

Hit solar panel power generation efficiency





Overview

What is a hit solar cell?

The HIT solar cell is a unique high-efficiency silicon solar cell, which results from our amorphous silicon (a-Si:H) and crystalline silicon (c-Si) solar cell technologies. In order to further expand the use of solar modules, it is necessary to thoroughly reduce the power-generating cost.

How efficient is a solar cell compared to a hit solar cell?

As a result of our progressive studies, we have achieved a new record of 22.3% efficiency (Voc: 0.725 V, Isc: 3.909 A, FF: 0.791, total area: 100.5 cm², confirmed by AIST) as shown in Fig. 3. The Voc, Isc, and FF have been simultaneously improved compared to a 21.8% HIT solar cell. Fig. 3.

How efficient are large-format solar panels?

For example, LONGi's Hi-MO X10 commercial-size module reaches up to 24.8% efficiency and 670W output, while several 700W+ utility-scale modules from Trina Solar, Risen, TW Solar, and Huasun now exceed 24.2–24.8% efficiency, highlighting how innovation at the large-format level continues to raise the bar for the entire industry.

What are the most efficient solar panels?

The most efficient solar panels on the market generally use either N-type back-contact (BC) monocrystalline silicon cells or other highly efficient N-type variations, including heterojunction (HJT) and TOPcon cells.



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The increase in PV panel temperature with increasing level of solar power and solar flux is a major disadvantage when using Photovoltaics for electricity generation.

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