

## FAN604

# Offline Quasi-Resonant PWM Controller

## Product Overview

For complete documentation, see the data sheet.

The FAN604 is an advanced PWM controller aimed at achieving power density of  $\sim 10\text{W/in}^3$  in universal input range AC/DC flyback isolated power supplies. It incorporates Quasi - Resonant (QR) control with proprietary Valley Switching with a limited frequency variation. QR switching provides high efficiency by reducing switching losses while Valley Switching with a limited frequency variation bounds the frequency band to overcome the inherent limitation of QR switching. FAN604 features mWSaver® burst mode operation with extremely low operating current (300 A) and significantly reduces standby power consumption to meet the most stringent efficiency regulations such as Energy Star's 5 - Star Level and CoC Tier II specifications . FAN604 includes several user configurable features aimed at optimizing efficiency, EMI and protections. FAN604 has a wide blanking frequency range that improves light load efficiency and eliminating audio noise for adaptive application. It incorporates user - configurable constant current reference , which allows controlling the maximum output current from primary - side , thereby optimizing transformer design to improve the overall efficiency . It also includes several rich programmable protection features such as over - voltage protection (OVP), precise constant output current regulation (CC).

## Features

- Higher Average Efficiency by Quasi-Resonant Switching Operation with Wide Blanking Time Range
- mWSaver® Technology for Ultra Low Standby Power Consumption (<20mW)
- Forced and Inherent Frequency Modulation of Valley Switching for Low EMI Emissions and Common Mode Noise
- Built-In and User Configurable Over-Voltage Protection (OVP), Under-Voltage Protection (UVP) and Over-Temperature Protection (OTP)
- Programmable Over-Temperature-Protection through External NTC Resistor
- Fully Programmable Brown-In and Brownout Protection
- Built-In High-Voltage Startup to Reduce External Components

## Applications

- This product is general usage and suitable for many different applications.