

# Amorphous silicon solar cell components





## Overview

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What are amorphous solar cells?

nd semiconductor solar cells. Amorphous refers to objects without a definite shape and is defined as a non-crystal material. Unlike crystal silicon (Fig. 2) in which atomic arrangements are regular, amorphous silicon features irregular.

How are amorphous silicon solar cells made?

Amorphous silicon solar cells are normally prepared by glow discharge, sputtering or by evaporation, and because of the methods of preparation, this is a particularly promising solar cell for large scale fabrication.

Are amorphous silicon solar cells a promising technology for harnessing solar energy?

Scientific Reports 15, Article number: 16529 (2025) Cite this article  
Amorphous silicon solar cells have emerged as a promising technology for harnessing solar energy due to their cost-effectiveness and flexibility.

What is a tandem amorphous silicon solar cell?

As depicted in the diagram above, one PIN junction is placed on top of another. The concept behind tandem amorphous silicon solar cells is that because to the wide energy distribution in the solar spectrum, any existing semiconductor material can only absorb photons whose energy is higher than its energy gap value.



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