

CdTe thin film 130wp solar module





Overview

Why is CdTe thin film solar cell suitable for building integrated photovoltaics?

Cadmium Telluride thin film solar cell is very suitable for building integrated photovoltaics due to its high efficiency and excellent stability. To further reduce the production costs, relieve the scarcity of Tellurium, and apply in building integrated photovoltaics, ultra-thin CdTe photovoltaic technology has been developed.

How efficient is a thin-film solar cell CdTe/CdS?

The sample was made on the basis of the analytical capabilities of the Scopus database, taking into account the countries authors of publications devoted to the study of CdTe . Current-voltage and relative quantum curves efficiency for a thin-film solar cell CdTe/CdS with an efficiency of 16.4% .

When did CdTe thin film solar cells come out?

CdTe thin film solar cells first emerged in the 1970s, Bonnet and Rabenhorst introduced CdS/CdTe heterojunction in CdTe devices, and achieved an efficiency of 6 %. Since then, researchers began to use this type of heterojunction to prepare CdTe thin film solar cells.

What are the benchmarks for CdTe thin film solar cells?

Today's benchmarks for CdTe thin film solar cell and module performance are defined by First Solar, with certified record cell PCE = $22.1 \pm 0.5\%$ and module aperture area PCE = 19.5% [1, 58]. The 22.1% record cell device parameters are $V_{OC} = 0.887 \text{ V}$, $J_{SC} = 31.69 \text{ mA/cm}^2$, and $FF = 78.5\%$.



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