

SolarGrid Energy Solutions

Outdoor power supply charging overload





Overview

What is the overload protection scheme of a battery charger?

The overload protection scheme is crucial to ensure that the battery charger and battery operate safely. This application note discusses the overload protection schemes of a battery charger operating in OTG boost mode. In addition to the cycle-by-cycle current limit, the average output current protections are implemented in battery chargers.

What does vdpm mean on a battery charger?

To prevent overload and break down the power supply, the VDPM) of the charger reduces the charging power when the input voltage drops to a certain threshold. See Dynamic power management for faster, more efficient battery charging (SLYT546) for more details.

Should a battery charger operate in buck or boost mode?

Depending on the power flows, operating the converter in either buck or boost mode reduces the total solution size and cost. The overload protection scheme is crucial to ensure that the battery charger and battery operate safely. This application note discusses the overload protection schemes of a battery charger operating in OTG boost mode.

What is the topology of a battery charger?

The most common topology of a battery charger is the step-down buck converter during the charging stage. When a battery is discharging to power up the external accessories, power flow is reversed and the converter operates as a boost converter.

Can a switch Charger overheat?

Figure 1. Switch Charger Operating in Boost Mode OTG boost output overloading can potentially cause both the external accessary and the charger to overheat; therefore, different layers of overload protection schemes are



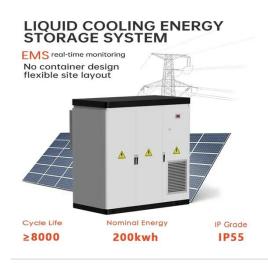
implemented in a battery charger.

What is a power bank battery charger?

Another very similar application is the power bank. A power bank battery is charged when the wall power is available, after which it is used to charge external accessories when required. The most common topology of a battery charger is the step-down buck converter during the charging stage.



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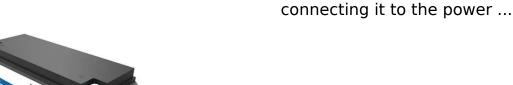


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may seem daunting, but understanding your needs and assessing the options available can greatly ease ...





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