



**FRINDEL OPTICS**

# **Low-loss high-frequency switching power supplies for safe city applications**





## Low-loss high-frequency switching power supplies for safe city appl

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### Switch Mode Power Supply (SMPS) Topologies



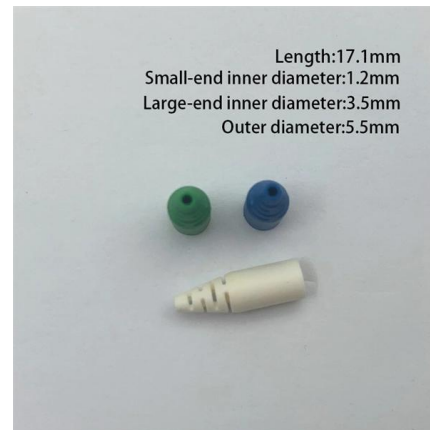
INTRODUCTION The industry drive toward smaller, lighter and more efficient electronics has led to the development of the Switch Mode Power Supply (SMPS). There are several topologies

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### Power Modules for High Frequency Applications

Applications like battery chargers, welding, medical, or industrial power supplies operating at higher switching frequency in the range of several tens of kHz require power modules with optimized fast

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### A review of high current digital constant current sources in Switch

In the domain of power supplies, achieving high stability, minimal ripple, and a wide output range in direct current (DC) constant current sources has emerged as a pivotal research

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### Switching Power Supply PCB: Design Guide & Best Practices

A Switching Power Supply PCB plays a critical role in power conversion, ensuring stable and efficient energy transfer while minimizing losses. This guide explores the key aspects of



### Integrated Very High Frequency Switch Mode Power Supplies: Design

His interests include switch-mode audio power amplifiers, power supplies, active and passive components, integrated circuit design, acoustics, radio frequency electronics, electromagnetic com

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### High and Very High Frequency Power Supplies for Industrial

The papers in this special section focuses on high and very high frequency power supplies for industry applications. In recent years, high frequency has become a developing trend for power

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### Optimizing soft-switching operation of GaN at high frequency

Scope and purpose The document is structured into two chapters. In Chapter 1, an overview and positioning of the three different semiconductor technologies (Si, SiC, GaN) is provided. Chapter 2

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## 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.

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## Challenges of designing high-frequency, high-input-voltage DC/DC

To show the trade-offs of using high switching frequencies, three independent power supplies were designed and built with respective operating frequencies of 100, 300, and 750 kHz.

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## An Efficiency Primer for Switch-Mode, DC-DC Converter Power Supplies

Techniques for calculating and predicting efficiency losses in each component of a switch-mode power supply (SMPS) are detailed. In addition, features and techniques that improve

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## 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

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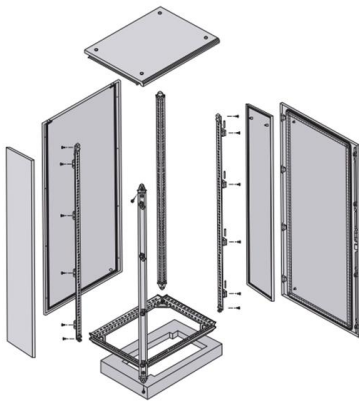




## 2025 Audio Power Supply Guide: Switching or Linear?

Which power supply is better for audio: switching or linear? This guide compares noise, sound quality, and use cases with real test charts and tips.

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## Resonant Circuits and Soft Switching

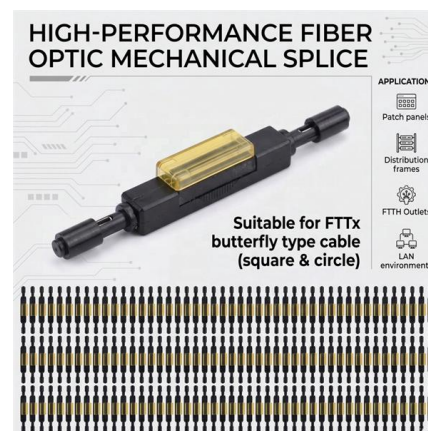
Resonant circuits are used in power supply circuits for one or more of the following purposes: high frequency output of voltage or current, switching loss reduction, and switching noise

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## Modeling and Simulation of High-frequency Switching Power Supplies

Introduction High-frequency switching power supplies have become integral to modern electronic systems due to their ability to efficiently convert electrical energy with minimal losses. These power

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## Switched Mode Power Supply: A High

## Switch Mode Power Supply (SMPS) Topologies

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.

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## Efficient Low Noise Forward

This paper proposes a low noise high-frequency forward converter SMPS. The primary target in the power electronics industries is to design power supplies with high efficiency, low cost, and with



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## MOSFET fast switching: motivation, implementation and precautions

This combination brings together the benefits of exceptionally low conduction losses, superior switching performances, improved safe operating area (SOA) and good ruggedness.

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## PowerPoint Presentation

How to Reduce HF Switching Noise? Traditional way: slow down the switching edges Slow internal switch driver or add "snubbers" externally Reduces efficiency (more switching loss), especially at

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## 3.3 kW high-frequency and high-density PSU for server and

Our boards and kits are solely for qualified and professional users who have training, expertise, and knowledge of electrical safety risks in the development and application of high-voltage electrical circuits.

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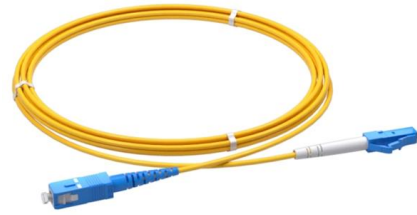




## What Is a Switching Power Supply (SMPS)? , Tektronix

Tektronix offers a comprehensive portfolio of high-quality, reliable switching power supplies tailored for your demanding applications. Advanced EMI

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## Integrated Very High Frequency Switch Mode Power

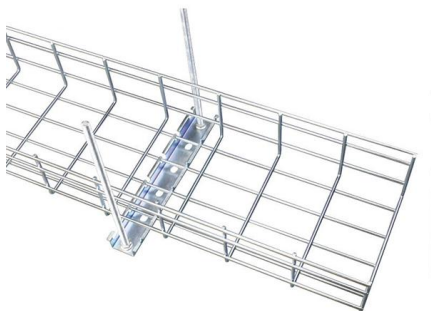
This paper presents a power supply using an increased switching frequency to minimize the size of energy storing components, thereby addressing

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## High-Frequency Switching is Heating Up , Peak Blog

The power electronics industry is shifting from inductor-based PFC designs to high-frequency switching for more compact and efficient solutions.

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## HF Transformer Selection Guide for Switching Power

In modern electronic products, the high frequency transformer is a key component of the switching power supply. So, how do you choose a suitable

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## What Is a Switching Power Supply (SMPS)? , Tektronix

Discover what a switching power supply (SMPS) is and how it efficiently converts AC to DC using high-frequency switching. Learn its

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## Soft-Switching Technology in Industrial High-Frequency Power

Industrial high-frequency power supplies are evolving rapidly, driven by the need for higher efficiency, reliability, and intelligent energy management. Soft-switching technologies, which

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## What Is a Switching Power Supply (SMPS)? A Definitive Engineer's

Why Is It Called a "Switching" Power Supply?  
Unlike linear power supplies, which regulate voltage through continuous dissipation (like a water tap constantly throttled down), a switching power supply

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