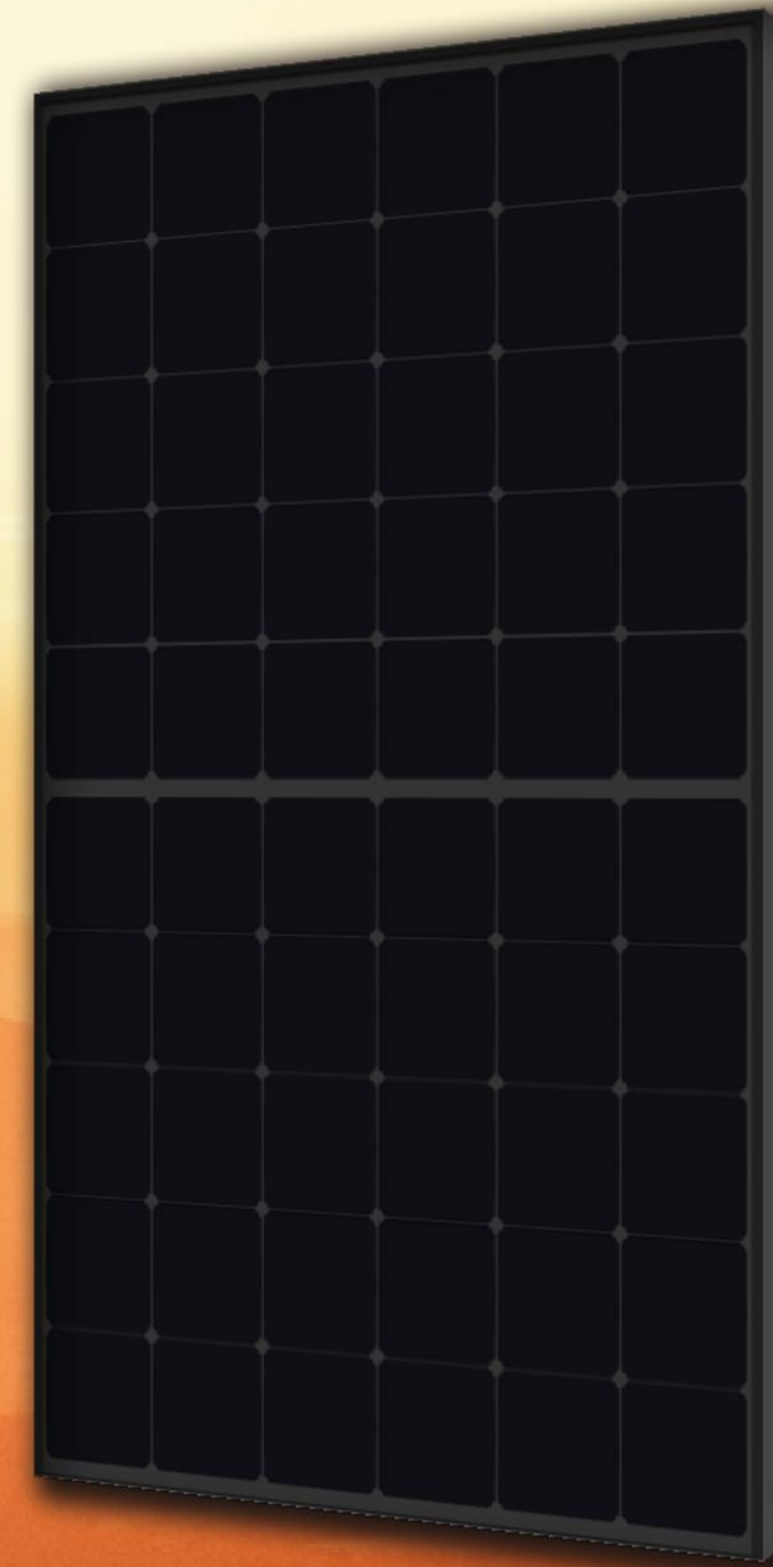


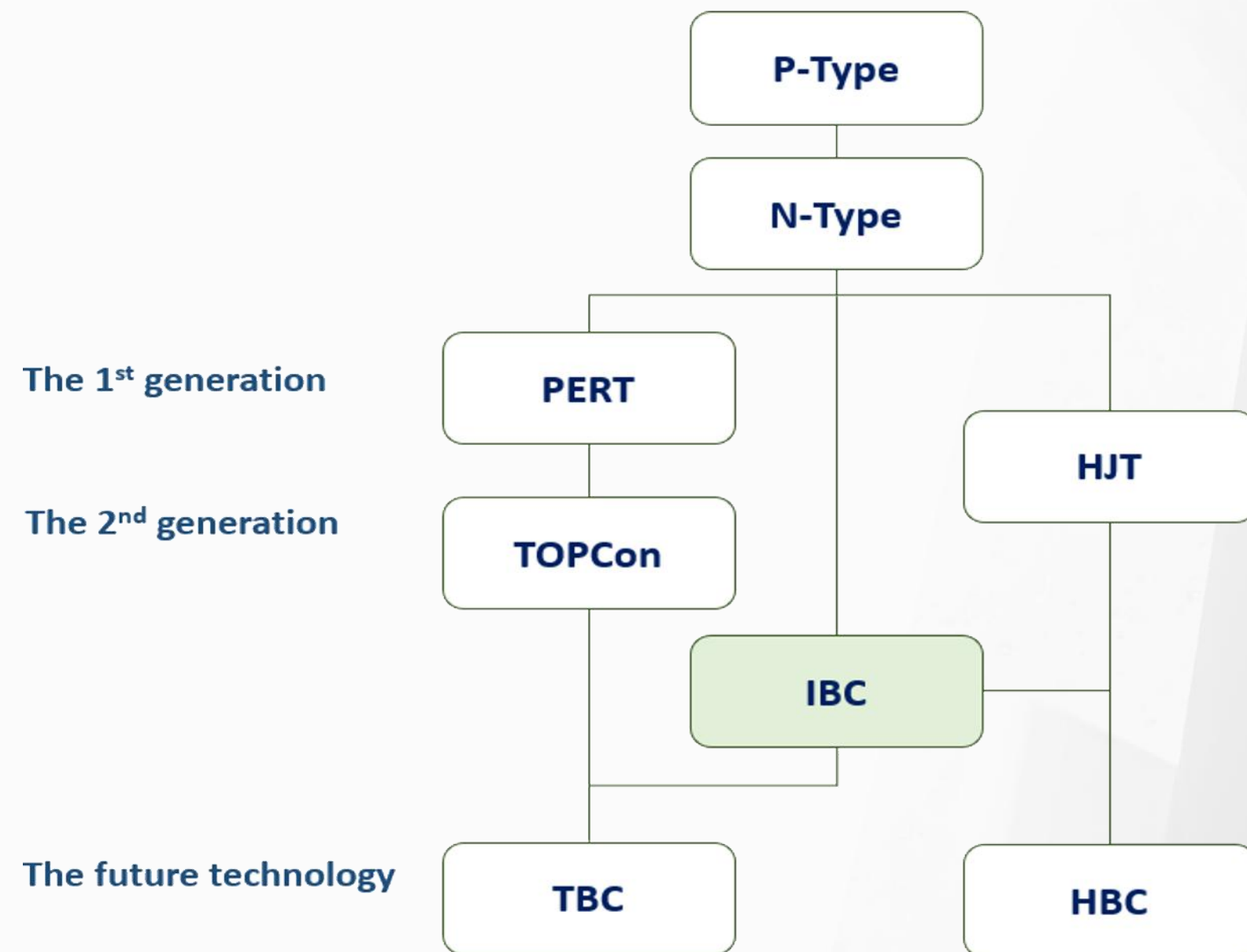
IBC Module Introduction

——Deeply Researched Product
Opening Future for N-Type



PV CHANGES
THE WORLD

N-Type Roadmap



The N-type cell are mainly divided into Topcon, HJT and IBC.

Among them, IBC has the highest efficiency.

Next Steps, IBC + TOPCon

TOPCon technology is adopted to effectively reduce metal recombination and improve passivation performance.

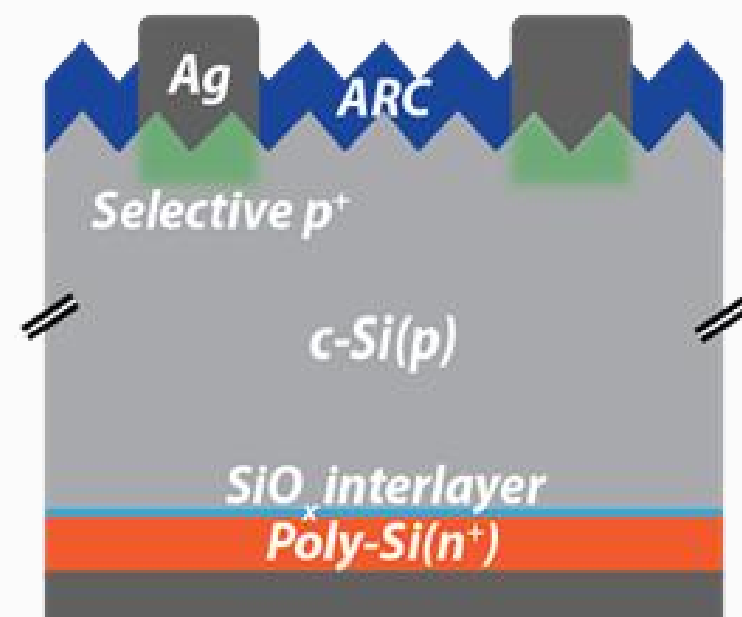
MBB technology is adopted to greatly reduce the single watt cost of cell.

MBB technology and non-busbar technology are two ways to reduce the cost of cell silver paste, which are trend of back contact technology.

N-Type Technologies

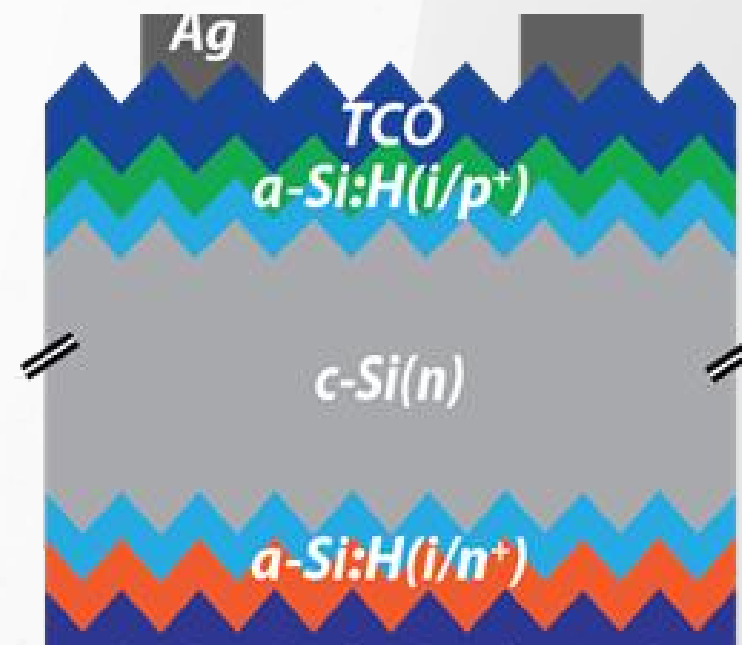
01 TOPCon

Passivation.
Tunnelling Oxide layer.



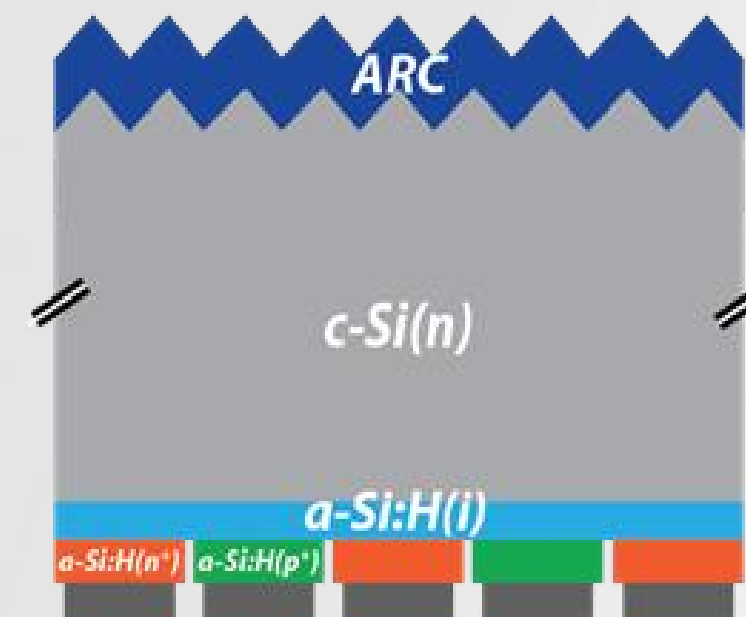
02 HJT

Passivation.
Intrinsic amorphous silicon film.



03 IBC

Most difficult and complex.
Use ion implantation.



Unique elegant appearance



IBC Full Black AURORA stands out for its black contact energy conversion, allows for the entire cell front to absorb sunlight, without any shading from the metal ribbons.

The black back sheet and frame meets highest aesthetic requirements, which makes perfect for buildings of high architectural value.

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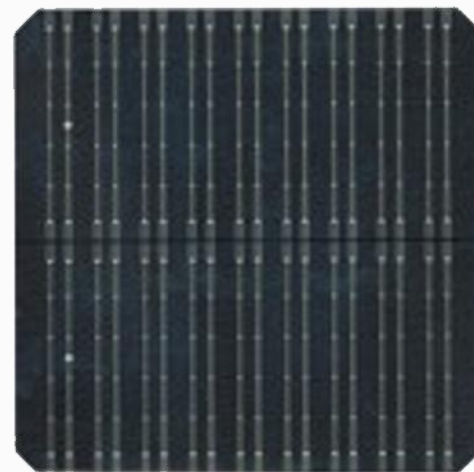


Market leading module efficiency

front side



rear side



Market leading module efficiency up to **22.3%** with multiple advanced technologies. A most efficient commercially manufactured solar module.

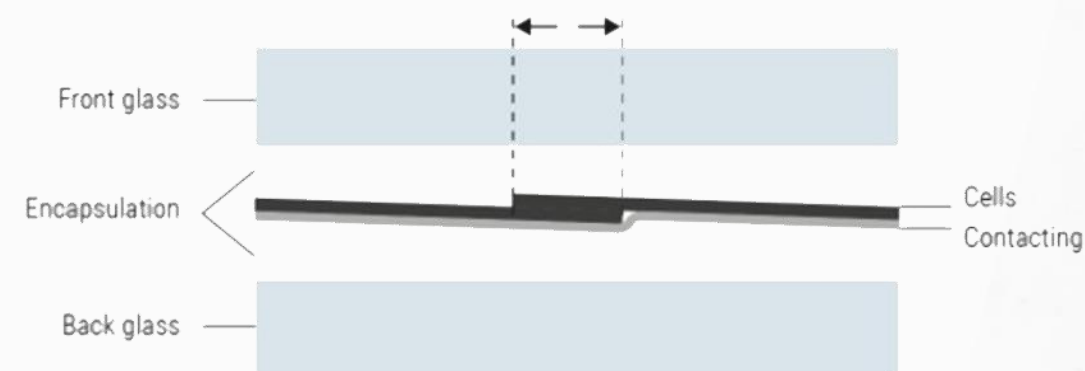
The elevation of front contacting leads to more active cell area and thus higher efficiency.

Busbars with particularly high conductivity reduce internal resistances.

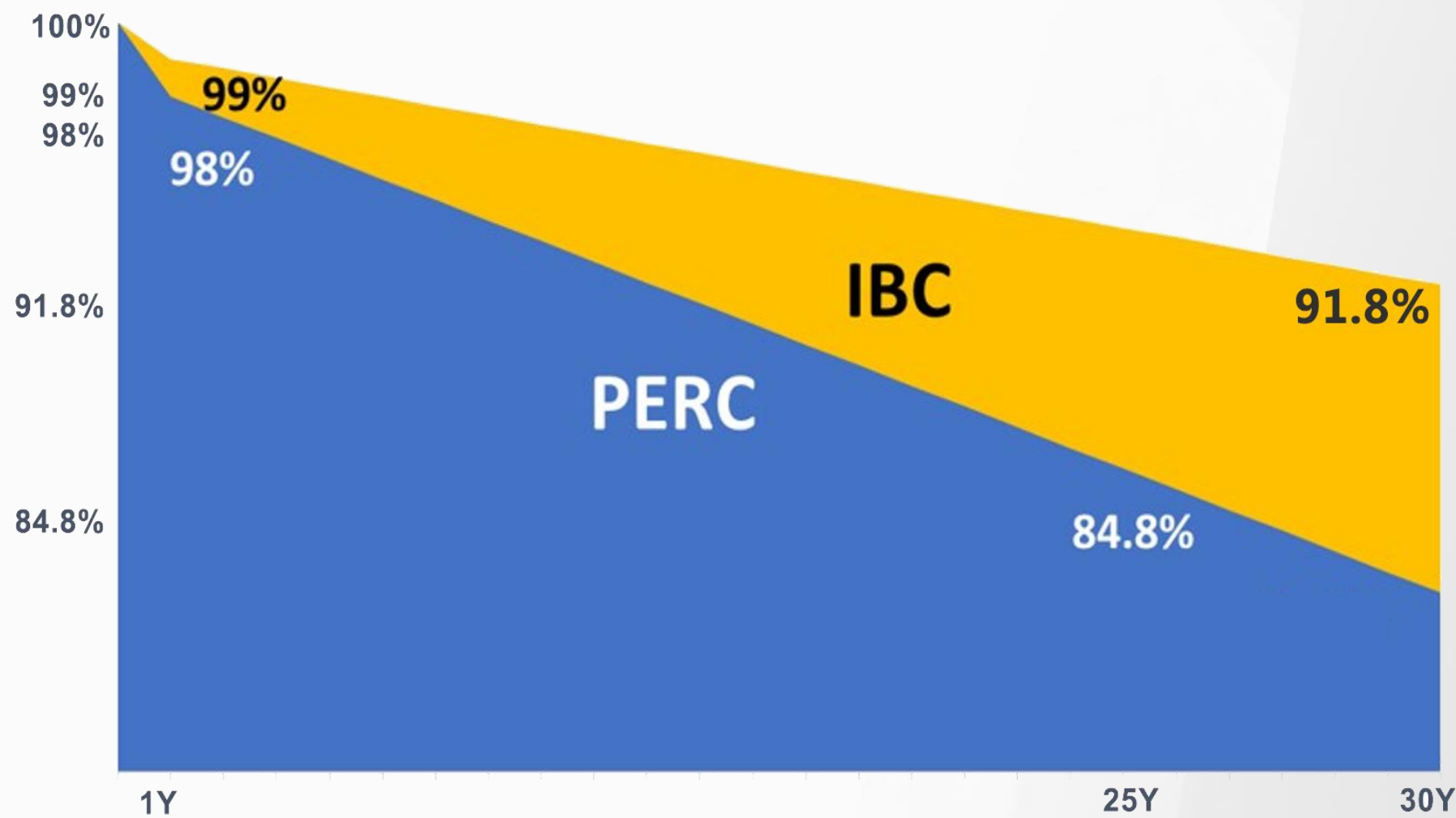
Innovative gapless layout, cell spacing of -0.3mm leads to area savings and higher efficiency.

IBC solar module without cell spacing

Gapless: -0.3 mm



Best power stability



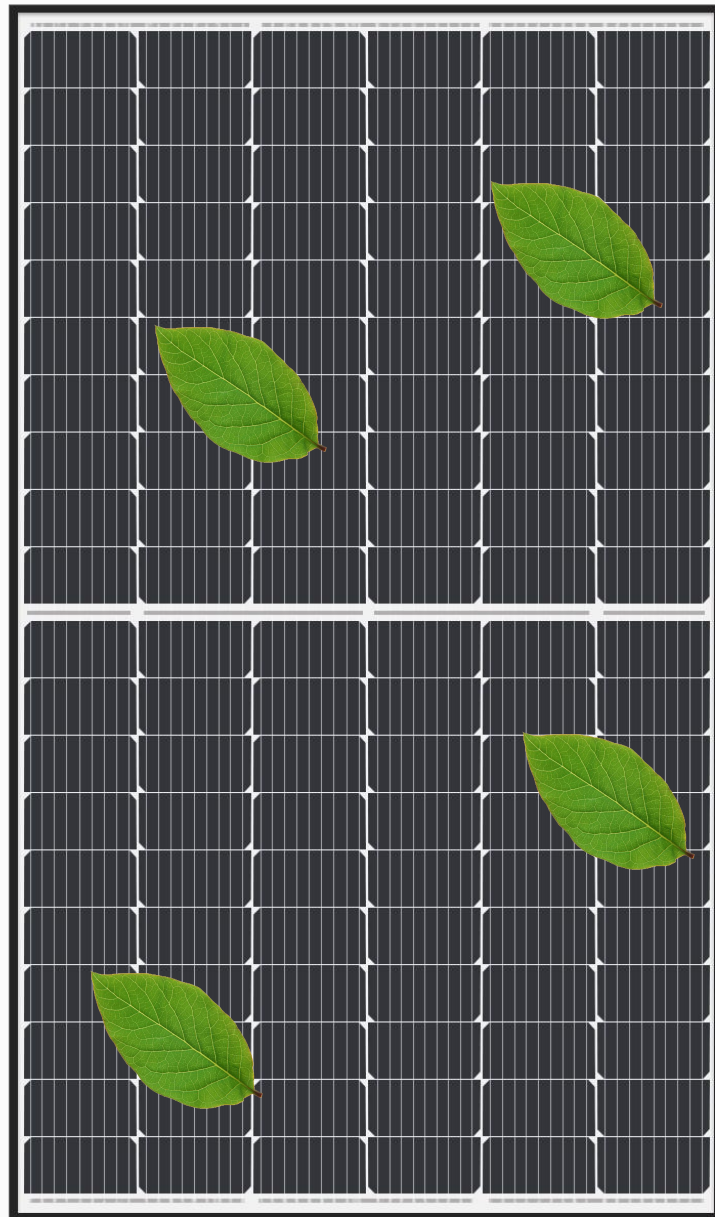
Advanced **30-year** product and performance warranty.

30-year yield guarantee and a maximum degrade rate of 0.25%/year.

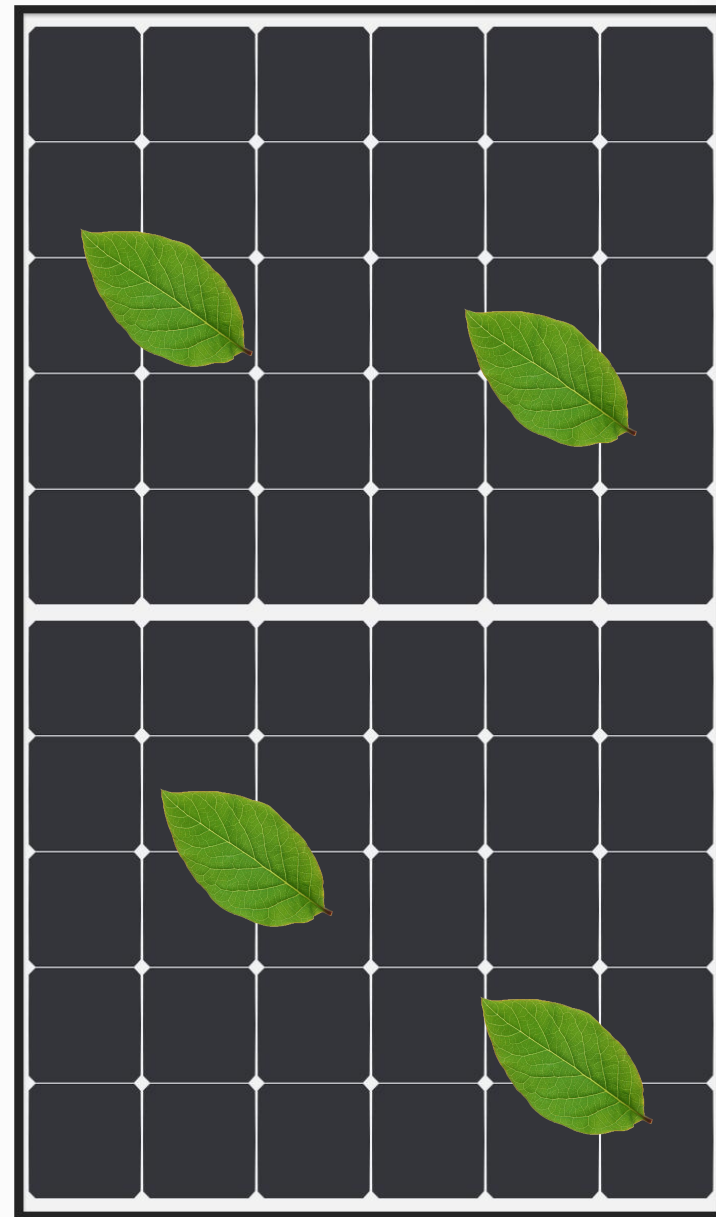
Industry leading power stability over time, 91.8% at the 30th year.

Outstanding hot-spot performance

PERC 0%



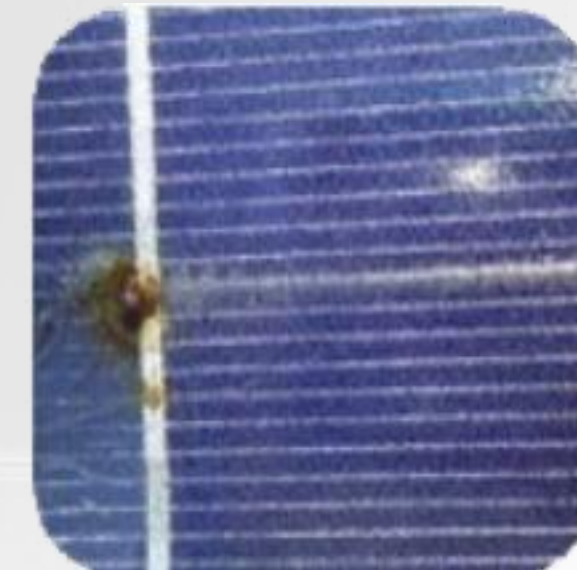
IBC 95%



Hot spot has been a most important degradation factor, cells enter revers bias working mode when shaded.

IBC cells have a low breakdown voltage. when a hot spot occurs, the part becomes a wire and does not act as a load.

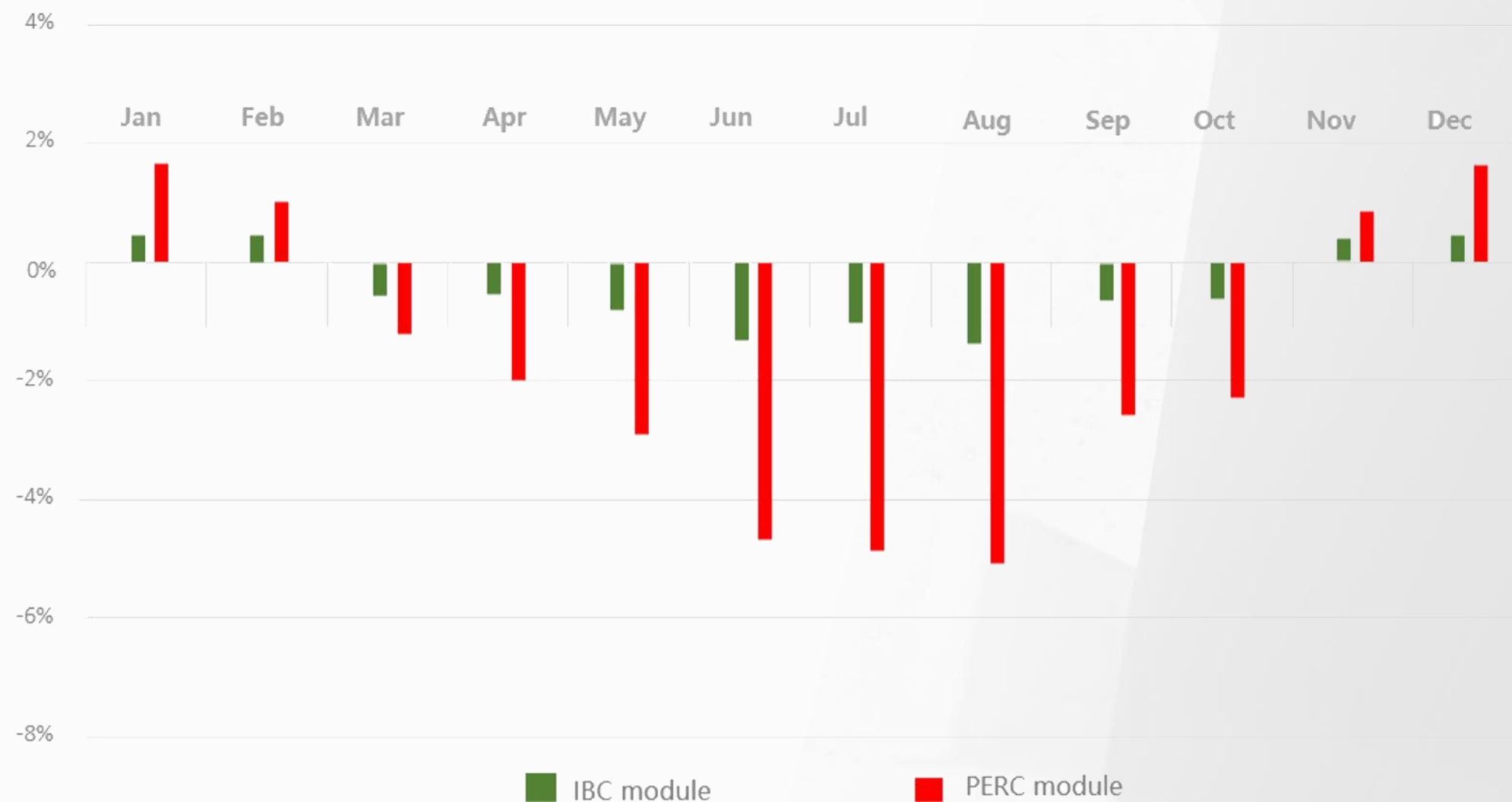
Conventional cells reach dangerously high temperature when bypass diodes fail, while IBC can control hot spot temperature thanks to the distributed junction design.



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Optimized temperature coefficient

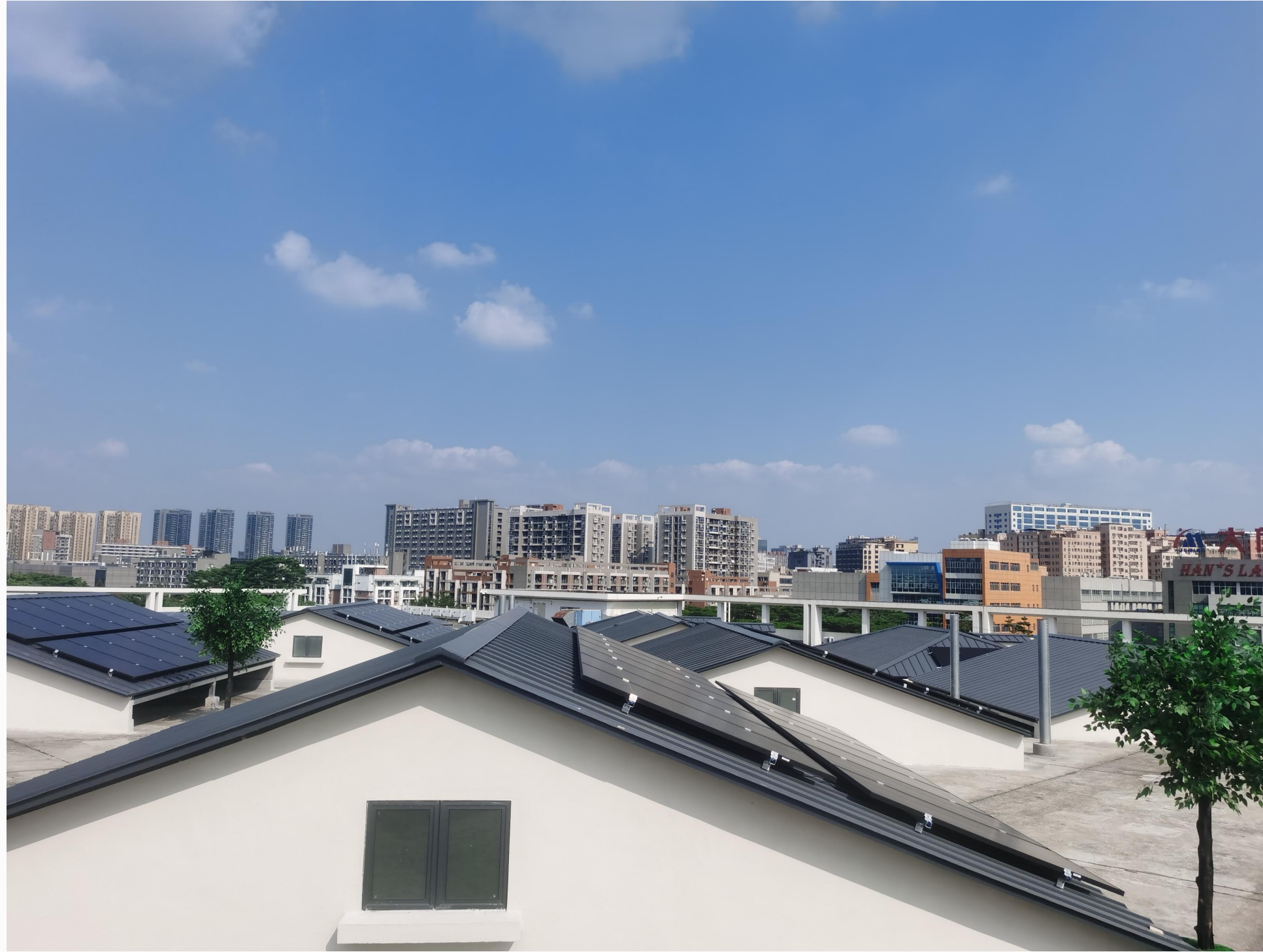
Influence of operating temperature on power generation



Optimized temperature coefficient $-0,29\%/^{\circ}\text{C}$ means more energy generation when temperature rises.

IBC modules reduce power loss 30-50% compared with PERC modules.

Project



A silhouette of a man carrying a young child on his shoulders. They are both raising their arms in a gesture of joy or triumph. The background is a warm, golden sunset over a body of water, with a line of trees visible on the horizon. The overall mood is hopeful and optimistic.

ECO DELTA FOR BETTER LIFE

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