

Amorphous silicon cell double glass module





Overview

Micromorphous silicon module technology combines two different types of silicon, amorphous and microcrystalline silicon, in a top and a bottom photovoltaic cell. Overview Amorphous silicon (a-Si) is the non-crystalline form of silicon used for solar cells and in thin-film solar cells. Used as a thin-film for a-Si solar cells, or thin-film silicon solar cells, it is deposited.

Silicon is a fourfold coordinated atom that is normally bonded to four neighboring silicon atoms. In crystalline silicon (c-Si) this tetrahedral structure continues over a large range, thus forming a well-ordered structure.

Amorphous silicon and carbon (amorphous silicon, also hydrogenated, a-Si_{1-x}C_xH) are an interesting variant. Introduction of carbon atoms adds extra degrees of freedom for control of the structure.



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[A review and analysis of technologies applied in PV modules](#)

Examples are half-cell, double glass, bifacial, PERC, HIT, amorphous silicon, CdTe (cadmium telluride) and CIGS (copper indium gallium selenide) that have the potential for innovation, ...

[Potential of amorphous silicon for solar cells.](#) [Applied Physics A](#)

This paper reviews recent developments in the field of amorphous-silicon-based thin-film solar cells and discusses potentials for further improvements. Creative efforts in materials research, ...



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