AI Server HVDC

This initiative will drive innovations that aim to establish high-efficiency, scalable power delivery for next-generation AI workloads, to ensure greater reliability and reduced infrastructure ...

As AI infrastructure evolves, efficient power delivery is no longer optional--it"s mission-critical. The high voltage direct current (HVDC) design used in Sidecar architectures delivers the ...

Discover how NVIDIA"s 800V HVDC architecture is reshaping AI server power systems. Explore the role of SiC semiconductors, PCB-winding transformers, and magnetic integration in driving high ...

AI workloads are pushing the power demands of server racks beyond the practical limits of 48 VDC distribution. With current levels reaching several MW, data centers using traditional ...

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Explore 400V and 800V HVDC architectures for AI data centers to cut losses, boost efficiency, simplify distribution, and scale power.

Power conversion requires advanced control techniques and high levels of circuit integration to enable high efficiency and high-power density in an HVDC data center.

800V HVDC architecture for AI data centers: how ST power solutions deliver 6 kW to 18 kW server power with higher efficiency and power density.

At the OCP conference held in October 2025, Nvidia released a paper titled "< 800 VDC Architecture for Next-Generation AI Infrastructure >," which details the 800 VDC power architecture ...

Beyond the PSUs, we also plan to deliver total power solutions for AI servers--covering the entire power path from the grid to the chip (GPU). In that broader system scope, we plan to incorporate ROHM ...

To meet these demands, the Sidecar power architecture was developed--separating the power system from the server motherboard and introducing a modular, pluggable design. Central to ...

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