PFE1100-12-054xA

Front–End AC-DC Power Supply

The PFE1100-12-054xA is a 1100 Watt AC to DC power-factor-corrected (PFC) power supply that converts standard AC mains power into a main output of 12 VDC for powering intermediate bus architectures (IBA) in high performance and reliability servers, routers, and network switches.

The PFE1100-12-054xA meets international safety standards and displays the CE-Mark for the European Low Voltage Directive (LVD).

RoHS Compliant

Key Features & Benefits

- Best-in-class, 80 PLUS certified “Platinum” efficiency
- Wide input voltage range: 90-264 VAC
- AC input with power factor correction
- Always-On 16.5 W programmable standby output (3.3/5 V)
- Hot-plug capable
- Parallel operation with active digital current sharing
- Full digital controls for improved performance
- High density design: 25.6 W/in^3
- Small form factor: 54.5 x 40.0 x 321.5 mm
- I^{2}C communication interface for control, programming and
- monitoring with PSMI and PMBus® protocol
- Overtemperature, output overvoltage and overcurrent protection
- 256 Bytes of EEPROM for user information
- 2 Status LEDs: AC OK and DC OK with fault signaling

Applications

- High Performance Servers
- Routers
- Switches

1. ORDERING INFORMATION

PFE	1100	-	12	-	054	x	A
Product Family	**Power Level**	**Dash**	**V1 Output**	**Dash**	**Width**	**Airflow**	**Input**
PFE Front-Ends	1100 W		12 V		54 mm	N: Normal R: Reverse	A: AC

2. OVERVIEW

The PFE1100-12-054xA AC/DC power supply is a fully DSP controlled, highly efficient front-end power supply. It incorporates resonance-soft-switching technology and interleaved power trains to reduce component stresses, providing increased system reliability and very high efficiency. With a wide input operational voltage range and minimal linear derating of output power with input voltage and temperature, the PFE1100-12-054xA maximizes power availability in demanding server, network, and other high availability applications. The supply is fan cooled and ideally suited for integration with a matching airflow paths. The PFC stage is digitally controlled using a state-of-the-art digital signal processing algorithm to guarantee best efficiency and unity power factor over a wide operating range. The DC/DC stage uses soft switching resonant techniques in conjunction with synchronous rectification. An active OR-ing device on the output ensures no reverse load current and renders the supply ideally suited for operation in redundant power systems. The always-on standby output, with selectable voltage level (3.3/5.0 Volts), provides power to external power distribution and management controllers. It is protected with an active OR-ing device for maximum reliability. Status information is provided with front-panel LEDs. In addition, the power supply can be controlled and the fan speed set via the I^2C bus. The I^2C bus allows full monitoring of the supply, including input and output voltage, current, power, and inside temperatures. Cooling is managed by a fan controlled by the DSP controller. The fan speed is adjusted automatically depending on the actual power demand and supply temperature and can be overridden through the I^2C bus.

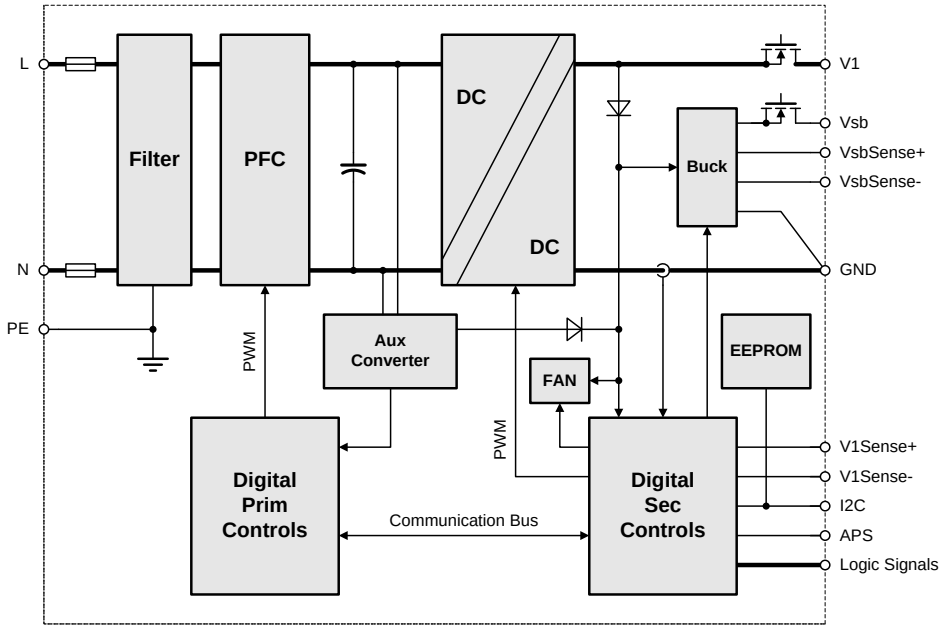

Figure 1. PFE1100-12-054xA Block Diagram

3. ABSOLUTE MAXIMUM RATINGS

Stresses in excess of the absolute maximum ratings may cause performance degradation, adversely affect long-term reliability and cause permanent damage to the supply.

PARAMETER		CONDITIONS / DESCRIPTION	MIN	MAX	UNITS
Vi maxc	Maximum Input	Continuous		264	VAC