

High-frequency switching power supply for remote monitoring in intelligent computing centers



Overview

Integration of wide-bandgap semiconductors like SiC and GaN in power supplies offers higher efficiency, faster switching, and thermal stability, supporting compact and high-frequency designs. This document introduces a new, complete power supply unit (PSU) for AI data centers and servers. Intended audience The document is intended for R&D engineers, hardware designers, and developers of power electronic systems. Keypoints •Presents a 12 kW PSU reference design achieving 113 W/in³ power. ● Modular design using high-frequency switch power supplies with N+1 hot standby. ● Reliable lightning protection and electrical insulation measures; optional ground. A new report explores how AI workloads are transforming data center power architectures—highlighting the rise of high-voltage DC distribution, wide-bandgap semiconductors, and intelligent protection systems like eFuses. At the. The invention discloses an intelligent monitoring system of a high-frequency switch direct-current power supply, which is characterized in that a data acquisition module is used for acquiring a monitoring data stream of the high-frequency switch direct-current power supply when in operation, a data. Infineon Technologies AG is introducing a 12 kW reference design for high-performance power supply units (PSUs), specifically designed for AI data centers and server applications.

Article Content

Smart meter

Example of a smart meter based on Open Smart Grid Protocol (OSGP) in use in Europe that has the ability to reduce load, disconnect-reconnect remotely, and CN116260250A

The invention discloses an intelligent monitoring system of a high-frequency switch direct-current power supply, which is characterized in that a data acquisition module is used for...

Integrated Very-High-Frequency Switch Mode Power Supplies: Design ...

This paper presents a power supply using an increased switching frequency to minimize the size of energy storing components, thereby addressing the demands for increased power

Modeling and Simulation of High-frequency Switching Power Supplies

These power supplies are widely used in a variety of applications, such as telecommunications, computing, automotive electronics, and renewable energy systems. The growing demand for smaller,

Modeling and Simulation of High-frequency Switching Power Supplies

The growing demand for smaller, lighter, and more efficient electronic devices has spurred significant research into the modeling and simulation of high-frequency switching power supplies.

Nanosecond optical switching and control system for data center ...

The authors report an optical switching and control system to synergistically overcome these challenges and provide enhanced performance for data center applications.

Multi-level monitoring based intelligent high frequency switching DC ...

Abstract According to the specialities of DC operation power supply system in power substation, such as high reliability demand, working under heavy load jump and light loaded

Smart grid

The smart grid is an enhancement of the 20th century electrical grid, using two-way communications and distributed so-called intelligent devices. Two-way flows

Making technology work for business – United Kingdom

Computerworld covers a range of technology topics, with a focus on these core areas of IT: generative AI, Windows, mobile, Apple/enterprise, office

Development and Application of High-Frequency and High-Voltage

In order to achieve reactive power compensation for large-capacity capacitive loads with high power density, this article developed a set of high-frequency and high-voltage power supply

12KW high frequency and high power density PSU for AI data centers

With a size of just 40 mm × 68 mm × 3640 mm (including chassis) and 113 W/in power density, REF_12KW_HFHD_PSU shows a viable approach for achieving higher power density and efficiency

GZDW | Intelligent High Frequency Switching Power

Modular design using high-frequency switch power supplies with N+1 hot standby. Smooth adjustment of output voltage and current. Distributed multi-level

Azure updates | Microsoft Azure

Azure Monitor dashboards with Grafana are generally available, bringing the power of Grafana's open and composable visualization platform directly into the Azure Portal. This capability enables

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iES-GZDW High-frequency Switch DC Power Supply

The system utilizes the parallel of intelligent high-frequency switching power supply module and N+1 redundant hot standby for charging and float charging and adopts the computer monitoring

Infineon Releases 12 kW High-Density Power Supply

Infineon Technologies AG introduces a 12 kW reference design for high-performance power supply units, specifically designed for AI data centers

Powering the AI Era: Innovations in Data Center Power

This compendium explores how the surge in artificial intelligence (AI) workloads is transforming data center power architectures and includes suggestions for

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Two-stage high-frequency switching power supply device design study

The current volume and efficiency of high-frequency switching power supplies in power supply system cannot meet practical requirements. Therefore, a modular equipment was studied to

Integrated Very High Frequency Switch Mode Power

Integrated V ery High Frequency Switch Mode Power Supplies: Design Considerations
Jens Christian Hertel, Student Member, IEEE, Yasser

Security alarm

Wireless home alarm system control panel A house alarm A security alarm is a system designed to detect intrusions, such as unauthorized entry, into a building

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Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://dknconsulting.co.za>

Email: info@dknconsulting.co.za

Phone: +31 6 2948 7351

Address: Herengracht 123, 1015 BT Amsterdam, Netherlands

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