

Title: Single-ended high-voltage inverter

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Why are single-ended resonant inverters vulnerable to AC voltage variation?

As single-ended resonant inverters adopt small capacitance for DC link to ensure high power factor, the inverter system is vulnerable to the variation in supply AC voltage. Especially, if AC supply is shared with industrial area, voltage variation can occur more frequently.

What is a single-ended resonant inverter?

Multiple requests from the same IP address are counted as one view. Single-ended (SE) resonant inverters are widely used as power converters for high-pressure rice cooker induction, with 1200 V insulated-gate bipolar transistors (IGBTs) being used as switching devices for kW-class products.

Which resonant inverter is best for IH applications?

The single-ended (SE) resonant inverter is a type of class E parallel resonant inverter and popularly used in many IH applications due to its lower cost structure and relatively high efficiency. However its maximum power rating should be limited because the resonant voltage of SE resonant inverter increases as its power increases.

Can interleaved se resonant inverter provide double output power?

In this paper, a 3.6kW interleaved SE resonant inverter for induction heating application is proposed and discussed with experimental results. The proposed inverter can provide twice of output power than conventional one by means of alternative switching operation of two inverters.

In this study, a new DC/AC inverter based on an isolated single-ended primary-inductance converter with an active clamp power decoupling is introduced. The proposed converter has no ...

In this paper, a single-ended resonant converter with a primary parallel resonant-matching network is investigated to absorb the bulky input-choke inductors of the Class-E inverters into the coil ...

In this paper, a 3.6kW interleaved SE resonant inverter for induction heating application is proposed and discussed with experimental results. The proposed inverter can provide twice of output...

As single-ended resonant inverters adopt small capacitance for DC link to ensure high power factor, the inverter system is vulnerable to the variation in supply AC voltage.

Single-ended inverters are compact resonant inverters capable of providing near-sinusoidal AC output. They incorporate two switches and a capacitor, the value of which is selected ...

Such a circuit can create a single-stage high-voltage gain ratio with multiple levels and self-voltage balancing without using magnetic components, making the topology a valuable option for ...

One of the key subsystems in PV generation is the inverter. Advancements in high-voltage power electronics are resulting in more intelligent, more lossless and smaller PV inverters.

The experimental results of a 1.35 kW SE resonant inverter for a high-pressure induction heating rice cooker were used to verify the validity of the proposed sensorless resonant voltage ...

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