Low-loss high-frequency switching power supplies for rail transit

This guide provides an in-depth exploration of switching power supplies, focusing on their principles, design considerations, efficiency strategies, and industrial applications.

To develop SMPS with high efficiency and high switching frequencies, and to achieve high power density and low profile, the following techniques need to be improved.

Switched-mode power supplies (SMPS) are defined as power supplies that utilize semiconductor switching technology to convert input voltage to the desired output voltage, offering advantages such ...

Acopian makes ac to dc power supplies in both styles, with our low profile switched mode wide adjust power supply having an output voltage and current adjustable with an internal screwdriver pot or an ...

The energy stored in ESL is dissipated on ESRs, leading to extra power loss. Therefore, the hot loop PCB ESRs and ESLs should be minimized to reduce the HF ringing and improve efficiency.

With a good design, a switching power supply can have excellent load and line regulation. With over 30 years of design and manufacturing knowledge, Voteq regulated switching power supplies have set a ...

Other than high-frequency ringing from rectifying diodes, linear supplies generate much less in the way of high frequency signals that can interfere with other equipment.

Optimize high-frequency PCB signal and power copper spacing for lower crosstalk and safer voltage performance. Learn key design rules and PCBGOGO solutions.

With the spread of GaN semiconductors, which can operate at high frequencies, switching power supplies have been upgraded to higher frequencies. Ferrite material is used in transformer products, ...

Extensive technical literature suggests that GaN is the ideal power device for high-frequency power conversion. This document provides an in-depth analysis of the key features that make GaN ...

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