

ContainerPower Energy Solutions

Base station power module parallel connection



3.2v 280ah



Overview

What is parallel connection of IGBT and MOSFET power modules?

Parallel Connection of IGBT and MOSFET Power Modules. Several dice are usually connected in parallel within high current power modules. IGBT and MOSFET modules must then be paralleled to increase current capability sufficient for systems with several hundreds of kW of output power.

What are the PCB layout strategies for paralleling power devices?

The various PCB layout strategies for paralleling power devices, along with their advantages, challenges, and considerations are as follows: The symmetrical layout ensures that each paralleled device has an equal-length electrical path and identical parasitic elements (resistance, inductance, and capacitance).

How do I create parallel rails in Flex Power?

Paralleling modules requires setting up a number parameters. While this can be done manually by setting individual commands, it is significantly easier to use the Flex Power Designer software to quickly create parallel rails. The software is available for download at flexpowermodules.com. rails item in the configuration browser.

Do module parameters influence current sharing and switching energy imbalance?

This understanding is important for proper module parallel operation inside the thermal and safe operation limits. This article describes the methodology of how to analyze the influence of module parameters on current sharing and switching energy imbalance for parallel operation of power modules.

Do paralleled modules have a minimum characteristic?

For this, it will be as-sumed that one of the paralleled modules has a minimum characteristic (resulting in maximum switching energy or current) while all

other modules have the maximum characteristics (leading to minimum switching energy or current).

What is the challenge of IGBT module paralleling?

The challenge of IGBT module paralleling is to understand the necessary derating of power converters under consideration of different module parameters. This understanding is important for proper module parallel operation inside the thermal and safe operation limits.

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