

## ContainerPower Energy Solutions

# PERC solar module conversion rate



## Overview

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The highest efficiency for PERC solar cells was recorded at 25.0%, while IBC solar cells achieved a 25.4% conversion efficiency. How can PERC improve photovoltaic module conversion efficiency?

The PERC structure can break through the physical efficiency achieved by traditional photovoltaic cells and enable photovoltaic module manufacturers to improve module conversion efficiency.

What are PERC solar panels?

One option that outstands from the rest is the Passivated Emitter and Rear Contact (PERC) solar technology which allows for the creation of PERC solar panels. The PERC solar panel is a highly efficient and improved type of PV technology that uses Crystalline Silicon (c-Si) and fixes some inconveniences of this traditional technology.

How efficient are PERC solar modules?

PERC modules are able to maintain close of 99% of its STC efficiency at 200W/m<sup>2</sup> irradiance level, while a standard solar module's relative efficiency drops to less than 96% at the same condition.

What percentage of new solar panels are PERC?

Currently, around one quarter of new solar panels are PERC and the figure may reach 50% in 2020. The reason it has become popular is because it adds little to the cost of solar panels while increasing their efficiency by around one whole percentage point.

What is the difference between PERC and IBC solar cells?

Efficiency for IBC solar cells is higher in general, but the highest recorded efficiency for both technologies is similar. The highest efficiency for PERC solar cells was recorded at 25.0%, while IBC solar cells achieved a 25.4% conversion efficiency. The biggest downside for IBC technology is that it has a

higher cost than PERC solar panels.

What is PERC & how does it benefit a solar PV system?

PERC leads to increased energy density and electricity generation for the system. Greater energy density significantly reduces the levelized cost of electricity (LCoE) for a solar PV installation. By effectively leveraging the modules with PERC technology, end users can obtain a much faster RoI.

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