

Product Overview

FAN4800CU: Power Factor Controller (PFC) CCM + PWM Controller, Line Sagging Protection

For complete documentation, see the data sheet.

The highly integrated FAN4800CU parts are specially designed for power supplies that consist of boost PFC and PWM. They require very few external components to achieve versatile protections and compensation. They are available in 16-pin DIP and SOP packages.

The PWM can be used in current or Voltage Mode. In Voltage Mode, feed-forward from the PFC output bus can reduce secondary output ripple. To evaluate FAN4800AU/CU for replacing existing FAN4800C, FAN4800CS, old version FAN4800 and ML4800 boards, six things must be completed before the fine-tuning procedure:

1. Change R_{AC} resistor from the old value to a higher resistor value: 6 M Ω to 8 M Ω .
2. Change RT/CT pin from the existing values to $R_T=6.8$ k Ω and $C_T=1000$ pF to have $f_{PFC}=64$ kHz and $f_{PWM}=64$ kHz.
3. The VRMS pin needs to be 1.224 V at $V_{IN}=85$ V $_{AC}$ for universal input application with line input from 85 V $_{AC}$ to 270 V $_{AC}$.
4. Change ISENSE pin filter from the exiting values to $R_{Filter}=51$ Ω and $C_{Filter}=0.01$ μ F for higher bandwidth.
5. At full load, the average V_{VEA} must be ~ 4.5 V and ripple on V_{VEA} needs to be less than 400 mV.
6. For the SS pin, the soft-start current has been reduced to half 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-Star
- For more features, see the data sheet

Applications

- Desktop PC
- LCD TV
- LCD Monitor
- Distribution

Part Electrical Specifications

Product	Compliance	Status	PFC Mode	Frequency Operation	Control Mode	Topology	f_{sw} Typ (kHz)	V_{CC} Max (V)	Drive Cap. (mA)	UVLO (V)	Latch	UVP	Inhibition	Package Type
FAN4800CUM	Pb-free Halide free	Active	CCM	Fixed	Current Mode	Step-Up	64	30	470 / 550	11	No	Yes	No	SOIC-16

For more information please contact your local sales support at www.onsemi.com.

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