

Tiger Neo 3.0

Superior Performance in Low Irradiance

Shayne Li | JinkoSolar GPM

Key Factor



320+GW

Global First to Break
Through Shipment

* Until 2025Q1

6 times

No. 1 in Yearly
Shipment

30 times

Word Record

100+GW
N-Type Capability

*The 2025 planning goals

15.5%

2024
Global Market Share

Leading-edge Technology

30 times break the world record
 achieving a conversion efficiency of **27.02%**
 with its high-efficiency N-type Monoco Cell

* As of June 23, 2025



- R&D Concepts
 - Exploration of a new generation
 - R&D of a new generation
 - Mass Production of a new generation

• Core Technology

- Low Oxygen and Low Concentric Circles Rate N-type Monocrystalline Technology
- N-type Silicon Wafer Thinning Technology
- N-type HOT 2.0 Cell Technology
- N-type IBC Cell Technology
- Tiger Neo Module Technology
- BIPV technology, etc.
- Energy storage applications and electric power systems regulation technologies
- Efficient and stable large-area Perovskite/TOPCon tandem cell technology



4400+
Total Patent application



3000
Total Granted Patents



467
TOPCon Licensed Patents



2000
R&D Team



4.4Billion RMB+
R&D Investment in 2024

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Tiger Neo 3.0 Core Tech



Tiger Neo 3.0

ME

Further Improvement on the current conduction efficiency

MAX

Increase Bifi factor 5%+

MCP

Improve Cell eff. 0.5%

FP

Strengthen the power and anti-shading performance

Metalization Enhancement (ME) Technology

1. Cell Efficiency Improvement

- Lower contact resistance
- **Up to 0.5% increase in cell eff.**

2. Enhanced Cell Corrosion Resistance

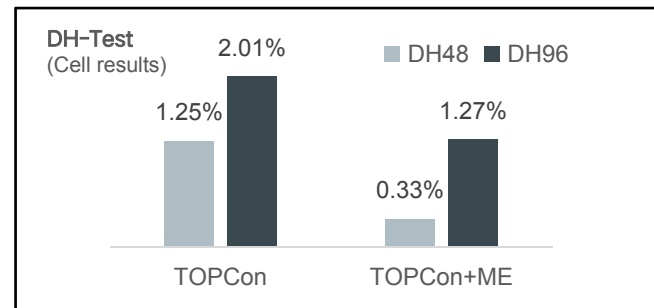
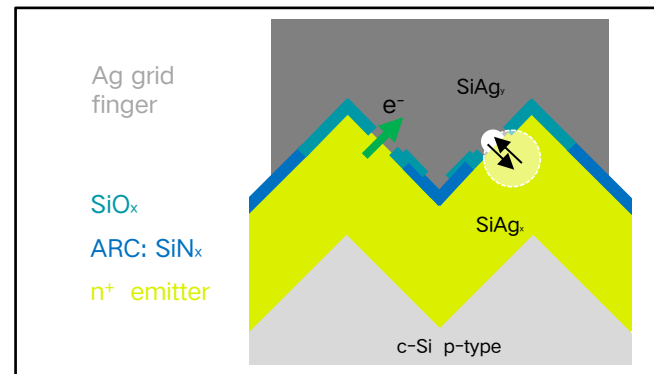
- Reduce Al content , in **Neo 3.0 less than 1% for the paste formulation.**

3. Excellent Module Reliability

- 3x IEC module reliability tested

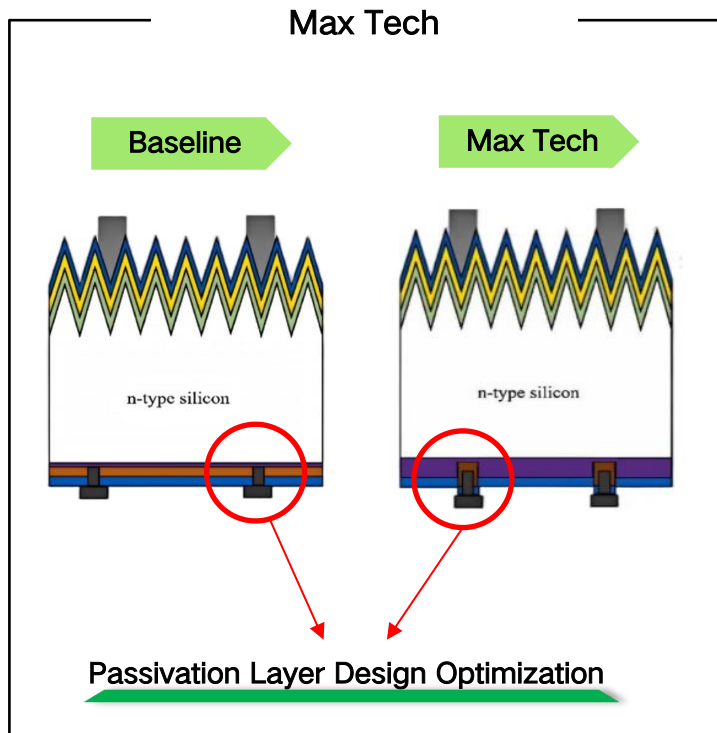
4. Proven Outdoor Energy Generation

- Field tested and real deployments



Jinko MAX Tech — Graphical Enhancement

Precision Cell Engineering



1. Higher Power

Lower contact resistance and parasitic absorption, boosting short - circuit current and cell efficiency.

increasing module power by 4 - 5W.

2. Enhance reliability

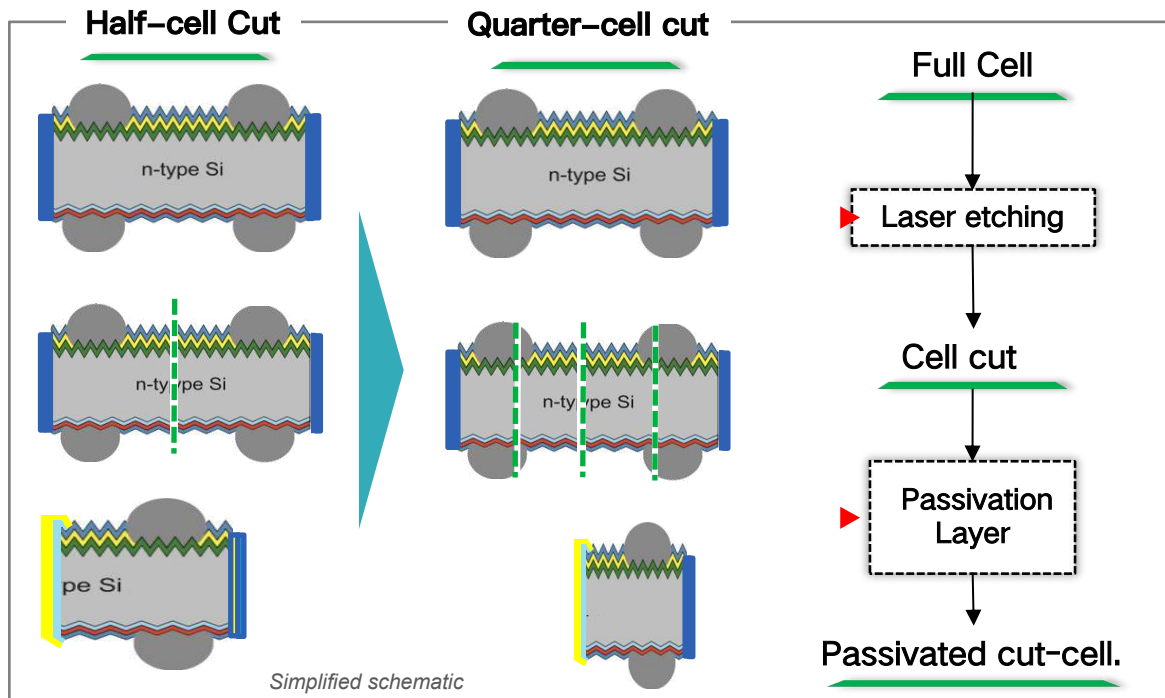
Optimize film layer thickness, reduce environmental impact.

3. Better Bifaciality

Optimized rear design, reduces irradiation loss, improves bifaciality rate, further increasing module power generation.

Jinko Multi Cut Passivation (MCP) Tech

Precision Cell Engineering — Evolved from HCP, now scaled for multi cut



1. Enhanced Power

Prevent edge recombination of minority carriers
Module power increased by 5W+, cell efficiency increased by 0.5%

2. Deep Passivation

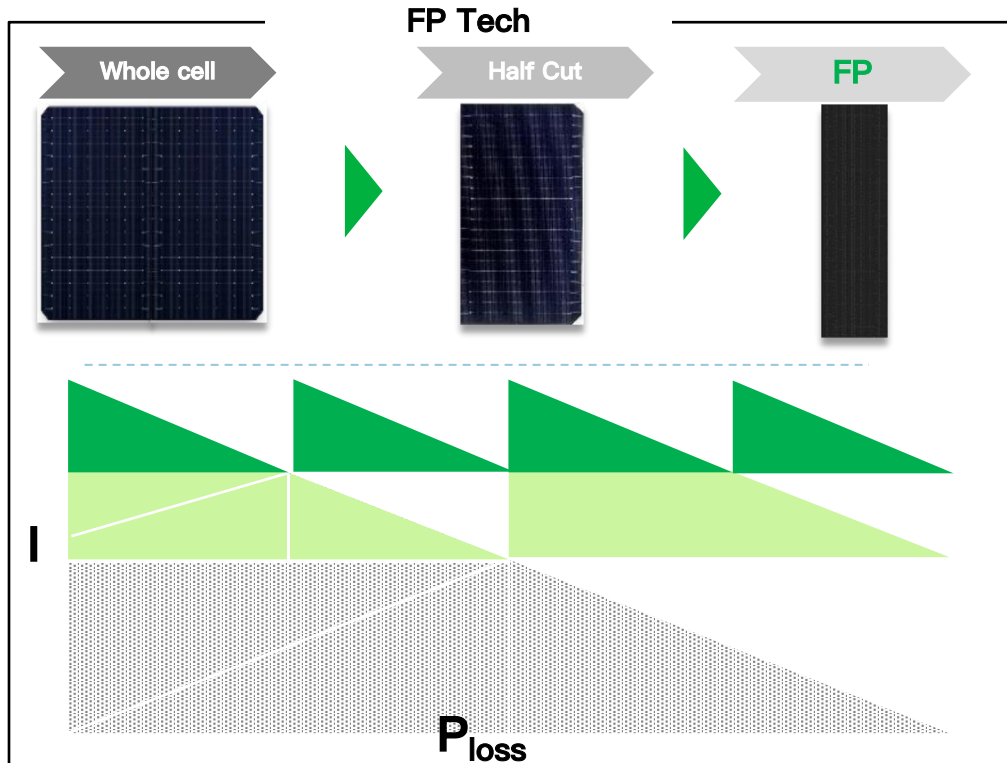
Effective repair of cutting surfaces and defects

3. Enhanced Stability

Effectively improve cell electrical performance

Jinko FP Tech — Multi-cells

Quarter size cell — Resistive Power Loss Reduction: $P_{loss} = I^2 \times R$



*FP Circuit layout (4 in parallel 3 in series) has the patent

1. Higher Power

Better current distribution
 Better efficiency—Reduce internal power loss of the module (less I^2R losses)
increasing module power by 10W.

2. Lower Shading loss

Mitigates the impact of partial shading on overall power generation.

3. Enhance performance

Lower heat generation improving cooling, power performance and mechanical load performance

Jinko Optimized Interconnection

Architecture: Optimizing Active Area

**Higher Power
& Efficiency**

**Less Resistance
Losses**

**Better
Aesthetic**

**Proven
Reliability**

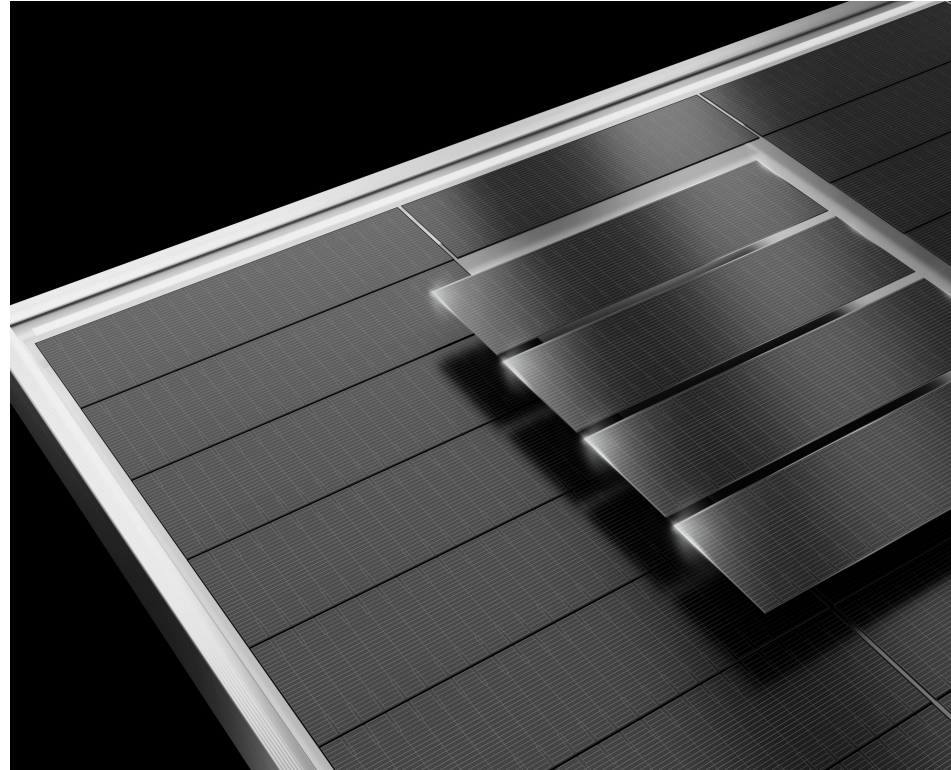


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New Products — Tiger Neo 3.0 Utility

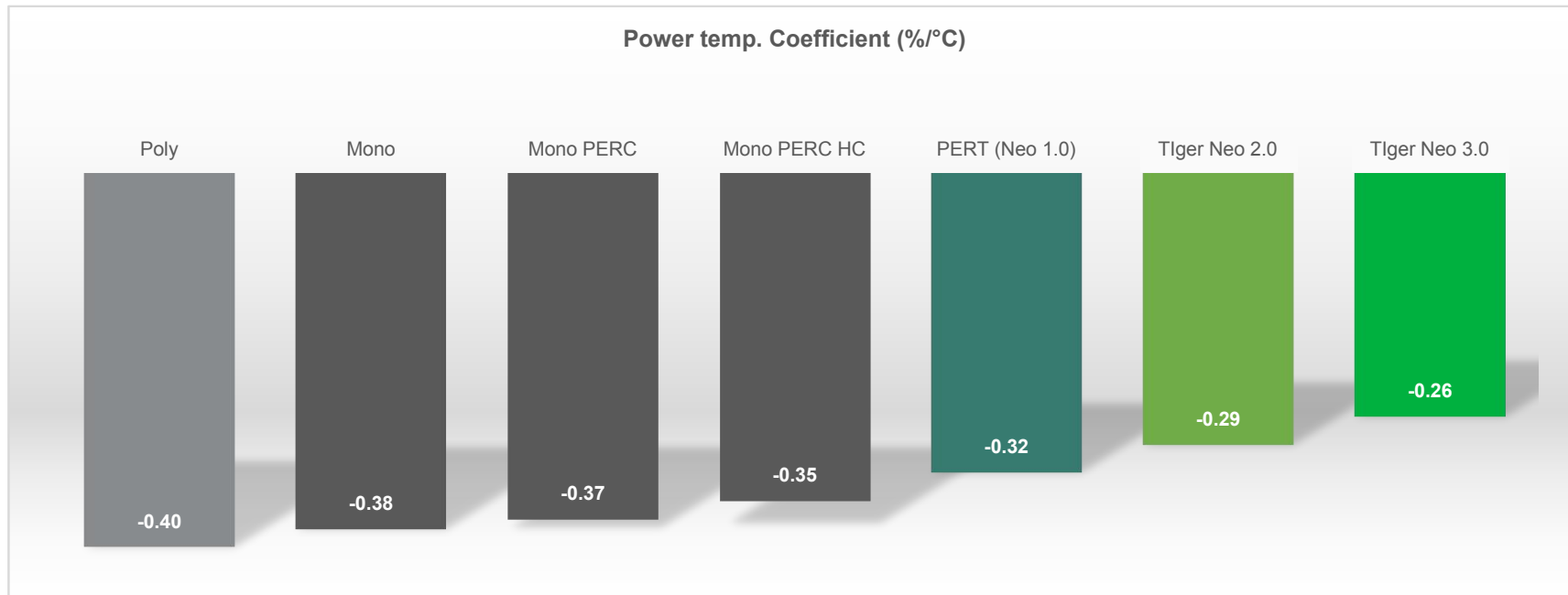
670W

24.8%

Tiger Neo 3.0 Era is Coming

Tiger Neo 3.0 advantage I — Optimized Power Temp Coeff.

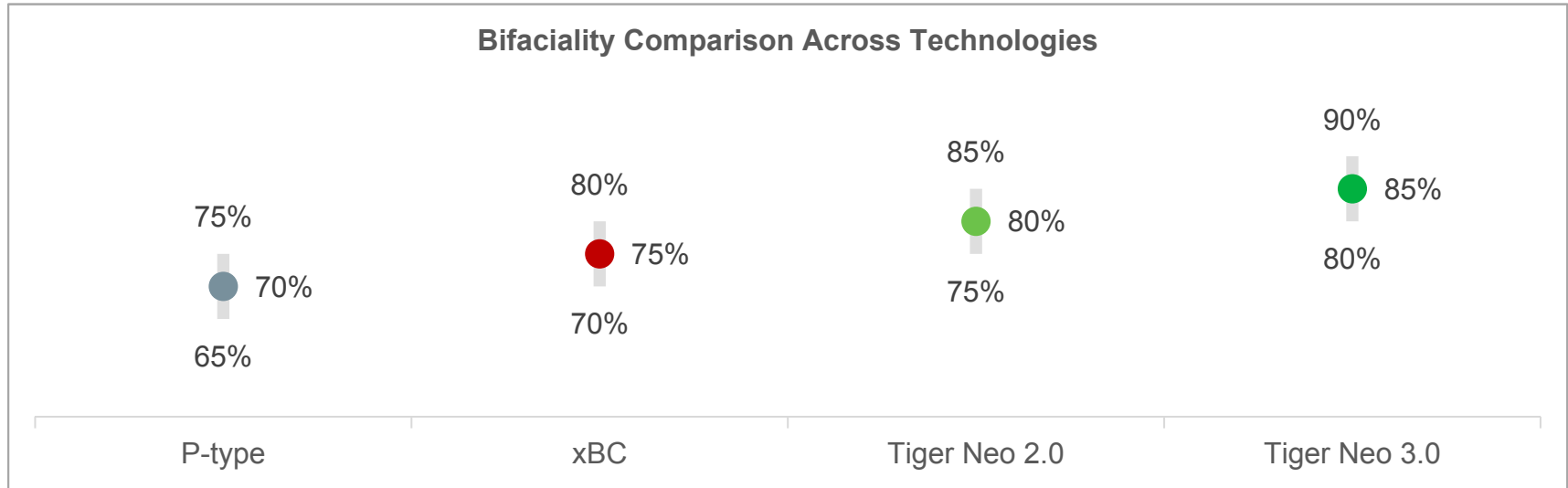
With each generation of PV technology, the power temperature coefficient has steadily improved.



Tiger Neo 3.0 advantage II — Better Bifaciality Factor

While legacy P-type modules and back-contact architectures have hit a plateau, **Jinko's TOPCon technology continues to push bifacial performance further.**

Each 5% bifaciality increasing can achieve more than 0.6% generation gain for the ground station project



Tiger Neo 3.0 advantage III — Advanced Warranty

Tiger Neo 3.0 protects solar investment by one of the most robust warranties on the market:

30 year power warranty

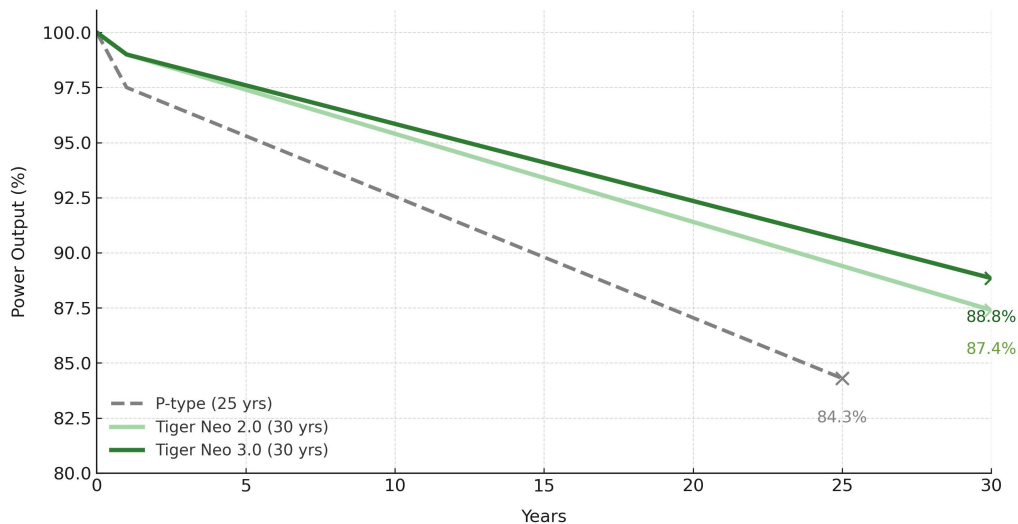
$\leq 1\%$

First year degradation

$\leq -0.35\%$

Annual degradation

**Long-Term Power Assurance
Backed by Proven Degradation Control**

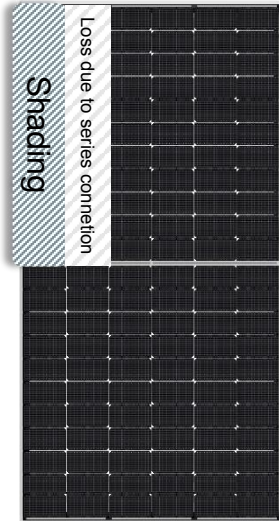


Your Investment, Covered by Industry-Leading Guarantees

Tiger Neo 3.0 advantage IV — Improved Anti-shading Behavior

Other Main Product

3 junction boxes with 1 bypass diode each
3 in total

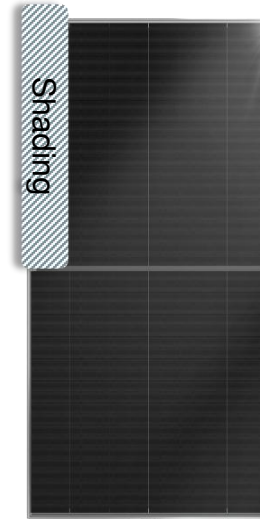


Remaining Power $\approx 83.33\%$



Tiger Neo 3.0

2 junction boxes but still 3 bypass diodes in total



Remaining Power $\approx 91.67\%$

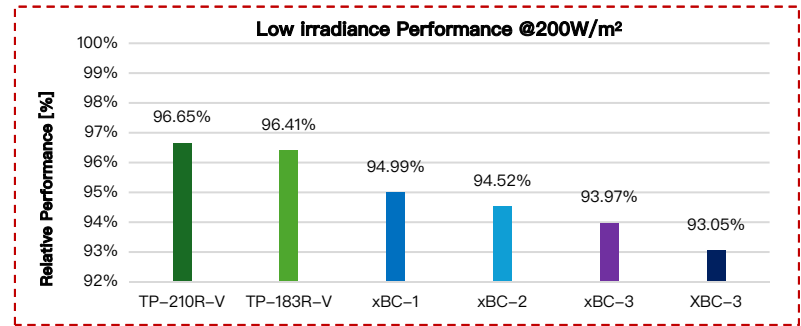
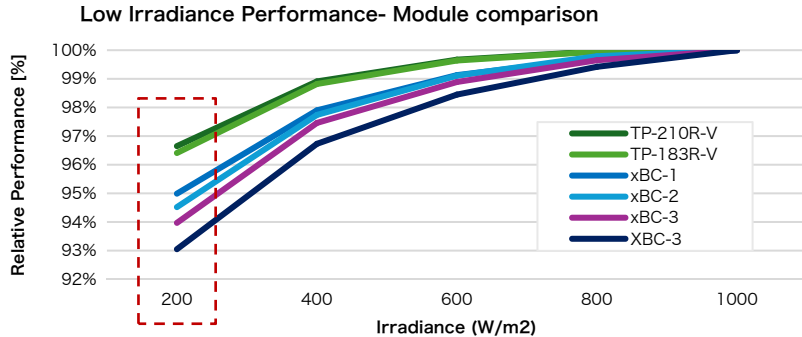
Same shading scenario,
TigerNeo 3.0 produces **about 8.3% more power** than the other main product

Tiger Neo 3.0 advantage V — Better Low Irradiance Performance

□ Laboratory low-irradiance tests show that Jinko TOPCon modules outperform xBC products

module/ Irradiance	TP-210R-V	TP-183R-V	xBC-1	xBC-2	xBC-3	xBC-4
1000	100%	100%	100%	100%	100%	100%
800	99.96%	99.95%	99.72%	99.79%	99.65%	99.42%
600	99.67%	99.64%	99.13%	99.11%	98.89%	98.45%
400	98.91%	98.82%	97.90%	97.74%	97.46%	96.73%
200	96.65%	96.41%	94.99%	94.52%	93.97%	93.05%
Avg	98.80%	98.70%	97.94%	97.79%	97.49%	96.91%

□ Relative performance advantage of ~1.8% to 3.6% under low-irradiance conditions (@200W/m²)



Tiger Neo 3.0 — Product Advantage Summary

Fully Upgraded, Optimized Performance, Start from 25Q4

High Power / efficiency:

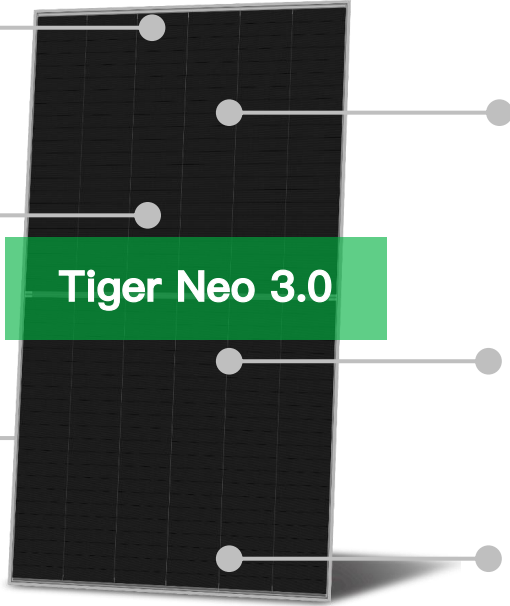
670W / 24.8%

Power Temp coeff.:

-0.29%/°C → **-0.26%/°C**

Advanced Bifaciality factor:

85±5%



Optimized Annual degradation:

-0.4% → **-0.35%**

Improved Anti-shading Behavior:

Produce 8.3% more power

Better low Irradiance Performance:

200W/m² maintain a **higher relative power output**

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Tiger Neo Outdoor Performance — Low Irradiance

Overall Generation per watt for Irradiance (Wh/W)

Irradiance (W/m ²)	Topcon	HJT	xBC-A	xBC-B
0-100	36.65	35.97	29.88	31.88
100-200	74.26	72.70	63.05	65.81
200-300	90.95	88.86	79.28	82.22
300-400	101.88	100.08	90.82	94.28
400-500	113.41	111.53	102.47	106.54
500-600	129.06	126.89	120.19	124.31
600-700	155.34	152.77	148.81	152.60
700-800	192.78	189.84	188.00	190.65
800-900	246.53	242.99	247.54	249.14
900-1000	292.51	288.33	300.78	301.16
1000-1100	172.93	170.52	178.09	177.72
1100-1200	18.83	18.57	20.92	20.82
>1200	2.41	2.36	2.48	2.48
Total	1627.5	1601.4	1572.3	1599.6



Low Irradiance Performance

Power Generation (Wh/W)

Irradiance (W/m ²)	Jinko TOPCon	HJT	xBC-A	xBC-B
Total Generation ≤ 400 W/m ²	303.74	297.61	263.03	274.19
Generation Gain @ ≤ 400 W/m ²	Gain of Jinko TOPCon vs.	2.06%	15.47%	10.78%
Overall Gain @ all irradiance	Gain of Jinko TOPCon vs.	1.61%	3.39%	1.72%



Note:

1. Data Period : Dec.2023~Dec.2024
2. TOPCon and HJT is equivalent to Monofacial module to compared with BC products, their the electricity generation per watt data calculated by deducting the backside generation through normalization.

Outdoor Real Data: CPVT (ISO / IEC 17025 accredited Testing Center)

TIGER Neo

JinKO^{Solar}

Ningxia

VS N-Type-BC
0.99%

Yield Gain

Main features: Strong winds in desert climate

Testing period: May 2025 to June 2025

Module type:
Tiger Neo 72 Bifacial with dual glass
Competitor L's N-type BC Bifacial with dual glass

Installation method: Fixed bracket

Tilt angle: 40 °

Installation height: 1m

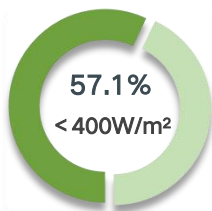
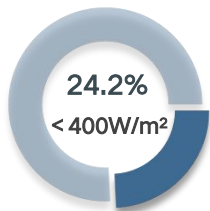


3rd party authority: CPVT

Outdoor Performance Analysis – Ningxia

Total Generation Comparison in June

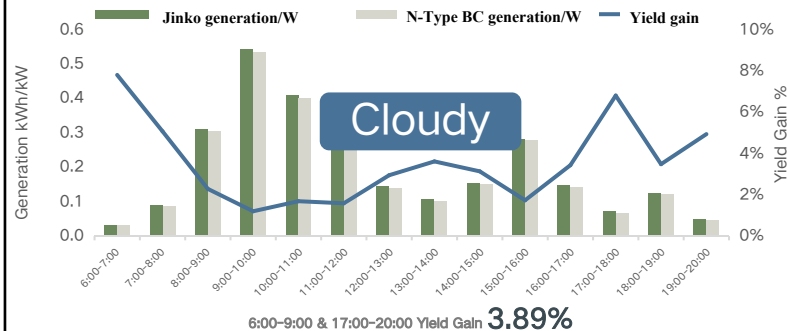
The proportion of **power generation** under low irradiation The proportion of **generation time** under low irradiation



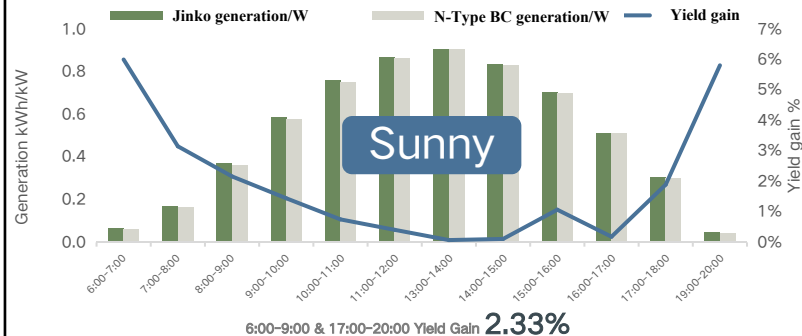
Irradiation (W/m ²)	Jinko TOPcon (kWh/kW)	N-Type BC (kWh/kW)	Jinko Yield Gain
0-100	4.044094143	3.874520349	4.38%
100-200	7.401870447	7.257179848	1.99%
200-300	10.90503322	10.75731289	1.37%
300-400	12.1287118	12.01851403	0.92%

Generation Comparison Based on a single day in June

The power generation of Jinko TOPCon vs N-type BC at different time periods



The power generation of Jinko TOPCon vs N-type BC at different time periods



Even the project location is in Semi Arid Climate, low light performance still plays an important role.

TIGER Neo

Solar
Jinko

HAINAN

VS N-Type-BC

5.11%

Yield Gain

Main features: high humidity, high temperature, high radiation

Testing period: November 2024 to March 2025

Module type:
Tiger Neo 72 Bifacial with dual glass
Competitor A 's N-type BC Bifacial with dual glass

Installation method: Fixed bracket

Tilt angle: 10 °

Ground type: Cement (30%~)

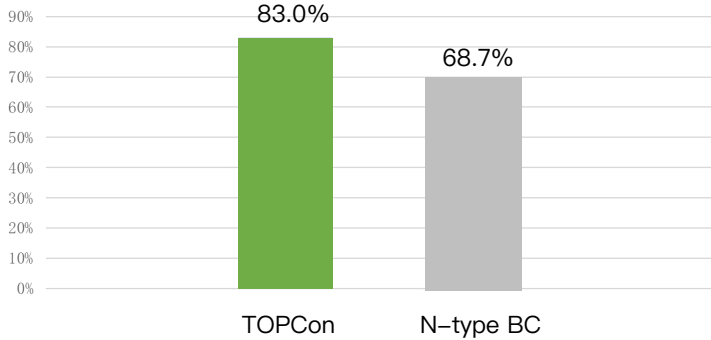
tropical monsoon climate

3rd party authority: CGC

Field test analysis – Hainan

Bifaciality Comparison

Actual average bifaciality



Compared with N-Type BC

- 14.3% bifaciality increase
- 50W+ overall power increase

Yield gain due to bifaciality

1.54%



Low irradiation comparison

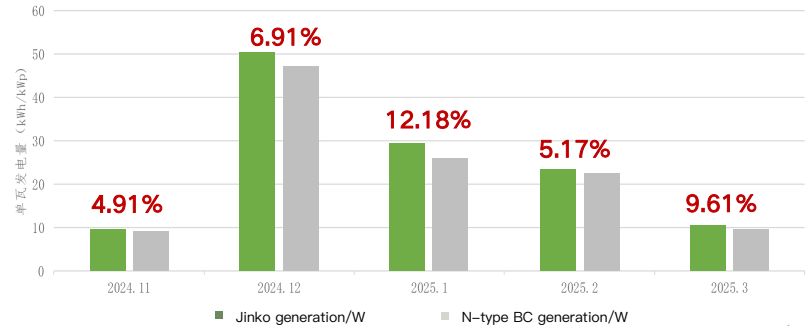
Lowlight period accounting for

42%

63 overcast Days
(Cloudy and rainy)

Month	Sunny	Overcast	Rainy
2024.11	18	8	4
2024.12	17	8	5
2025.1	19	7	4
2025.2	16	9	4
2025.3	17	9	5
Total	87	41	22

TOPCon组件和BC组件弱光单瓦发电量

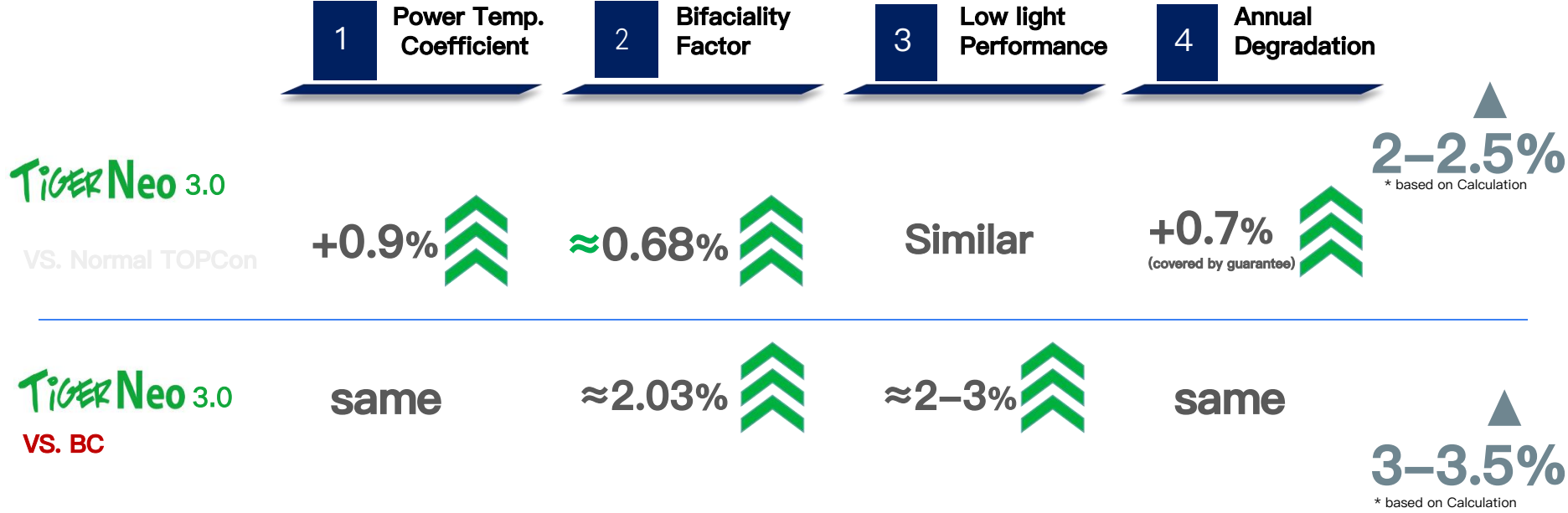


Yield gain in low irradiance environment (100–400W/m2)

7.83%



Tiger Neo 3.0 Generation Gain — All Factors



Tiger Neo 3.0 Generation Advantage

Tiger Neo 3.0 /2.0 vs BC Parameter Comparison

		Tiger Neo 3.0	Tiger Neo 2.0	xBC
	Front Power	670 ↑	645	670
1	Superiorly Improved	Bifaciality Factor	85±5%	80±5%
		Module effi.	24.8%	23.88%
		Module Dimension (mm)	2382x1134x30	2382x1134x30
		Voc	50.98V	50.08V
	Isc	16.22A	16.38A	16.86A
2	Predominance	Low Irradiance Performance (@200W/m ²)	95~97%	95~97%
3	Optimized	Temp. Coeff. for Power	-0.26%/°C	-0.29%/°C
4	Optimized	Annual Degradation	-0.35%/°C	-0.4%/°C

Thanks !

Tiger Neo 3.0

Superior Performance in Low Irradiance Conditions

Time: 2pm BST / 3pm CEST

Sponsored by 



Shayne Li
Product Senior Manager





MODERATED BY
Will Norman
Senior Reporter