

This PDF is generated from: <https://www.h2arq.es/Tue-20-Nov-2018-8464.html>

Title: High power portable dc-dc power supply design

Generated on: 2026-03-21 02:45:45

Copyright (C) 2026 . All rights reserved.

For the latest updates and more information, visit our website: <https://www.h2arq.es>

What is a high voltage DC power supply?

The design scheme of high-voltage DC power supply is experimentally verified, and the results show that the single-module output voltage is 50 kV, and the output power is about 800W, which can meet the high-power input requirements by stacking multiple modules.

What are the design considerations associated with portable power design?

Some design considerations associated with portable power design have been discussed, such as light load efficiency, voltage regulation accuracy, the battery impedance impact on the end of discharge voltage, battery discharge efficiency and system stability. A portable device needs a battery as its power source when an AC adapter is not available.

How to design a portable power circuit?

BATTERY OPERATED SYSTEM DESIGN CONSIDERATIONS The topology selection is the first step of a portable power circuit design. It is mainly based on the input and output voltage rating, as shown in Fig. 18. If the input voltage is higher than the output at any time, a Buck converter or LDO is normally the only solution.

How do you design a high-voltage power supply?

To achieve the best performance, the design process necessitates carefully selecting components, such as Metal Oxide Field Effect Transistors (MOSFETs), insulated gate bipolar transistors (IGBTs), gate drive circuits, and control techniques . Recent research has looked into several approaches to high-voltage power supply design.

Web: <https://www.h2arq.es>

