Product Overview

FAN4801: CCM PFC + PWM Combination Controller

For complete documentation, see the data sheet.

The highly integrated FAN4800A/C and FAN4801/02/02L are specially designed for power supplies that consist of boost PFC and PWM. They require very few external components to achieve versatile protections / compensation. They are available in 16-pin DIP and SOP packages. The PWM can be used in either current or voltage mode. In voltage mode, feed-forward from the PFC output bus can reduce the secondary output ripple. Compared with older productions, ML4800 and FAN4800, FAN4800A/C and FAN4801/02/02L have lower operation current that save power consumption in external devices. FAN4800A/C and FAN4801/02/02L have accurate 49.9% maximum duty of PWM that makes the hold-up time longer. Brownout protection and PFC soft-start functions are not in ML4800 and FAN4800. To evaluate FAN4800A/C, FAN4801/02/02L for replacing existing FAN4800 and ML4800 boards, five things must be done before the fine-tuning procedure: 1. Change RAC resister from the old value to a higher resister: between 6MΩ to 8MΩ. 2. Change RT/CT pin from the existing values to RT=6.8KΩ and CT=1000pF to have fPFC=64KHz, fPWM=64KHz. 3. VRMS pin needs to be 1.224V at VIN=85 VAC for universal input application from line input from 85VAC to 270 VAC. Both poles for the Vrms of FAN4801/02/02L don't need to substantially slower than FAN4800; about 5 to 10 times. 4. At full load, the average VEA needs to ~4.5V and the ripple on the VEA needs to be less than 400mV. 5. Soft-Start pin, the soft-start current has been reduced to half from the FAN4800 capacitor.

Features

- Pin-to-Pin Compatible with ML4800 and FAN4800 and CM6800 and CM6800A
- PWM Configurable for Current-mode or Feed-forward Voltage-Mode Operation
- Internally Synchronized Leading-Edge PFC and Trailing-Edge PWM in one IC
- Low Operating Current
- Innovative Switching-Charge Multiplier Divider
- Average-Current-Mode for Input-Current Shaping
- PFC Over-Voltage and Under-Voltage Protections
- PFC Feedback Open-Loop Protection
- Cycle-by-Cycle Current Limiting for PWM
- Power-On Sequence Control and Soft-Start

For more features, see the data sheet.

Applications

- AC-DC Merchant Power Supply - Desktop PC
- AC-DC Merchant Power Supply
- AC-DC Merchant Power Supply - Servers & Workstations
- Fully Configured Entry Level PC Server
- Desktop PC

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