



MODERNIZATION SOLAR

SIC power device inverter





Overview

Do sic semiconductor inverters reduce power loss?

A cruising test conducted under specific conditions by BEV using SiC semiconductor inverters demonstrated inverters with SiC power semiconductor reduce power loss less than half of ones with Si semiconductor. As a result, the energy efficiency of BEVs is improved and cruising range is extended.

Is a SiC-based current source inverter suitable for photovoltaic applications?

A Cost-Controlled, Highly Efficient SiC-based Current Source Inverter Dedicated to Photovoltaic Applications. In Proceedings of the 2018 20th European Conference on Power Electronics and Applications (EPE'18 ECCE Europe), Riga, Latvia, 17–21 September 2018.

What is a commercial inverter?

The commercial inverter was rated for up to 5 kW output power, and had two PV inputs, rated for a minimum voltage of 163 V and a maximum voltage of 800 V. The topology is depicted in Fig. 1. It consists of two stages – a boost stage and a 3-level neutral point clamped (NPC) inverter stage.

What are the advantages of SiC power semiconductors?

- SiC power semiconductors with DENSO's unique trench-type metal-oxide-semiconductor (MOS) structure *1 improve the output per chip as they reduce power loss caused by heat generated. The unique structure achieved high voltage and low on-resistance *2 operation.



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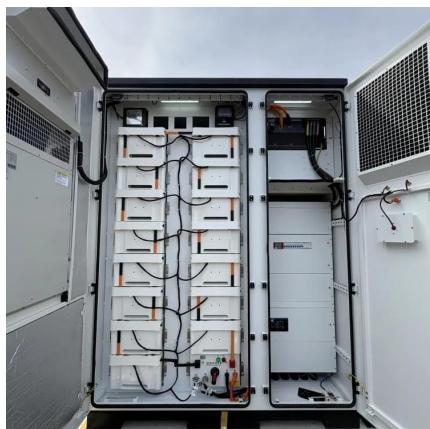


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