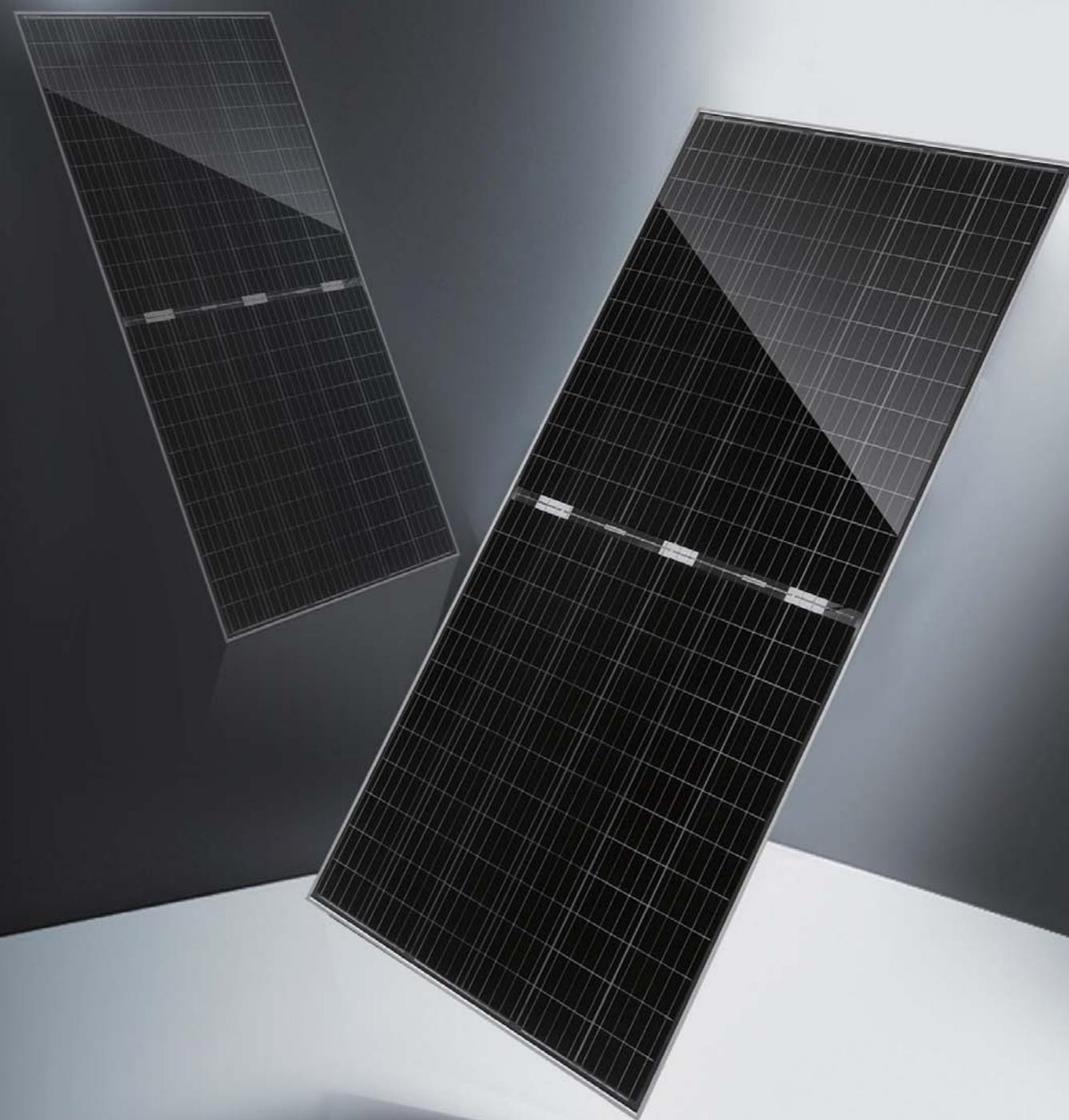
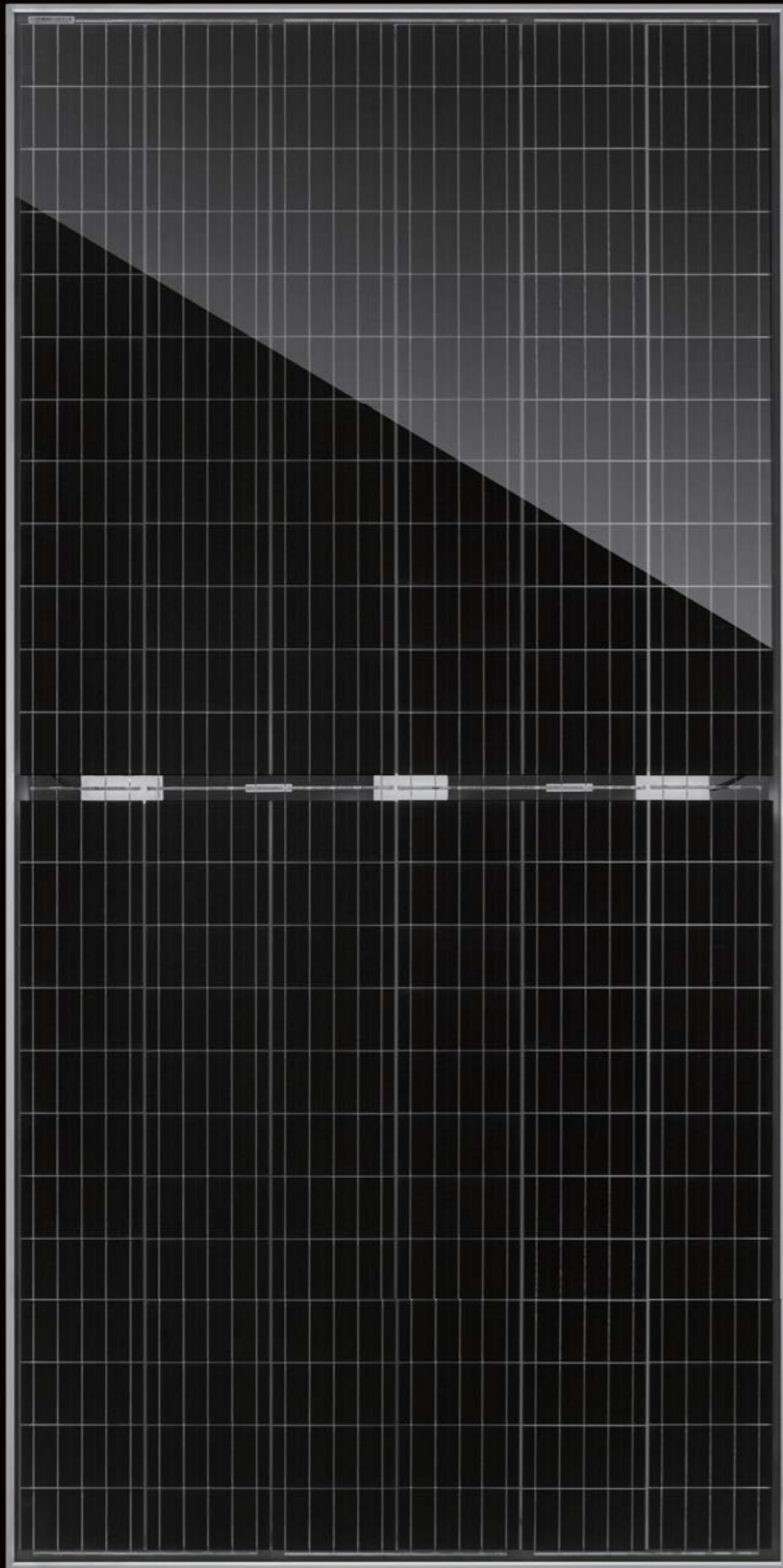


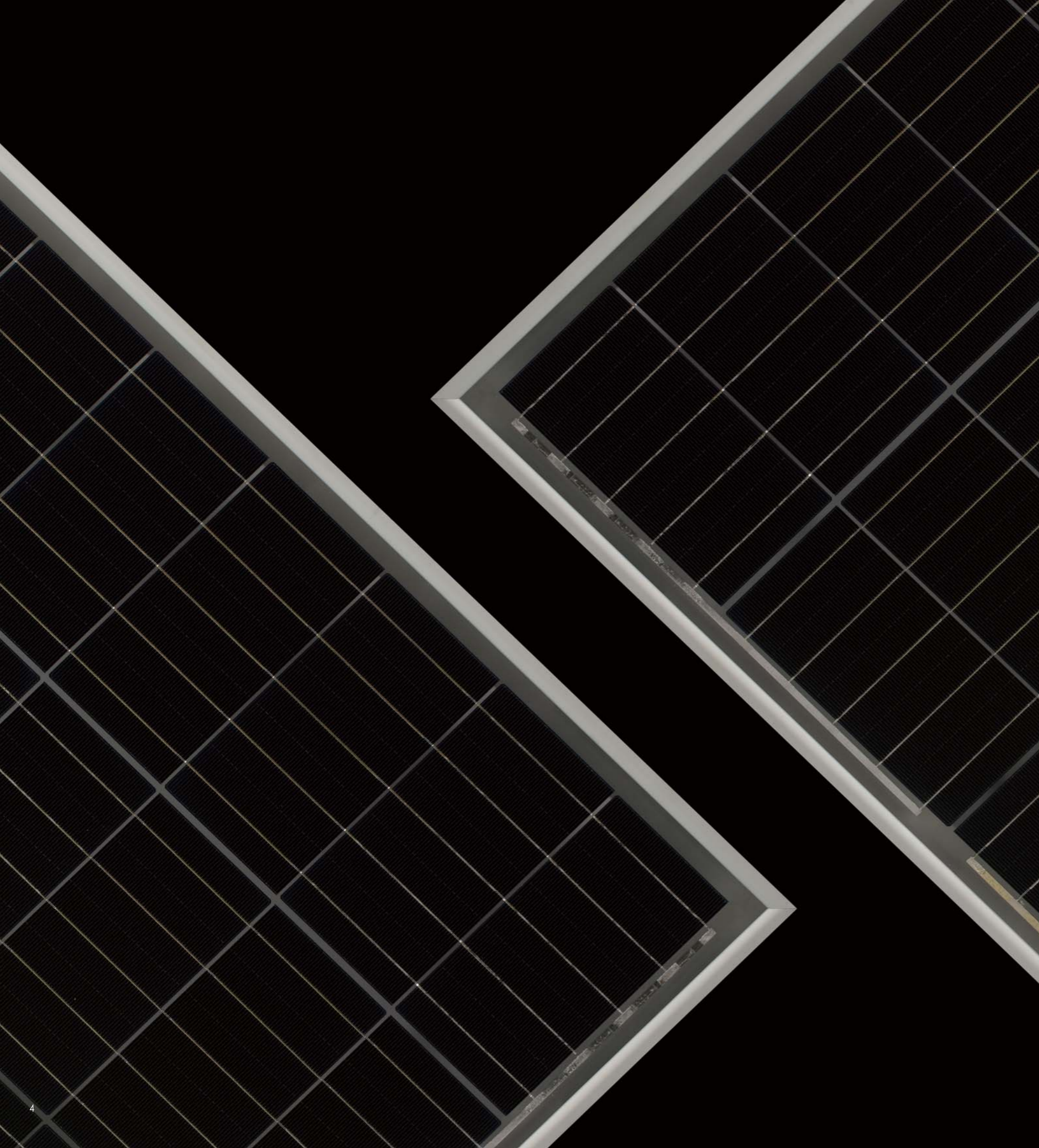
Swan Bifacial Module





Bifacial Energy Generation

Up to 20% energy gain from the rear-side



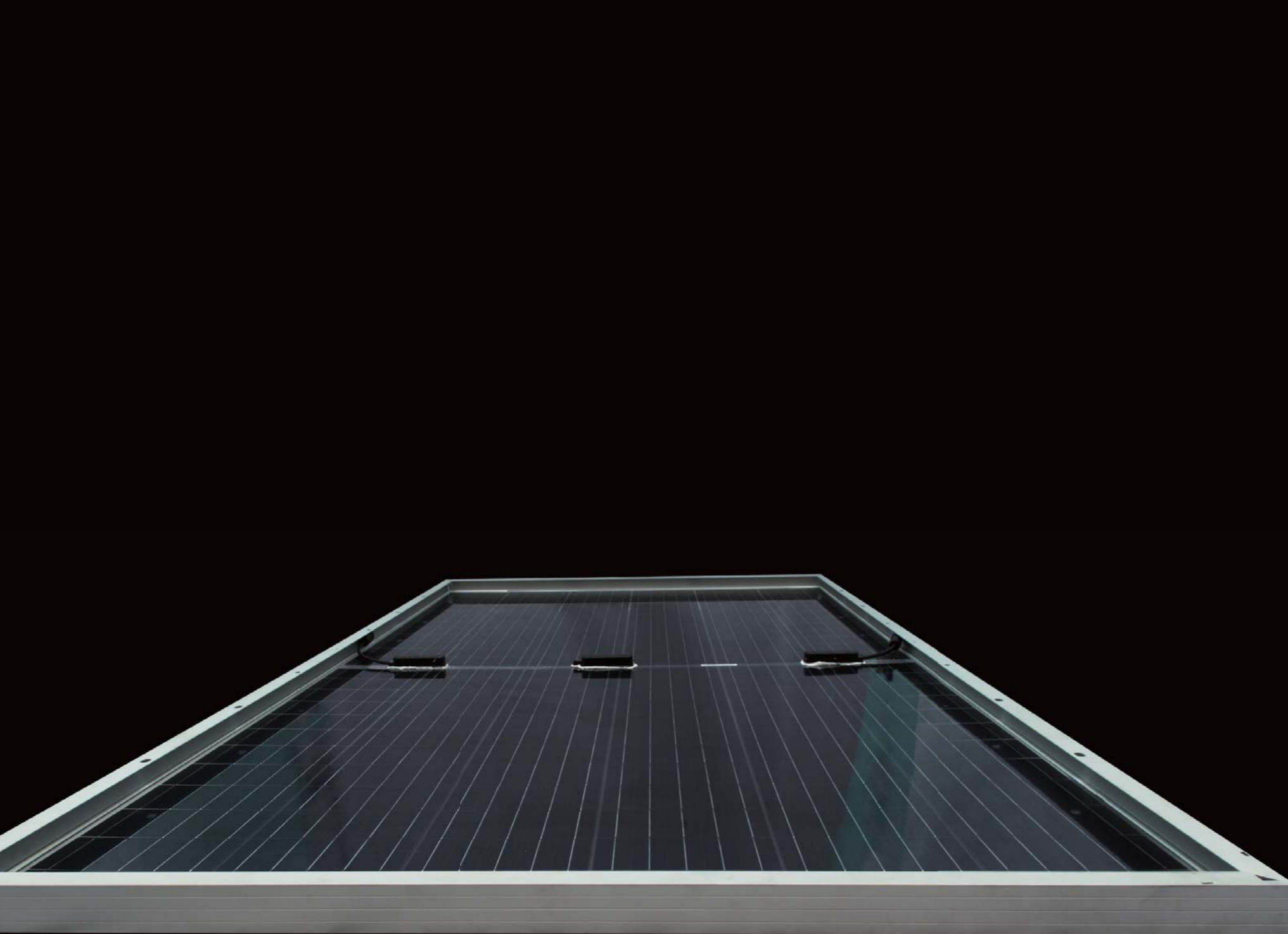
More Power

Up to 435W
(front and rear side)



Higher Structure Strength

Less prone to bending and cracking during transportation and installation

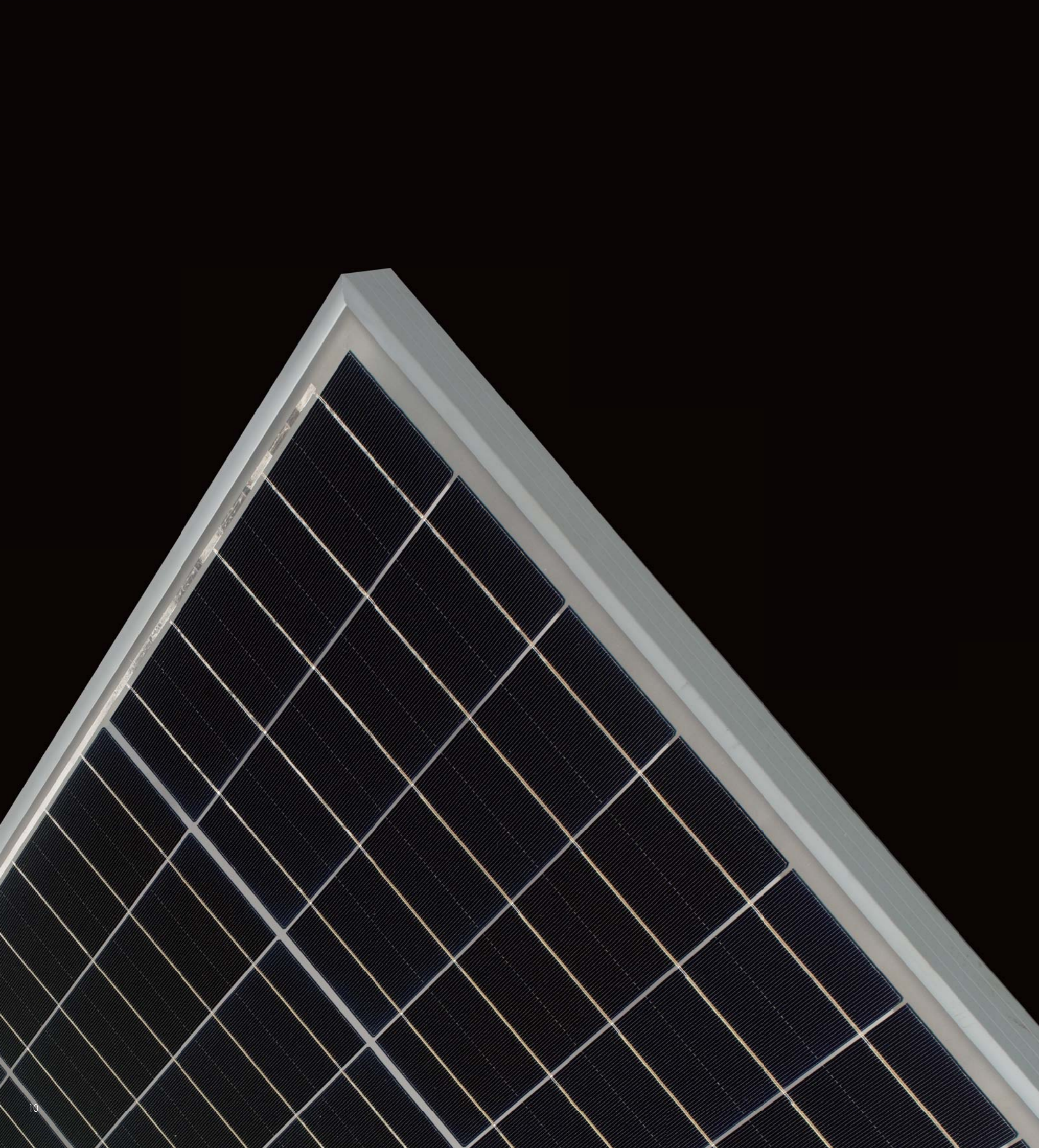


Light-Weight, Easy to Install

Decrease of labor costs
by 20% (related to module
installation)

Reduction of BOS cost
by 3%

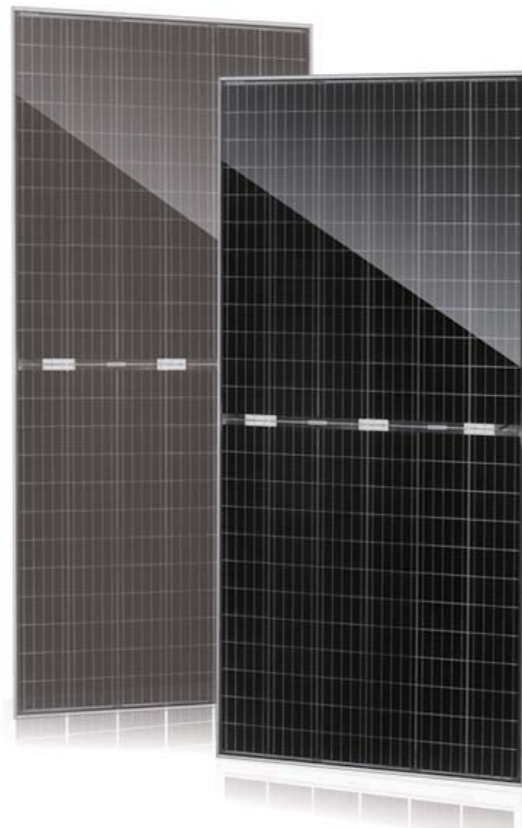
Minimizing LCOE and
maximizing IRR



Enhanced Reliability

30-year PV module
performance warranty

JinkoSolar Swan Bifacial Module



Product Profile

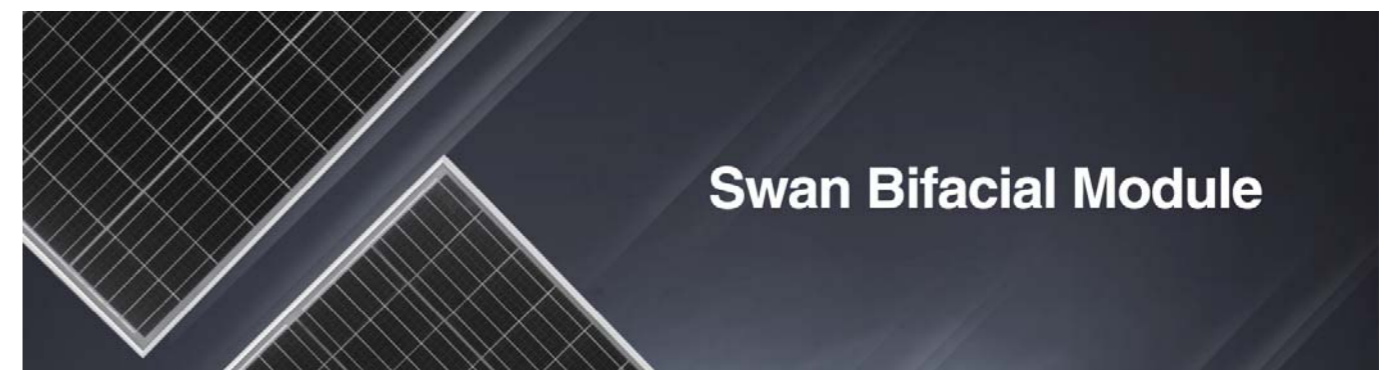
Jinko's bifacial module with transparent backsheet has been developed out of the necessity to support the energy market transition from feed-in tariffs and governmental subsidies towards IPP/PPA schemes and grid parity scenario, which requires maximizing kWh yield and PV plant performance while limiting complexity. Bifacial technology is at present the solution that allows a step change in LCOE reduction.

Swan module achieves the same power output and rear-side power gain as with a dual-glass bifacial module, combining the benefits and extra yield of bifacial technology and the simplicity and easy installation of standard-glass backsheet modules. It reduces BOS costs thanks to its lighter weight and easier installation method which is identical to traditional glass-backsheet, framed modules.

Technological Advancement

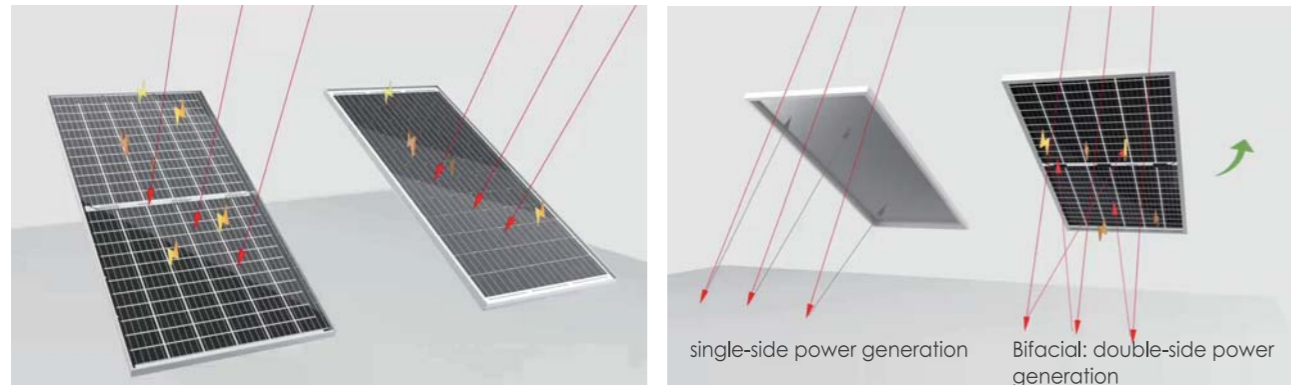
The p-type bifacial big cells module with DuPont™ Clear Tedlar® technology is produced for the first time in the market by Jinko and represents the union between bifacial technological advancement and standard module structure simplicity. Swan uses high-efficiency Jinko Solar high performance Mono big cell technology which enables bifacial module to reach high power output. Swan module production is highly compatible with standard production processes, thus GW-scale capacity is achievable at competitive manufacturing costs.

Cheetah bifacial module with 158.75mm cell size can reach up to 400Wp front side, also combined with Jinko half-cell technology, which reduces power loss and the possibility of hot spots, enabling to improve the module power and reliability. Bifacial with transparent backsheet assures lightweight modules like traditional glass-backsheet laminates and the framed structure simplifies their handling and installation, while mesh clear backsheet improves the internal reflection in the glass-cell-backsheet interlayered structure.



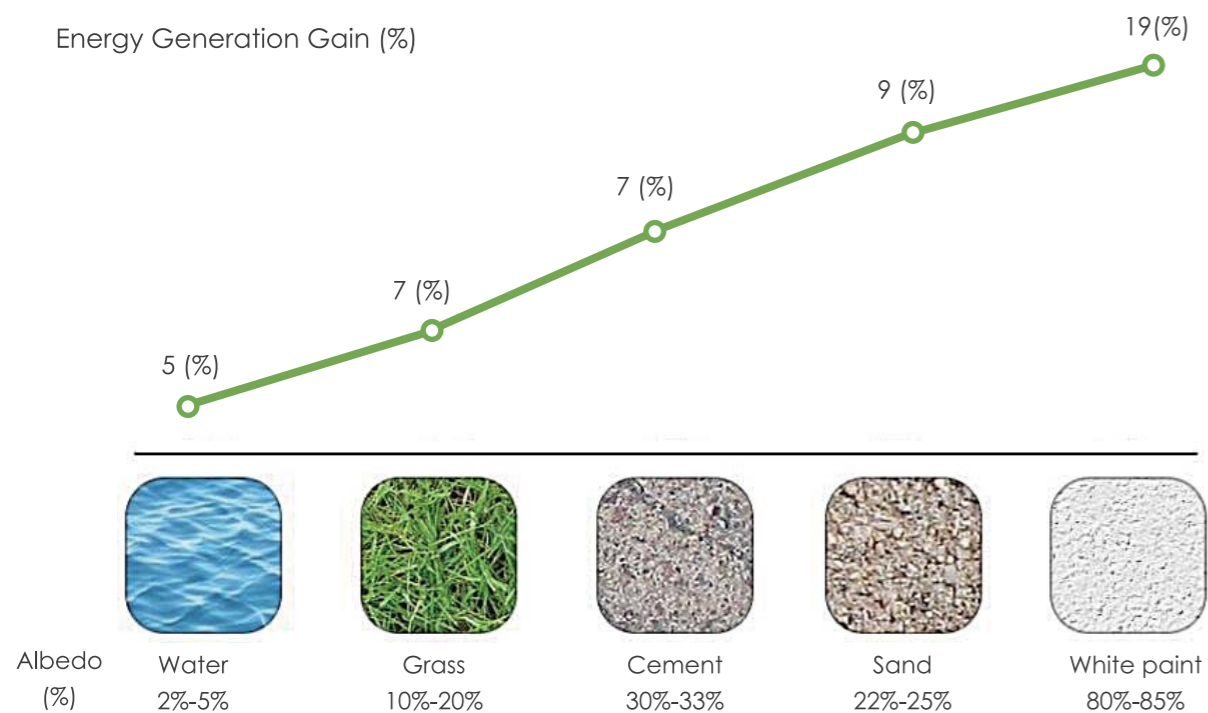
Technological Benefits to Ensure High IRR

1. Bifacial energy generation



Up to 20% power gain depending on albedo and PV system design

Real Energy Generation Gain



2. Lower LCOE

- > 3% BOS cost savings ,
- > 20% reduction of labor cost related to module installation



Bifacial module with transparent backsheet



Bifacial module with dual glass



Saving labor cost related to module installation by over 20% using bifacial modules with transparent backsheet!

-> 15% mounting structure cost saving

Bifacial with transparent backsheet



- Fewer supporting structures
- Compatible with the system of monofacial modules;
- Saving more than 15% mounting construction cost

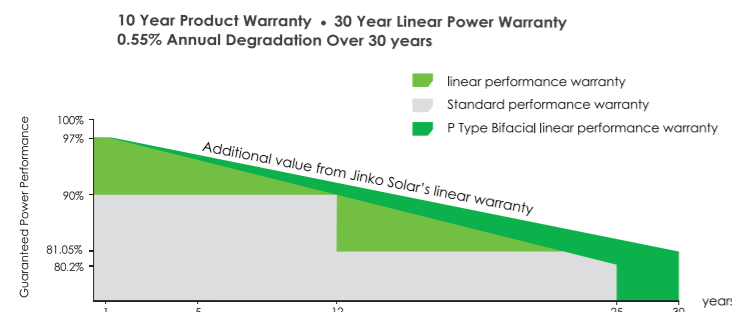
Bifacial with dual glass



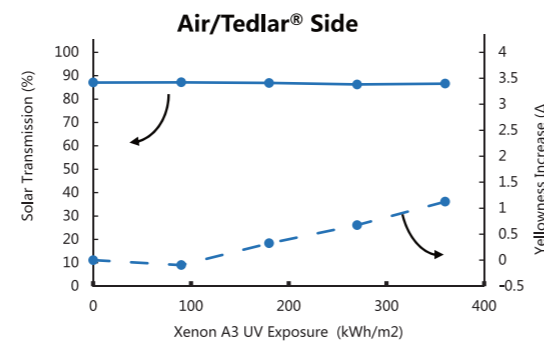
- More supporting structures
- Incompatible with the system of monofacial modules;
- Stronger load-bearing structure is requested

3. Enhanced Reliability of DuPont Clear Tedlar® Backsheet

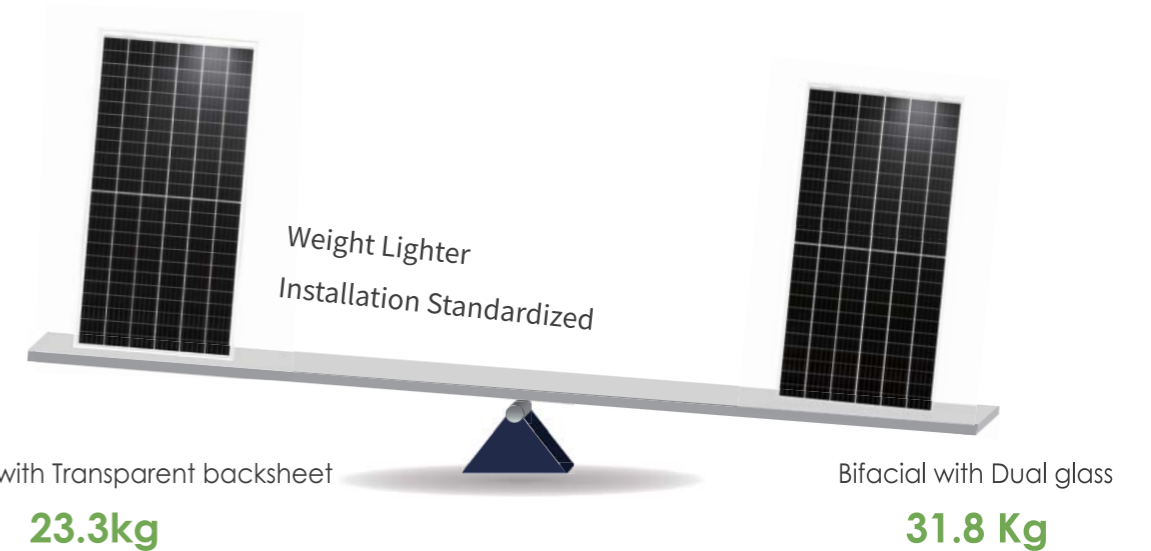
LINEAR PERFORMANCE WARRANTY



30-year PV module performance warranty .(high and stable visible-light transmission rate around 90%, after 300 kWh/m2 UV exposure)

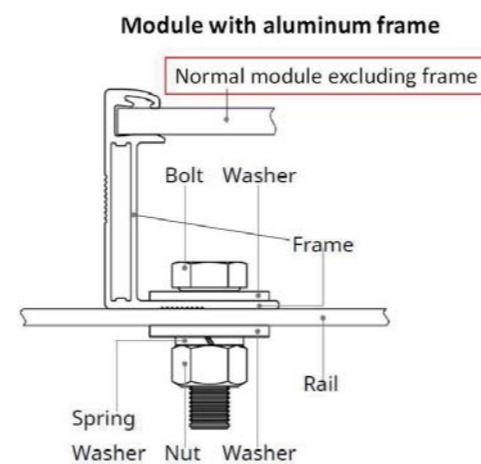


5. Light-weight , easy to install



4. Frame Design - Higher structure strength

Frame Design → Common installation method



Installation convenience

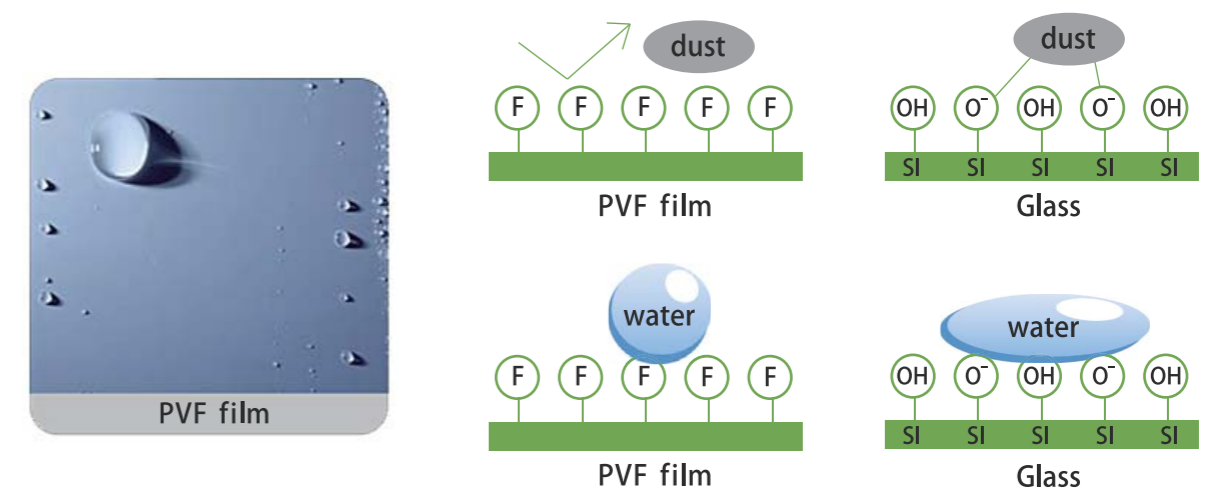
Labor Cost

Mounting Construction Cost

Framed modules are less prone to bending and cracking during transportation and installation than frameless ones.

6. Superior stain resistance

The hydrophobic surface of the transparent DuPont Tedlar film backsheet outer layer, offers excellent anti-staining performance, making cleaning of the modules easier, and reducing O&M costs and reducing water waste.



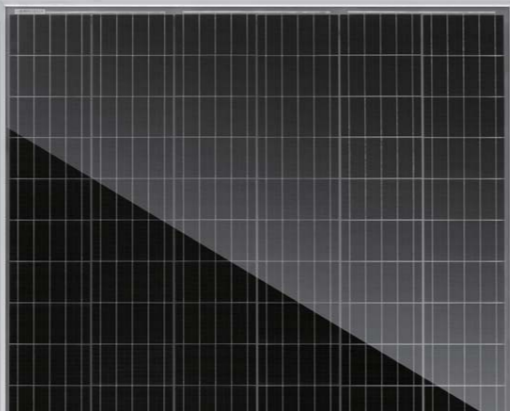
Swan Bifacial HC 60M 315-335 Watt

MONOCRYSTALLINE MODULE

Positive power tolerance of 0~+3%

ISO9001:2008, ISO14001:2004, OHSAS18001
certified factory.

IEC61215, IEC61730 certified products.



KEY FEATURES



5 Busbar Solar Cell

5 busbar solar cell adopts new technology to improve the efficiency of modules, offers a better aesthetic appearance, making it perfect for rooftop installation.



PID FREE:

Excellent Anti-PID performance guarantee limited power degradation for mass production.



Higher Lifetime Power Yield:

0.55% annual power degradation
30 year linear power warranty



Saving BOS Cost:

Light-weight design for easy installation and low BOS cost



Higher power output:

Module power increases 5-25% generally (per different reflective condition)
lower LCOE and higher IRR



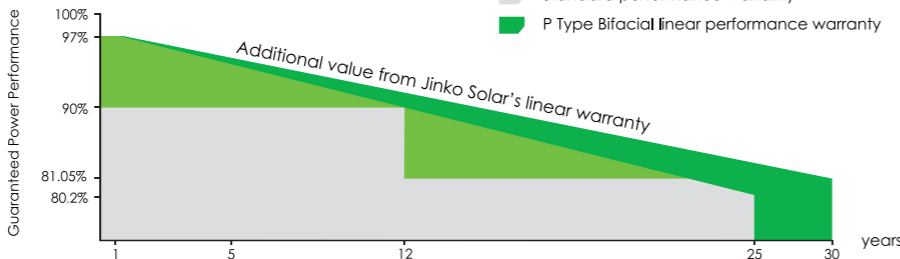
Better low-light performance:

Excellent performance in low-light environments
(e.g. early morning, dusk, and cloud, etc.)

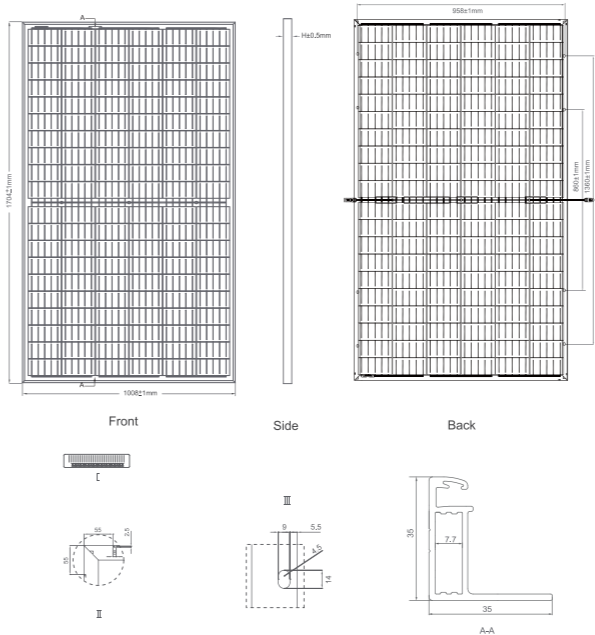
LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty • 30 Year Linear Power Warranty
0.55% Annual Degradation Over 30 years

- linear performance warranty
- Standard performance warranty
- P Type Bifacial linear performance warranty



Engineering Drawings

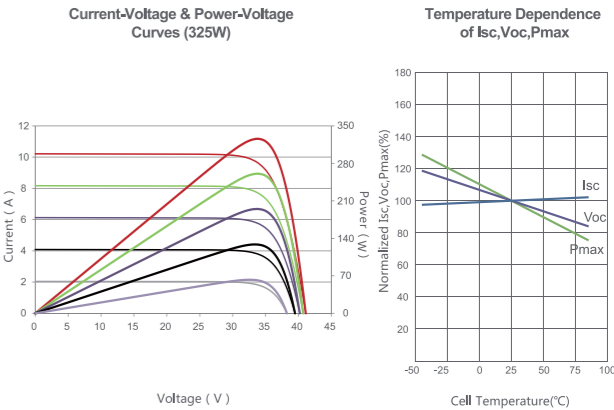


Packaging Configuration

(Two pallets = One stack)

30pcs/pallets, 60pcs/stack, 780pcs/ 40'HQ Container

Electrical Performance & Temperature Dependence



Mechanical Characteristics

Cell Type	Mono PERC 158.75×158.75mm
No. of cells	120 (6×20)
Dimensions	1704×1008×35mm (67.13×39.69×1.38 inch)
Weight	19.5kg (43.0 lbs)
Front Glass	3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	TUV 1×4.0mm ² (+): 250mm, (-): 150mm or Customized Length

SPECIFICATIONS

Module Type	JKM315M-60H-TV		JKM320M-60H-TV		JKM325M-60H-TV		JKM330M-60H-TV		JKM335M-60H-TV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	315Wp	233Wp	320Wp	237Wp	325Wp	240Wp	330Wp	244Wp	335Wp	248Wp
Maximum Power Voltage (Vmp)	32.8V	29.8V	33.0V	30.1V	33.2V	30.2V	33.4V	30.4V	33.6V	30.6V
Maximum Power Current (Imp)	9.61A	7.83A	9.70A	7.89A	9.79A	7.95A	9.89A	8.03A	9.98A	8.11A
Open-circuit Voltage (Voc)	40.7V	37.5V	40.9V	37.8V	41.1V	38.0V	41.3V	38.1V	41.5V	38.3V
Short-circuit Current (Isc)	10.06A	8.15A	10.13A	8.21A	10.21A	8.27A	10.30A	8.35A	10.41A	8.44A
Module Efficiency STC (%)	18.33%		18.62%		18.91%		19.20%		19.49%	
Operating Temperature (°C)	-40°C~+85°C									
Maximum system voltage	1500VDC (IEC)									
Maximum series fuse rating	20A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.36%/°C									
Temperature coefficients of Voc	-0.30%/°C									
Temperature coefficients of Isc	0.05%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									
Refer. Bifacial Factor	70±5%									

BIFACIAL OUTPUT-REARSIDE POWER GAIN

		331Wp	336Wp	341Wp	347Wp	352Wp
5%	Maximum Power (Pmax)	331Wp	336Wp	341Wp	347Wp	352Wp
	Module Efficiency STC (%)	19.24%	19.55%	19.86%	20.16%	20.47%
15%	Maximum Power (Pmax)	362Wp	368Wp	374Wp	380Wp	385Wp
	Module Efficiency STC (%)	21.08%	21.41%	21.75%	22.08%	22.42%
25%	Maximum Power (Pmax)	394Wp	400Wp	406Wp	413Wp	419Wp
	Module Efficiency STC (%)	22.91%	23.27%	23.64%	24.00%	24.37%

* STC: ☀ Irradiance 1000W/m² 📐 Cell Temperature 25°C ☁ AM=1.5
NOCT: ☀ Irradiance 800W/m² 📐 Ambient Temperature 20°C ☁ AM=1.5 🌀 Wind Speed 1m/s

* Power measurement tolerance: ± 3%

The company reserves the final right for explanation on any of the information presented hereby. JKM315-335M-60H-TV-F35-D4-EN

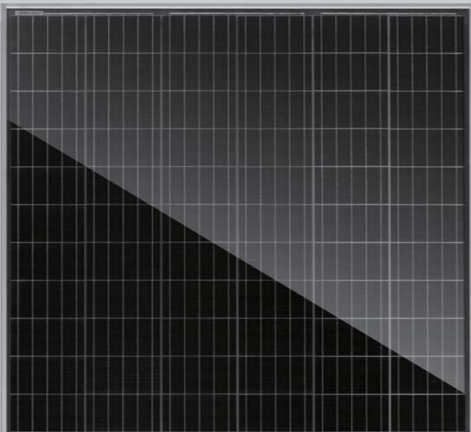
Swan Bifacial HC 72M 380-400 Watt

MONOCRYSTALLINE MODULE

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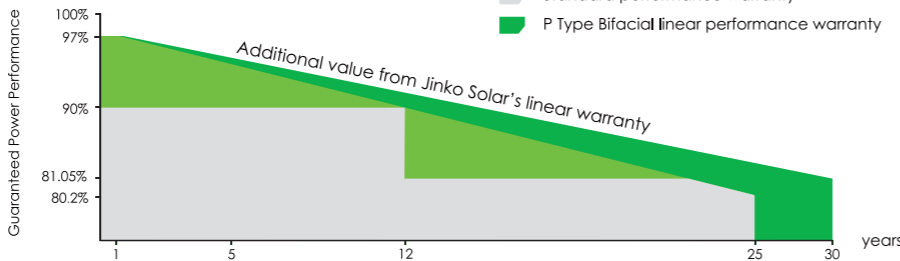
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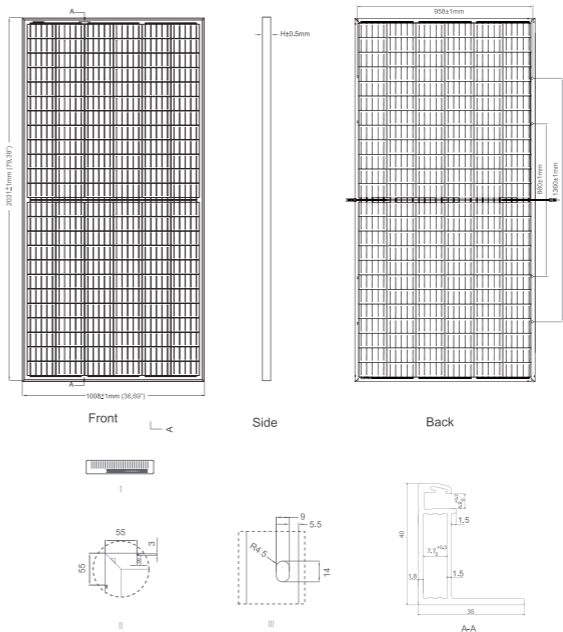
LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty • 30 Year Linear Power Warranty
0.55% Annual Degradation Over 30 years

- Linear performance warranty
- Standard performance warranty
- P Type Bifacial linear performance warranty



Engineering Drawings

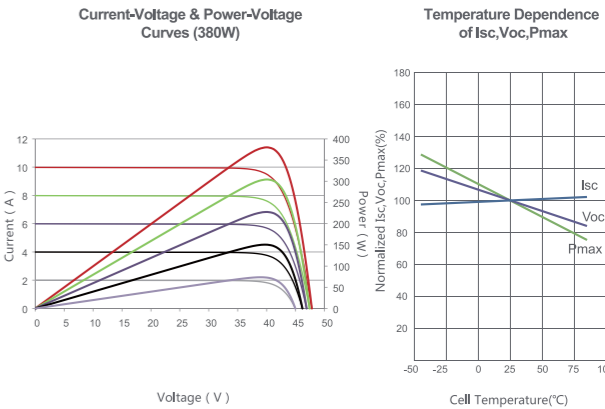


Packaging Configuration

(Two pallets = One stack)

26pcs/pallets, 52pcs/stack, 572pcs/ 40'HQ Container

Electrical Performance & Temperature Dependence



Mechanical Characteristics

Cell Type	Mono PERC 158.75×158.75mm
No.of cells	144 (6×24)
Dimensions	2031×1008×40mm (79.96×39.69×1.57 inch)
Weight	23.3 kg (51.3 lbs)
Front Glass	3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	TUV 1×4.0mm² (+): 250mm , (-): 150 mm or Customized Length

SPECIFICATIONS

Module Type	JKM380M-72H-TV		JKM385M-72H-TV		JKM390M-72H-TV		JKM395M-72H-TV		JKM400M-72H-TV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	380Wp	282Wp	385Wp	285Wp	390Wp	289Wp	395Wp	293Wp	400Wp	296Wp
Maximum Power Voltage (Vmp)	40.0V	36.4V	40.3V	36.6V	40.6V	36.8V	40.8V	37.0V	41.0V	37.2V
Maximum Power Current (Imp)	9.50A	7.75A	9.56A	7.80A	9.62A	7.86A	9.69A	7.92A	9.76A	7.97A
Open-circuit Voltage (Voc)	47.8V	44.0V	48.1V	44.2V	48.3V	44.4V	48.5V	44.6V	48.8V	44.8V
Short-circuit Current (Isc)	9.98A	8.08A	10.04A	8.13A	10.11A	8.18A	10.17A	8.24A	10.24A	8.29A
Module Efficiency STC (%)	18.56%		18.81%		19.05%		19.29%		19.54%	
Operating Temperature(°C)	-40°C~+85°C									
Maximum system voltage	1500VDC (IEC)									
Maximum series fuse rating	20A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.36%/°C									
Temperature coefficients of Voc	-0.30%/°C									
Temperature coefficients of Isc	0.05%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									
Refer. Bifacial Factor	70±5%									

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax)	399Wp	404Wp	410Wp	415Wp	420Wp
	Module Efficiency STC (%)	19.49%	19.75%	20.00%	20.26%	20.52%
15%	Maximum Power (Pmax)	437Wp	443Wp	449Wp	454Wp	460Wp
	Module Efficiency STC (%)	21.35%	21.63%	21.91%	22.19%	22.47%
25%	Maximum Power (Pmax)	475Wp	481Wp	488Wp	494Wp	500Wp
	Module Efficiency STC (%)	23.20%	23.51%	23.81%	24.12%	24.42%

* STC: ☀ Irradiance 1000W/m² 📏 Cell Temperature 25°C ☁ AM=1.5
NOCT: ☀ Irradiance 800W/m² 📏 Ambient Temperature 20°C ☁ AM=1.5 🌀 Wind Speed 1m/s

* Power measurement tolerance: ± 3%

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