

## Electrical Performance Analysis of Single Junction Amorphous Silicon Solar (a-Si:H) Modules Using IV Tracer (PVPM)

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**Abstract :** The electrical analysis of single junction amorphous silicon solar modules is carried out using outdoor monitoring technique. Like crystalline silicon PV modules, the electrical characterisation and performance of single junction amorphous silicon modules are best described by its current-voltage (IV) characteristic. However, IV curve has a direct dependence on the type of PV technology and material properties used. The analysis reveals discrepancies in the modules performance parameter even though they are of similar technology. The aim of this work is to compare the electrical performance output of each module, using electrical parameters with the aid of PVPM 100040C IV tracer. These results demonstrated the relevance of standardising the performance parameter for effective degradation analysis of a-Si:H.

**Keywords :** PVPM 100040C IV tracer, SolarWatt part, single junction amorphous silicon module (a-Si:H), Staebler-Wronski (S-W) degradation effect

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