BOAMAX

Stock Code
002514

HJT PV Modules

BOAMAX

INTEGRAL ENERGY MANUFACTURER AND SERVICE PROVIDER

Date: 2023.10.18

Website: www.boamax.com

BOAMAX

CONTENTS

BOAMAX

Part.01

The technical profile of PV Cell

SUZHOUBOAMAXTECHNOLOGIESGROUPCO .,LTD

01

BOAMAX

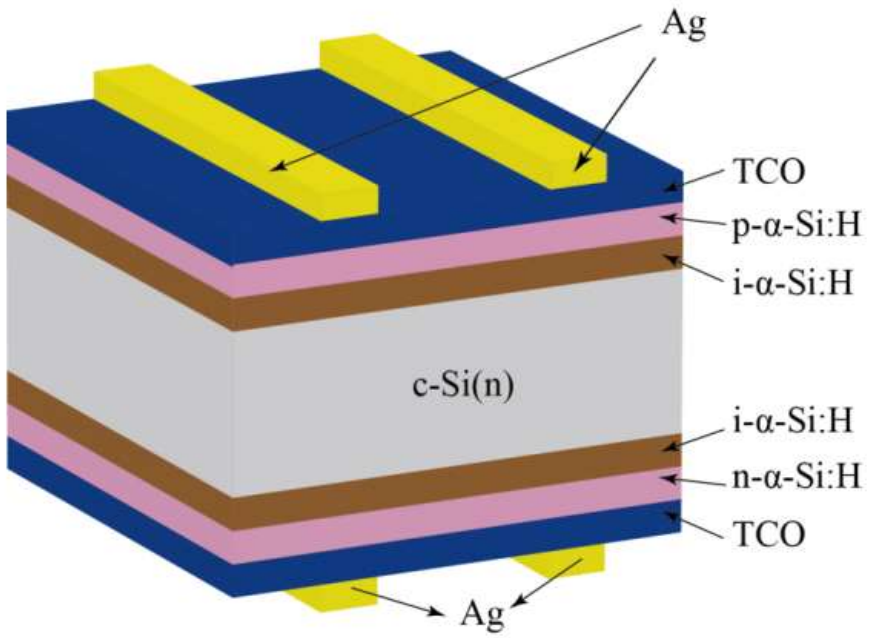
Comparison among PERC、Topcon、HJT

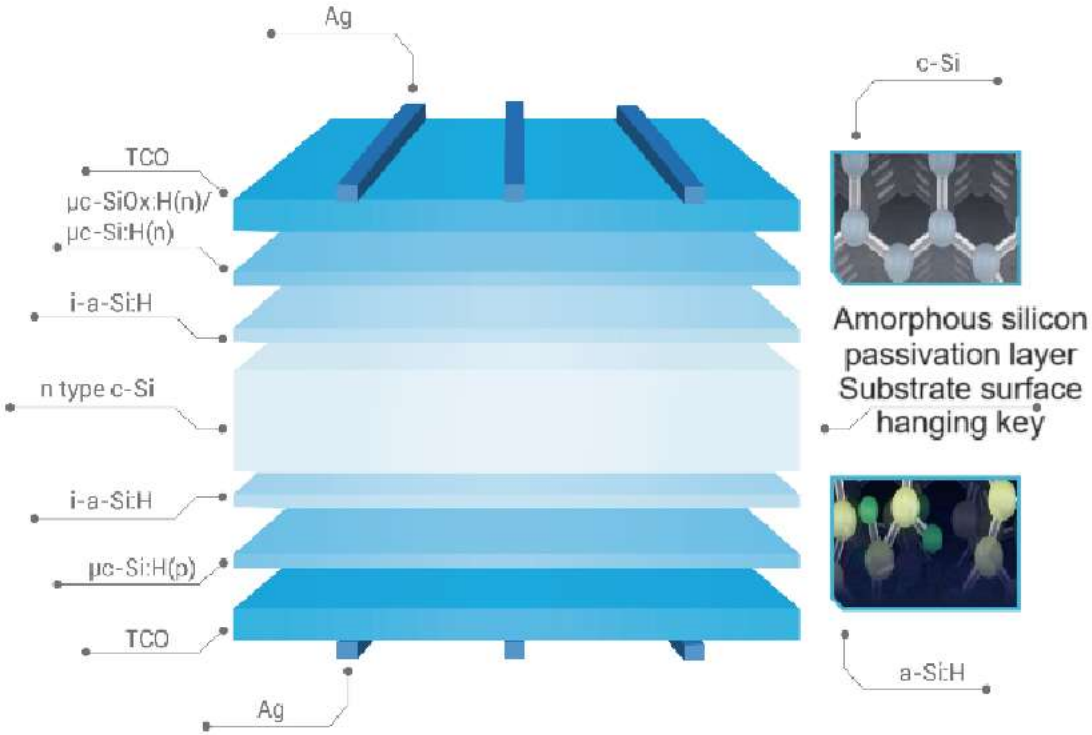
Technology	PERC	Topcon	HJT
Type	P	N	N
Process Steps	12	9	4
Theoretical Efficiency	24.50%	26.0%	28.50%
Mass Production Efficiency	23.20%	24.80%	25.6%
Yield Rate	97.50%	95%	98.50%
High Bifaciality	75%	85%	90%
Related Business	MainstreamManufacturers	Sunrise Group Huasunetc.	Boamax、SunriseGroup Huasunetc.

02

Structure of HJT

1. HJT cells are based on **N-type** monocrystalline silicon wafers.





BOAMAX

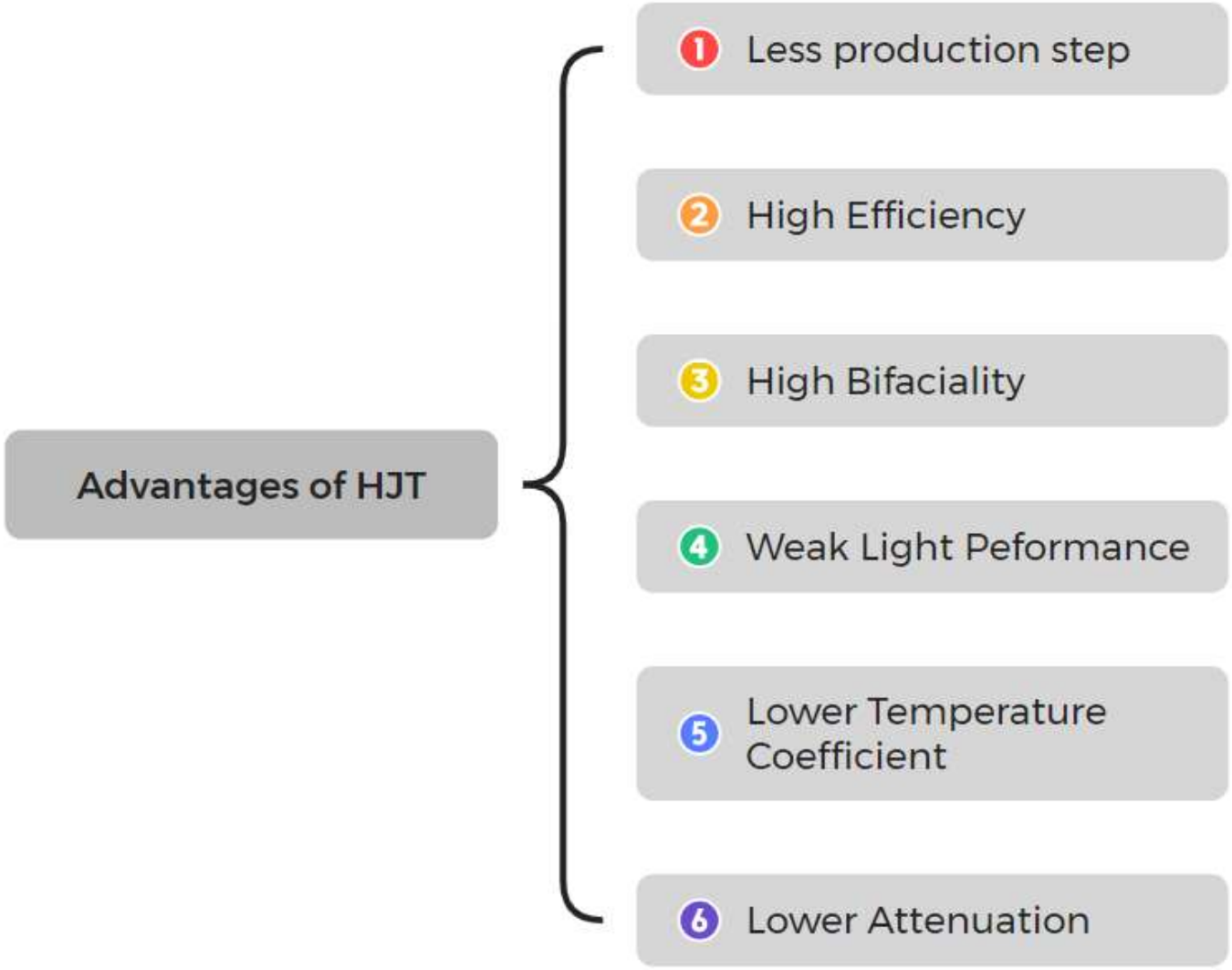
Part.02

The advantages of HJT

03

BOAMAX

Advantages of HJT



04

Shorter process of HJT

Process steps For PERC 10 Steps

- Cleaning and texturing
- Diffuison
- Laser preparation SE
- Remove PSG back structure
- Bifacial Oxidation
- Front Surface Coating
- Back surface plated Aio*SiN
- Skill screen printing and sintering
- Light Regeneration
- Testing

Process steps For Topcon 12-13 Steps

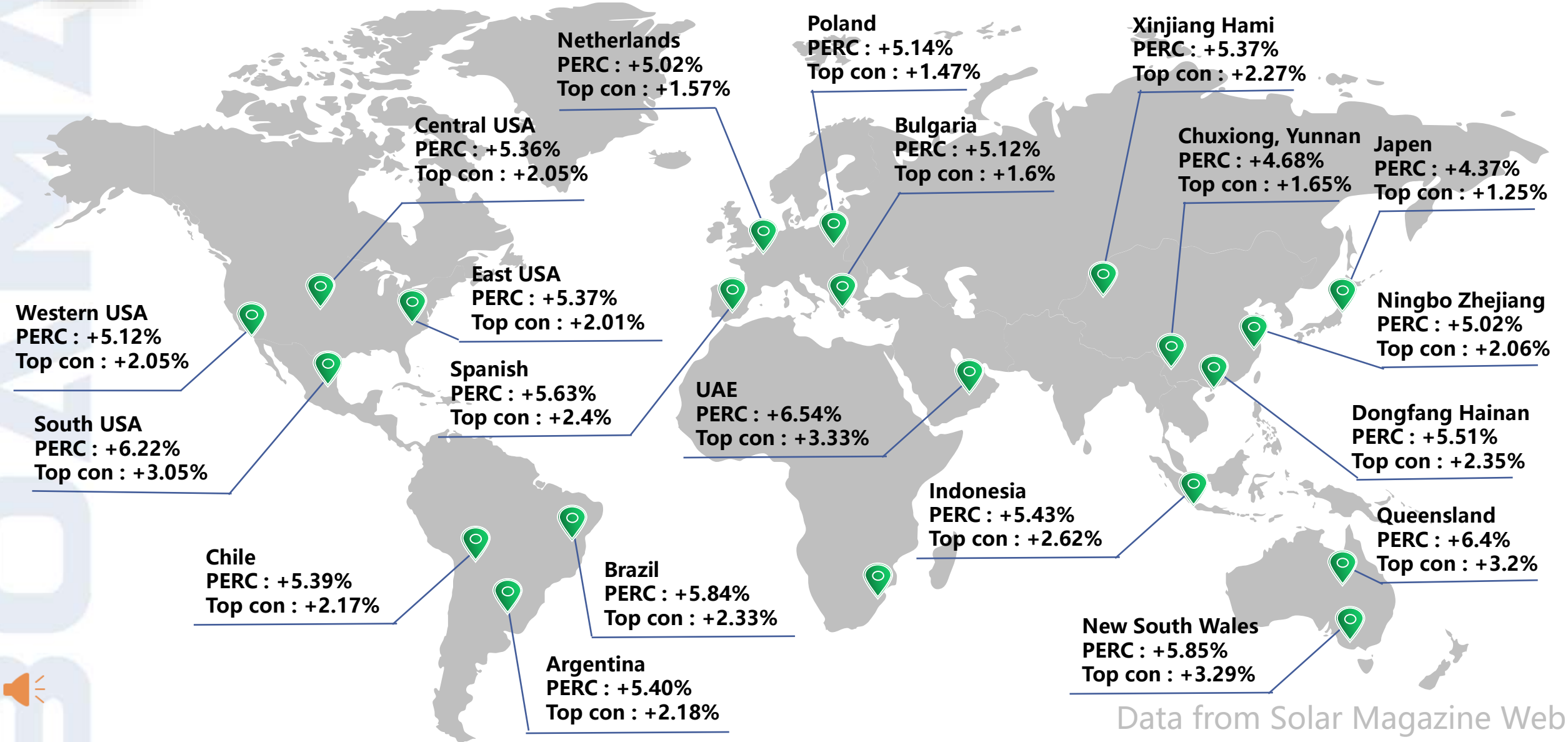
- Cleaning and texturing
- Add boron atoms
- Laser produce SE
- Remove Psg Back Structure
- LPCVD Backside oxidation
- LPCVD Deposited intrinsic polysilicon
- Ion Implantation P
- Annealing
- Front surface plated AlO*SiNx
- Back surface plated SiNx
- Bifacial Silver Paste Silk Screen Printing And Sintering
- Light Regeneration
- Testing

Process steps For HJT 4-6 Steps only

- Cleaning and texturing
- Bifacial Pecvd Plating A-si Film (P/i/n)
- Bifacial PVD coated TCO film
- Bifacial silver paste and silk screen printing
- Light Regeneration
- Testing

05

High efficiency(compare HJT with Topcon and Perc)



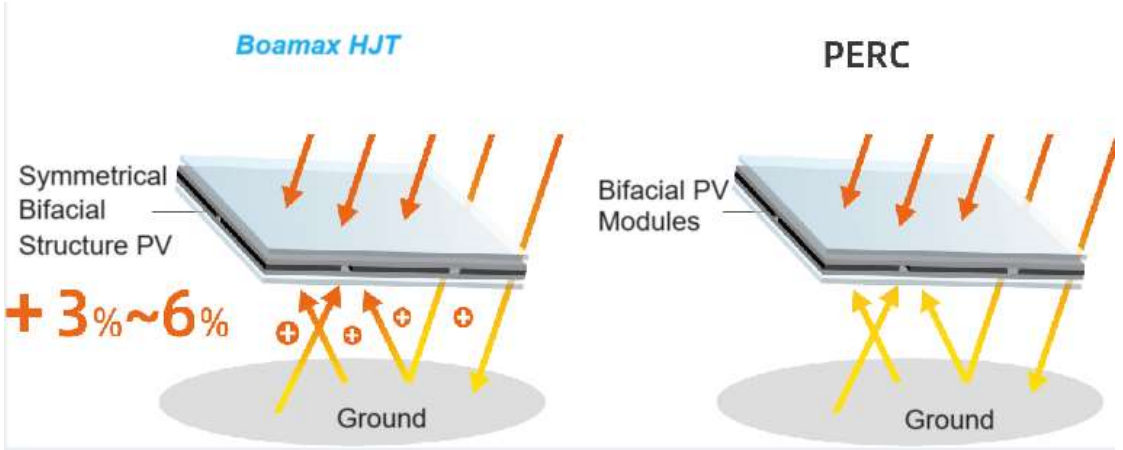
Data from Solar Magazine Web

06

BOAMAX

High bifacial rate

HJT Installation Environment	Power generation gain(A)	Power generation gain(B)
asphalt road	13.3%	14.0%
cement pavement	12.9%	14.4%
grassland	15.4%	16.7%
White gravel floor	20.9%	24.5%
white paint Road	33.3%	35.7%



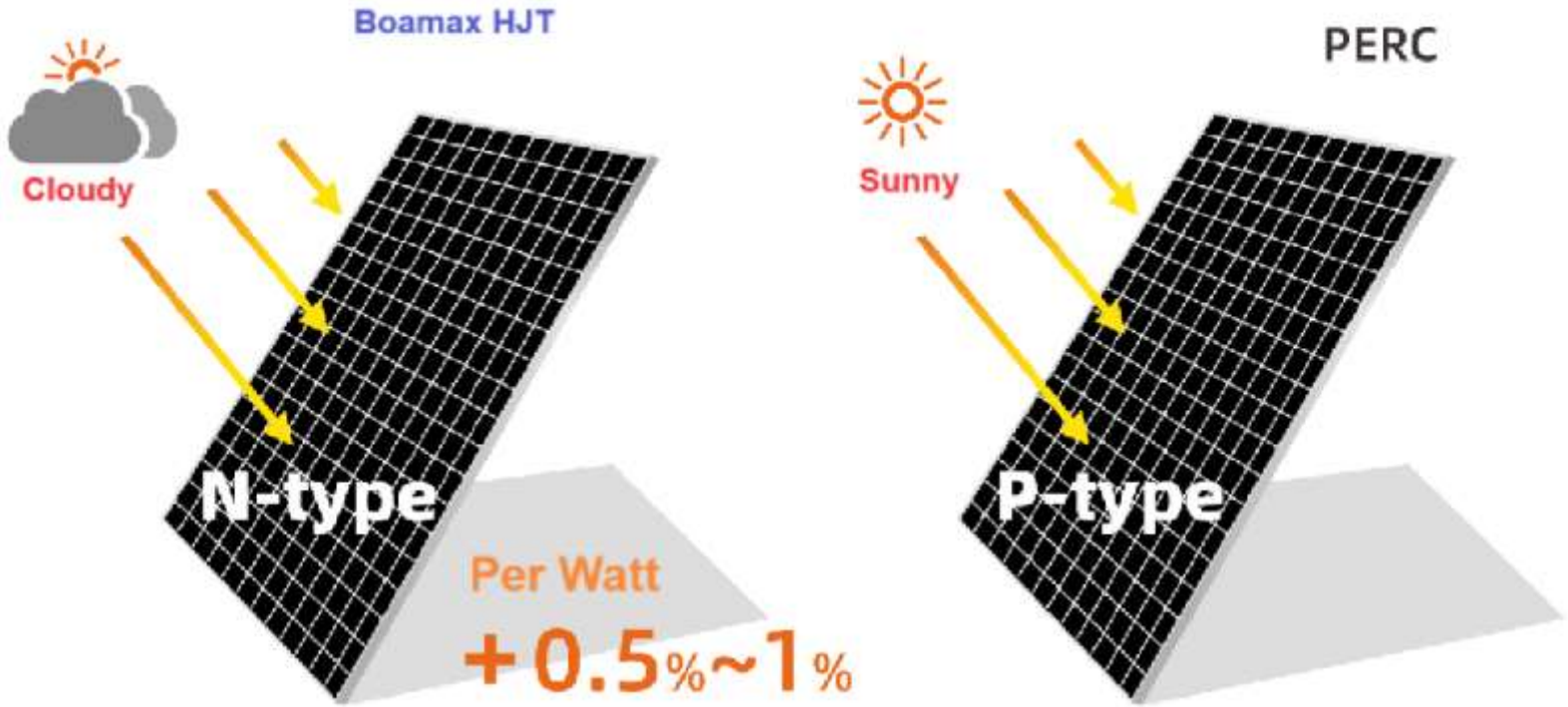
07

Weak Light performance

Weak light

+0.5~1%

The N-type monocrystalline silicon wafers of HJT batteries have better weak light performance compared to the P-type monocrystalline silicon wafers of PERC batteries, contributing to a power generation per watt that is about 0.5-1% higher than that of bifacial PERC batteries.

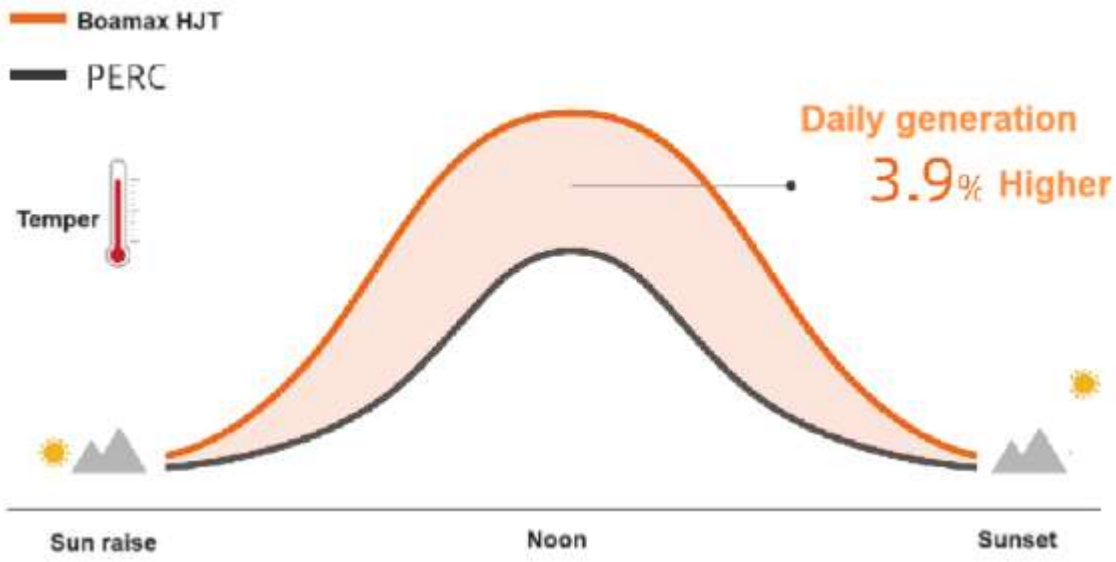


08

Temperature coefficiency

- **Very stable temperature coefficient**

At an operatingof 60°C, HJT modules is 2.8% higher than TOPCon, and 3.5% higher than PERC;

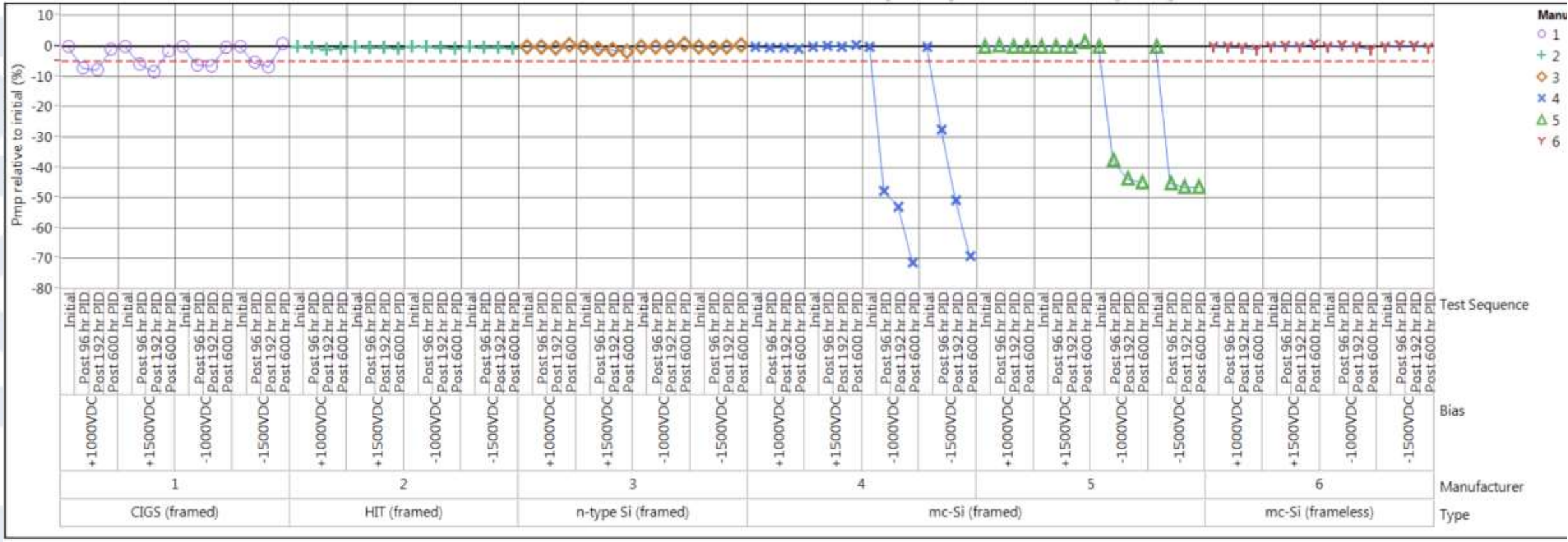


Products	Temper coefficienc %/℃	Pmax 500W PV Powerloss at 65°C	Power loss at high temperatures
Normal Monocrystalline	-0.45	90W	18.0%
Mono PERC	-0.38	76W	15.2%
Boamax HJT	**-0.26**	**52W**	**10.4%**

09

BOAMAX

Attenuation advantage of HJT



BOAMAX

Part.03

Boamax HJT

SUZHOUBOAMAXTECHNOLOGIESGROUPCO .,LTD

Boamax HJT PV module

BOAMAX HJT PV Modules

Non-destructive cutting

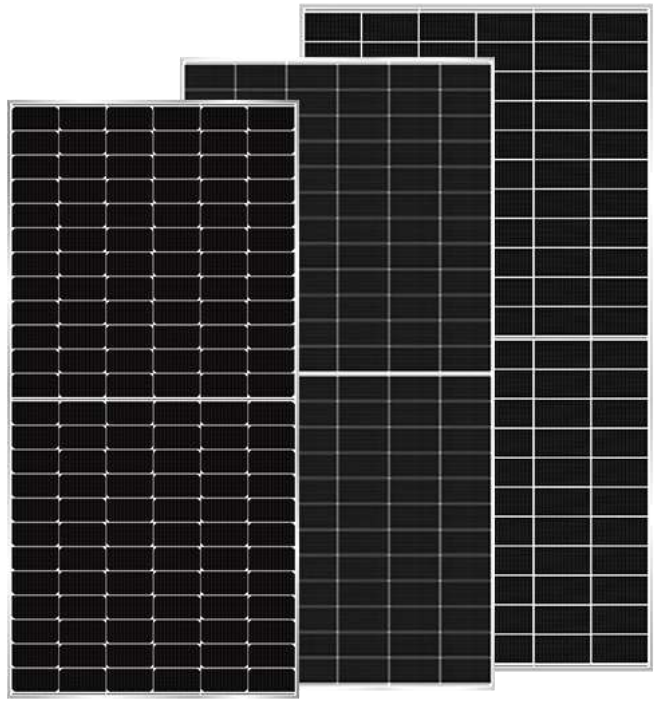
- Non-destructive and smooth cutting surface, no heat-affected area, little impact on battery efficiency

Light transfer film

- Effectively improve UV absorption and improve module efficiency

EPE Sealing

- High water vapor barrier, anti-PID performance, high cross-linking degree, high light transmittance



Butyl rubber seal

- The edges of the components are sealed with butyl glue to provide better water-blocking performance.

Lower attenuation

- The attenuation is 1% in the first year, and the annual attenuation is <0.375% from the next year onwards. Until the 30th year, the power is ≥88%.

Framed double glass design

- Front/back load up to 5400/2400Pa

BOAMAX

Part.03

Application scenarios

BOAMAX

Applications scenarios

- **Building-integrated photovoltaics (BIPV):**

BOAMAX

Applications scenarios

- **Space-constrained applications:**

Applications scenarios

- **Utility-scale solar power plants:**

BOAMAX

Thank you