Half-bridge solar container inductor

What is a-source based half-bridge inverter?
This article introduces a new half-bridge inverter that employs Z-source technology to achieve a high boost factor without blocking high voltage on passive or active devices. This configuration includes the coupled inductors shaped in the A-source form,which is why the proposed topology is referred to as an A-source-based half-bridge inverter.

Can a half-bridge inverter achieve high boost factor without blocking high voltage?
Abstract: This article introduces a new half-bridge inverter that employs Z-source technology to achieve a high boost factor without blocking high voltageon passive or active devices.

Can a coupled half-bridge coordinate a hybrid-frequency interleaved Si/WBG phase operation?
In this article,an Si/wide-bandgap (WBG) coupled half-bridge (CHB) is proposed,which coordinates the hybrid-frequency interleaved Si and WBG phase operation by a coupled inductor. By optimal configuring the coupling coefficient,the un-compensable,and low-frequency fluctuations of power quality issues can be completely addressed.

ABSTRACT Recently, there has been a growing interest in alternative energy sources because world energy crisis intensified and the growing demand of energy globally. Among the various alternative ...

The following solution is, a half-bridge SiC-MOSFET inverter leg that is equipped with its power layout, gate driver, and management circuitry. This integrated power switching unit is called Half-Bridge SiC ...

A current-fed dual-half-bridge (CF-DHB) converter directly connected with a half-bridge (HB) inverter unit is proposed for residential photovoltaic power conversion systems.

Fig. 1 shows a non-isolated bidirectional dc-dc converter topology which combines step-up dc voltage and step-down dc voltage in a half-bridge topology configuration.

A semi dual active half bridge (DAHB) converter with coupled inductor is proposed for unidirectional low-power applications. This topology comprises three active switches and a diode, ...

The half-bridge series-resonant induction-heating (HB SR-IH) cooker was subsequently developed for further increased efficiency and output power, in which con-tributions to load commutation and forced ...

The energy storage inductor,denoted by L,plays a critical role in maintaining the energy integrity throughout the switching cycles. For the purpose of voltage smoothing,filtering capacitors C1 and C2 ...

This article introduces a new half-bridge inverter that employs Z-source technology to achieve a high boost factor without blocking high voltage on passive or active devices.

The Si/WBG hybrid half-bridge (HHB) converter with hybrid frequency interleaved operation (HFIO) aims to offer an improved cost-performance tradeoff but suffers from ...

This article proposes a fully soft-switched coupled-inductor-based semi dual-active half-bridge (SDAHB) converter designed for wide voltage range and low power applications. The ...

A conventional asymmetrical half-bridge (AHB) converter is one of the most promising topologies in low-power applications because of the zero-voltage switching (ZVS) of all switches and the small number ...

Abstract: In this study, the application of the phase-shift modulation to a double half-bridge resonant inverter supplying inductive loads with a common resonant capacitor is analysed in order to control ...

This article proposes a fully soft-switched coupled-inductor-based semi dual-active half-bridge (SDAHB) converter designed for wide voltage range and low power applicatio

Hybrid Modulation-Based Semi Dual Active Half Bridge Converter With Coupled Inductor IEEE Transactions on Industrial Electronics (IF 7.2) Pub Date : 2025-03-05, DOI: 10.1109/tie.2025.3544199

This article proposes a novel half-bridge LLC resonant converter featuring a variable resonant inductor. The resonant inductor in a traditional LLC resonant converter is divided into two inductors. One ...

By utilizing a highly integrated half bridge GaN power IC, the switching frequency of the DC/DC stage is boosted to over 500 kHz, enabling the design of a PCB-based transformer with an integrated ...

Complex dynamical behaviors such as bifurcation and chaos exist in H-bridge inverter with RLC load, and these nonlinear behaviors will greatly increase the harmonic content of the output ...

A conventional asymmetrical half-bridge (AHB) converter is one of the most promising topologies in low-power applications because of the zero-voltage switching (ZVS) of all switches and ...

When the switch is turned off, the input voltage applied to the inductor is removed. However, because the current in an inductor can not change instantly, the voltage across the inductor will adjust to hold ...

To limit the switch voltage excursion due to the leakage energy of the coupled inductor, energy recycling schemes are usually adopted. Here, an alternative structure based on half-bridge-doubler rectifier ...

In this article, an Si/wide-bandgap (WBG) coupled half-bridge (CHB) is proposed, which coordinates the hybrid-frequency interleaved Si and WBG phase operation by a coupled inductor.

A comparison of Inductor-Half-Bridge (IHB) and Class-E (CLE) resonant converters using piezoelectric transformer (PT) is presented in this paper. The analysis approach is based on ...

LLC RESONANT CONVERTER AND FUNDAMENTAL APPROXIMATION Figure 2 shows the simplified schematic of a half-bridge LLC resonant converter, where Lm is the magnetizing inductance that acts ...

This article proposes a novel half-bridge LLC resonant converter featuring a variable resonant inductor. The resonant inductor in a traditional LLC resonant converter is divided into two ...

A half-bridge-based impedance-source inverter with two T-shaped coupled inductors is proposed in this article. Unlike the conventional half-bridge structure, the proposed topology can ...

Abstract: This study proposed a novel non-isolated half-bridge Inductor-Inductor-Capacitor (HB LLC) resonant converter with automatic resonant frequency adjustment ability and a circulating current ...