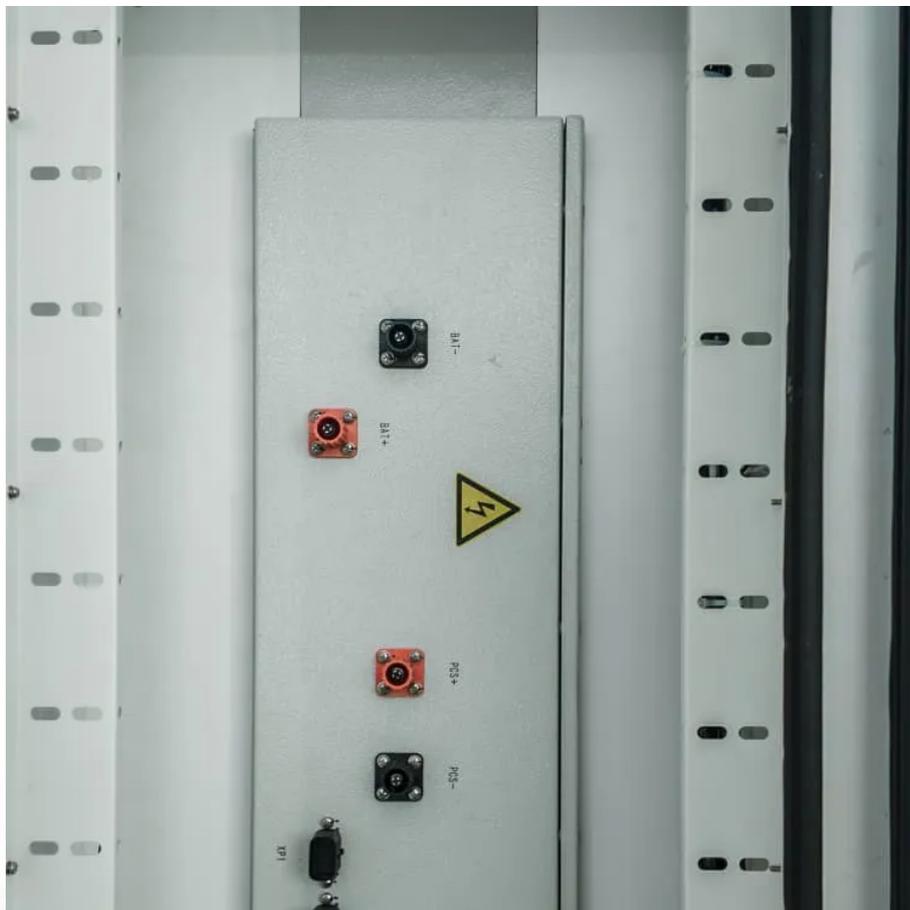


Solid-state lead silicon solar container battery





Overview

Can silicon be used in solid-state batteries?

Silicon is one of the most promising anode materials due to its very high specific capacity (3590 mAh g⁻¹), and recently its use in solid-state batteries (SSBs) has been proposed.

What is a solid-state battery?

As the name suggests, the solid-state battery has a solid electrolyte material, which offers far-reaching capabilities than traditional batteries, such as higher energy density, high specific energy, and better safety.

Are silicon-based solid-state batteries a good choice for next-generation energy storage?

See all authors Silicon (Si)-based solid-state batteries (Si-SSBs) are attracting tremendous attention because of their high energy density and unprecedented safety, making them become promising candidates for next-generation energy storage systems.

Are silicon-based all-solid-state batteries safe?

Silicon-based all-solid-state batteries offer high energy density and safety but face significant application challenges due to the requirement of high external pressure. In this study, a Li₂₁Si₅/Si-Li₂₁Si₅ double-layered anode is developed for all-solid-state batteries operating free from external pressure.



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