

What is the complete reference for version 55 of the efficiency tables?

For example, the complete reference for version 55 of the efficiency tables is: Green, Martin A., Ewan D. Dunlop, Jochen Hohl-Ebinger, Masahiro Yoshita, Nikos Kopidakis, and Anita W.Y. Ho-Baillie. "Solar Cell Efficiency Tables (Version 55)." *Progress in Photovoltaics: Research and Applications* 28, no. 1: 3-15.

How efficient are silicon heterojunction solar cells?

Silicon heterojunction (SHJ) solar cells have achieved a record efficiency of 26.81% in a front/back-contacted (FBC) configuration. Moreover, thanks to their advantageous high VOC and good infrared response, SHJ solar cells can be further combined with wide bandgap perovskite cells forming tandem devices to enable efficiencies well above 33%.

What are some examples of low-thermal budget silicon heterojunction solar cells?

The prominent examples are low-thermal budget silicon heterojunction (SHJ) solar cells and high-thermal budget tunnel-oxide passivating contacts (TOPCon) or doped polysilicon (poly-Si) on oxide junction (POLO) solar cells (see Fig. 1 (e)- (g)).

How efficient are FBC-SHJ solar cells?

Their potential performance was evaluated and compared. The FBC-SHJ solar cells that feature localized contacts were simulated to achieve a practical maximal efficiency of 27.60%, which surpasses that of the baseline SHJ solar cells mainly due to the significantly reduced parasitic absorptions.

How efficient is a single-junction concentrator cell?

The final result is in Table 5 (concentrator cells and modules) and documents an improvement to 30.8% efficiency for a single-junction GaAs concentrator cell fabricated and measured by NREL.

How are cell efficiencies organized in the PIP series?

The PIP series of publications has organized the record efficiencies into tables. Table 1 includes cells and subcells (i.e., small cells or cells comparable to large commercial cells). Table 2 contains cells and is where most cell efficiencies are found.

Module technology is undergoing rapid evolution, with the currently dominant PERC technology expected to be replaced by n-TOPCon and heterojunction (HJT) devices with stabilized cell ...

Zn-CO₂ batteries are excellent candidates for both electrical energy output and CO₂ utilization, whereas the main challenge is to design electrocatalysts for electrocatalytic CO₂ reduction reactions with high selectivity and low cost. Herein, the three-phase heterojunction Cu-based electrocatalyst (Cu/Cu₂O-Sb₂O₃) is synthesized and evaluated for highly ...

Consolidated tables showing an extensive listing of the highest independently confirmed efficiencies for solar cells and modules are presented. Guidelines for inclusion of ...

Progress in Photovoltaics (PIP) regularly publishes solar cell and cell efficiency tables summarizing the highest verified efficiency results for different technologies [1]. All ...

Consolidated tables showing an extensive listing of the highest independently confirmed efficiencies for solar cells and modules are presented. Guidelines for inclusion of results into these tables are outlined, and new entries since January 2023 are reviewed.

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