

# **Silicon-based battery schematic of container base station**





## Overview

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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.

What is a silicon-based solid-state battery?

The silicon-based solid-state batteries were assembled with a Si/prelithiated Li<sub>0.7</sub> Si anode and a high-nickel Ni LiNi<sub>0.85</sub> Co<sub>0.1</sub> Mn<sub>0.05</sub> O<sub>2</sub> (NCM85) cathode (Figure 23d). The Li<sub>0.7</sub> Si//NCM85 all-solid-state battery achieved a high areal capacity of 16.1 mAh cm<sup>-2</sup>, along with a remarkable ICE of 94.49% (Figure 23e).

Why are solid-state batteries a hot topic in next-generation energy storage research?

Solid-state batteries (SSBs) have become a hot topic in next-generation energy storage research due to their high safety and potential high energy density. Si has a high theoretical specific capacity (4200 mAh g<sup>-1</sup>), moderate lithium insertion potential (0.4 V vs. Li<sup>+</sup>/Li), and abundant resources, making it a subject of significant interest.

What are Si-SSB batteries?

Abstract 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 candidate.



## Silicon-based battery schematic of container base station

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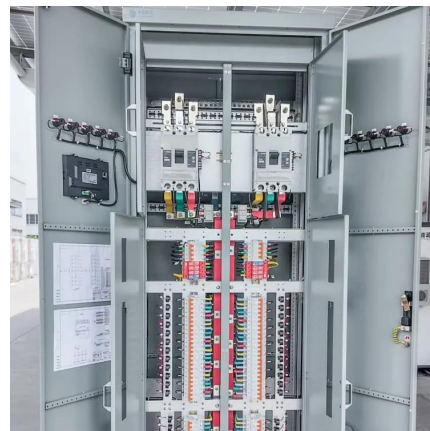
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### Schematic of a containerized utility-scale

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