

SolarTech Power Solutions

Inverter DC high voltage protection



Overview

What is inverter power switch short-circuit protection?

Inverter power switch short-circuit protection is fully integrated. A desaturation detection circuit is embedded in both the high- and low-side output stages and monitors the IGBT collector-to-emitter voltage by means of an external high voltage diode.

Do inverters need protection?

Without proper protection, an inverter can be damaged by power surges, voltage spikes, and other electrical disturbances. There are several types of protection that can be used to protect inverters: Surge protection: This type of protection is designed to protect the inverter from power surges and voltage spikes.

What are the different types of inverter protection?

Surge protection: This type of protection is designed to protect the inverter from power surges and voltage spikes. Overload protection: This type of protection is designed to protect the inverter from being overloaded. Under-voltage protection: This type of protection is designed to protect the inverter from low voltage.

Can PV inverters provide grid voltage support 24/7?

PV inverters can also be configured to provide grid voltage support 24/7 by providing reactive current at night. This function uses a small DC power supply to energize the inverter DC bus from the AC grid connection. Once energized, the IGBTs can be commanded to provide reactive current at night.

What is a DC switch in an inverter?

The DC switches allow the inverter controls to connect the IGBTs to the DC source. The DC switches are designed as high duty cycle devices that can open during maximum current flow from the PV array or battery. IGBT Circuit:

Provides the conversion from DC to AC. The IGBT bridges used in many inverters today are configured in the B6 configuration.

How do PV inverters support grid frequency?

Grid frequency support is achieved by adjusting inverter real power output. This functionality is limited with PV inverters because the inverters are following the DC energy provided to them by the sun. For a grid high frequency event, PV inverters can be easily set to reduce active power to help reduce the grid frequency.

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