

New high-efficiency solar power generation device



Overview

Researchers have developed a solar thermoelectric generator that is 15 times more efficient than the most advanced devices currently available. The result was confirmed by Germany's Institute for Solar Energy Research Hamelin (ISFH). Chinese solar module manufacturer Trina Solar has announced yesterday it. In early 2025, Longi, a renowned solar manufacturer, revealed that it had achieved a stunning milestone in the world of renewable energy—a solar cell with an efficiency of 27. By enhancing heat absorption and dissipation. Munich, Germany - 12 November 2025 - Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) announced that the company provides its groundbreaking gallium nitride (GaN) technology for the next-generation of solar microinverters from Enphase Energy, Inc. (ENPH), a global energy technology company and. New, high-efficiency STEGs were engineered with three strategies: black metal technology on the hot side, covering the black metal with a piece of plastic to make a mini greenhouse, and laser-etched heat sinks on the cold side. Credit: University of Rochester / J.



Article Content

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Researchers engineered a solar thermoelectric generator 15 times more efficient than current state-of-the-art devices. A Rochester team engineered a new type of solar thermoelectric generator...

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With an efficiency that pushes the boundaries of what was once thought possible, the Longi team has paved the way for a new generation of solar panels that could one day power entire

Solar energy

Solar energy is used worldwide and is increasingly popular for generating electricity, and heating or desalinating water. Solar power is generated in two main ways: Solar photovoltaic (PV) uses

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Hybrid solar energy device for simultaneous electric power generation ...

To address this issue, a hybrid device featuring a solar energy storage and cooling layer integrated with a silicon-based PV cell has been developed.

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Trina Solar claims world's highest efficiency for silicon

Chinese solar module manufacturer Trina Solar has announced yesterday it achieved a 28.00% power conversion efficiency for its new TOPCon

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Solar Power Reimagined: New “Black Metal” Device

Researchers have developed a solar thermoelectric generator that is 15 times more efficient than the most advanced devices currently available.

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Global efficiency record for large triple-junction

A University of Sydney-led team has set a record for solar technology, creating the largest and most efficient triple-junction perovskite-perovskite-silicon

Infineon gallium nitride (GaN) technology powers next | Infineon ...

By achieving higher power output and efficiency, Enphase's new microinverters can now service not only the residential solar market, but also a much larger portion of the commercial market.

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Black metal could give a heavy boost to solar power

The new, high-efficiency STEGs were engineered with three strategies. First, on the hot side of the STEG, the researchers used a special

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Solar energy is radiation from the Sun that is capable of producing heat, causing chemical reactions, or generating electricity.

Mixed-signal and digital signal processing ICs | Analog

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Latest Solar Panel Technology

In this article, we uncover the latest technologies and examine how these new solar innovations increase efficiency, improve overall performance and increase the lifespan of a solar panel.

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Perovskite Solar Cells

Perovskite Solar Cells today on small area devices (about 0.1 cm²). Perovskite-silicon tandem cells have reached efficiencies of almost 34%. While perovskite

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