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Overview

Is a ZVS switched capacitor converter suitable for 48-V data center applications?

High Density Cascaded ZVS Switched Capacitor Converter for 48-V Data-Center Application This paper presents a new intermediate bus converter topology based on a zero voltage switching switched capacitor circuit including a novel non-isolated gate driver ICs enabling high power density in 48-V data center applications.

What is a cascaded switched capacitor converter?

In it is shown that a cascaded switched capacitor converter is a suitable candidate topology to achieve high power density and high efficiency. In , by adding a single inductor, in series with the flying capacitor, the soft charging of the capacitors can be achieved.

Is 48-V DC power delivery a good choice for data centers?

In the last years industry and researchers are seeking for new power distribution architectures to run data centers efficiently. 48-V dc power delivery is becoming more and more popular , replacing the traditional 12-V dc system, typically used in data centers.

Do DC-link capacitors increase inverter power?

DC-link capacitors can significantly contribute to this target by reducing parasitic losses and increasing thermal efficiency. High inverter powers can be theoretically achieved with multiple capacitor connections. However, a high number of parallel-connected parts also increase the complexity of the system stability.

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48V-12V DC-DC Converter
The multiphase interleaved approach for the DC-DC converter reduces output ripple current and thus allows designers to use smaller capacitors with less capacitance and achieve faster ...

Selecting and Applying DC Link Bus Capacitors for ...
May 16, 2023 · Sam G. Parler, Jr., P.E. Cornell Dubilier Abstract, aluminum electrolytic and DC film capacitors are widely used in all types of inverter power systems, from variable-speed ...

Capacitors for DC-Link circuits , TDK ...
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ZSC 48V Ecosystem Data Centers
Dec 5, 2024 · Infineon's 48 V Ecosystem for data centers Infineon's two-stage architecture for 48 V (or 54 V) to processor power for high-performance processors (CPU, GPU, SoC, ASIC, etc.) ...

A Reconfigurable Multiresonant Switched-Capacitor Converter for 48 V
Aug 1, 2025 · In the emerging two-stage architecture of 48 V data center power systems, the wide voltage range of backup batteries (36-60 V) leads to significant fluctuations in intermediate ...

Capacitors for DC-Link circuits , TDK Electronics
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High Density Cascaded ZVS Switched Capacitor ...
Nov 28, 2023 · 2 Cascaded zero voltage switching switched capacitor (ZSC) converter In [7] it is shown that a cascaded switched capacitor converter is a suitable candidate topology to ...

High power density solution for DC link on 48 V inverter
Dec 5, 2025 · By applying the Hybrid Polymer technology to Axial-lead Aluminium Electrolytic Capacitors, a compact DC-link solution with reduced amount of capacitor and minimized ...

Capacitors for Inverter Applications
An industry leader in inverter capacitors, CDE's strength is in the design of capacitors for inverter applications ranging from DC Link aluminum electrolytic and film capacitors to IGBT snubbers ...

High power density solution for DC link on 48 V inverter ...
Introduction The market tendency for DC-link capacitors bank for 48 V inverters is clearly toward smaller, more powerful and more eficient devices. Among the available capacitor

technologies ...

1000W, 48V Switched Capacitor Converter Reference ...
2 days ago · The reference design describes a Switched Capacitor Converter (SCC) that can be used in 48V zonal control modules (TIDA-020094 reference design). The converter operates ...

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