple
- Operating in Continuous-Conduction Mode (CCM),
 Discontinuous-Conduction Mode (DCM), and DCM
 with Valley Switching
- Accurate Over-Current Protection (OCP)
- Programmable Line Compensation
- Programmable Output OVP and UVP
- Programmable External OTP
- Driver Capability: 300mA/-300mA
- High Noise Immunity
- RoHS Compliant and Halogen Free

Applications

- Switching AC-DC Adapter
- NB Adapter
- Printer Adapter





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