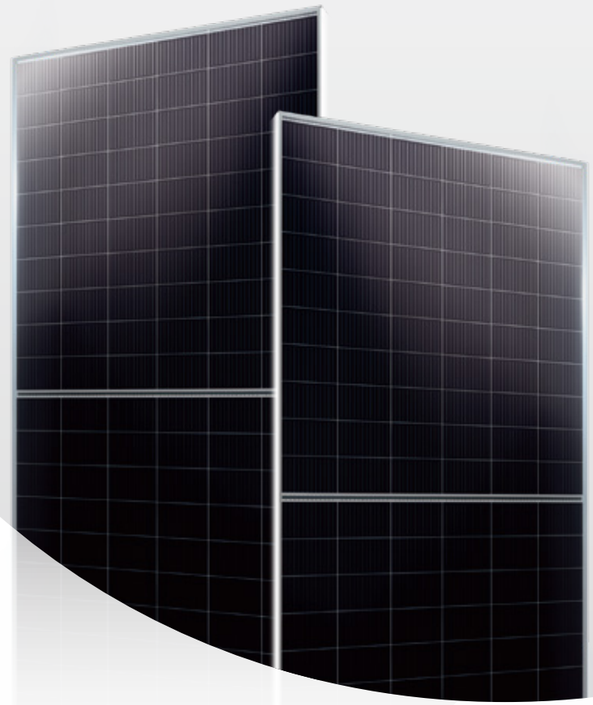
BYD Solar Power

LIGHT UP THE WORLD WITH GREEN ENERGY



AURORA PRODUCT MANUAL

LIGHT UP THE WORLD WITH GREEN ENERGY

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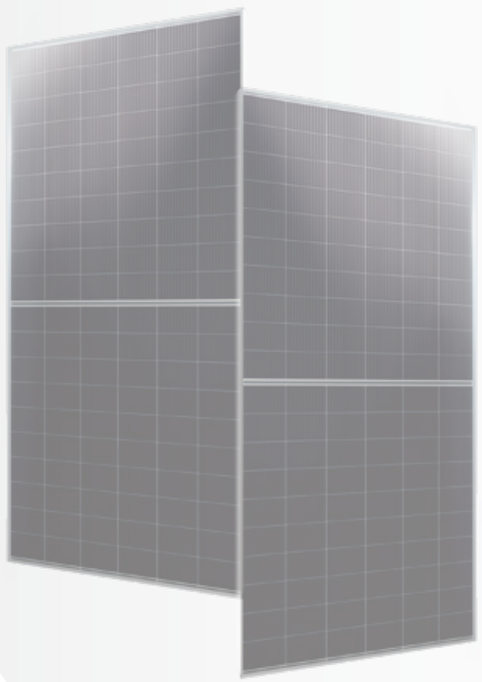


ABOUT BYD

BYD, founded in 1995, is a high-tech enterprise committed to meet people's yearning for a better life with technological innovation, with revenue and total market value exceeding RMB 100 billion.

After more than 20 years of rapid development, BYD has played a pivotal role in the fields of automobiles, rail transit, new energy and electronics. A comprehensive, zero-emission new energy overall solution has been formed from the harvest, storage, and application of energy.

Development Concept

BYD has been always adhered to the technology-oriented and innovation-led development concept and has achieved comprehensive development by R&D strength and innovative development model.

Sustained Growth

2022 Revenue

420 billion yuan

The compound annual growth rate

56%

Social Responsibility

From pollution control to congestion control, BYD provides innovative technologies and solutions to reduce global warming.

Approximately reduce carbon dioxide emissions every day

35,088,923 kg

Equivalent to planting trees every day

2,924,077 trees

Enterprise Honor

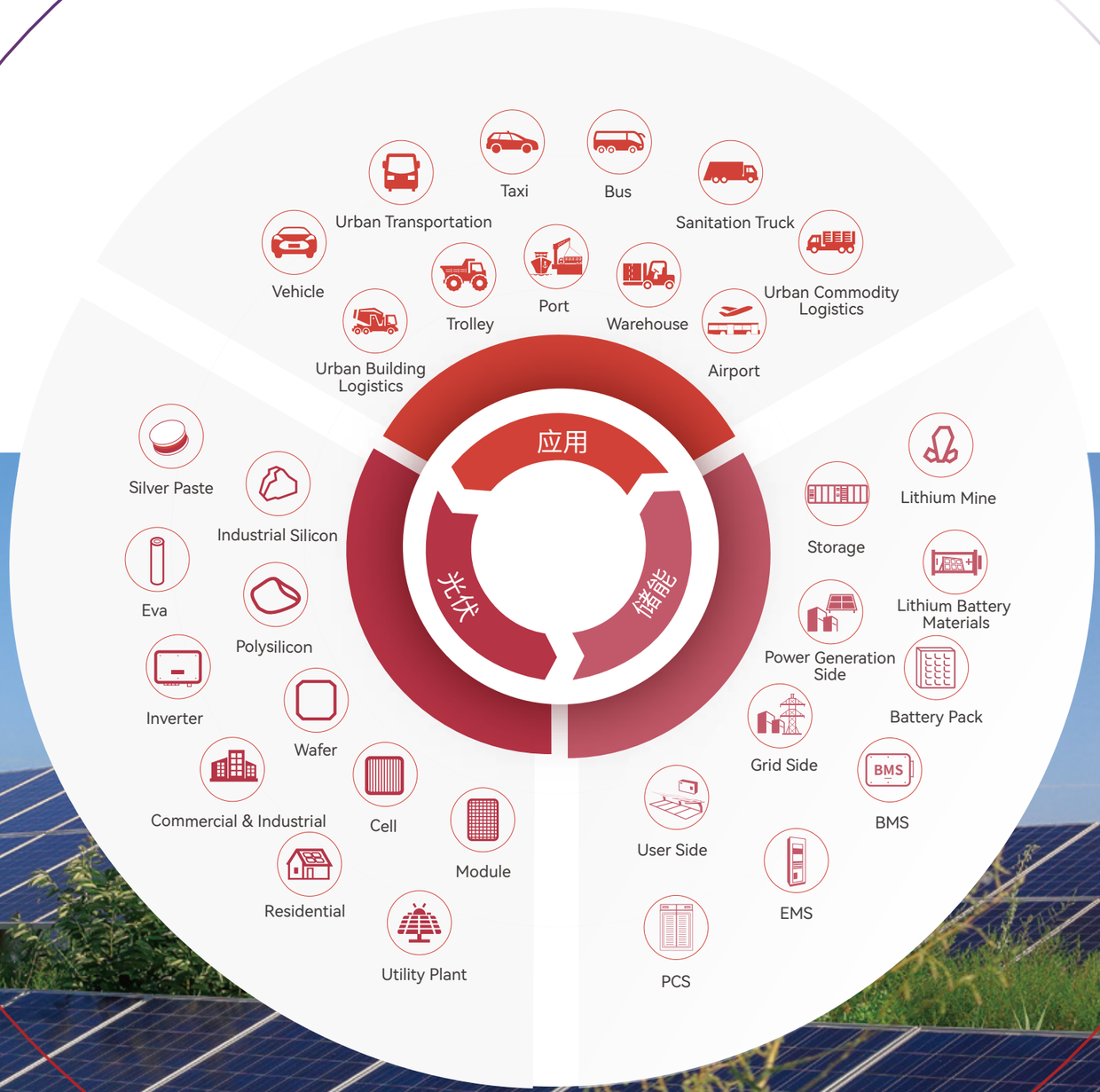
BYD has won a series of awards at home and abroad, such as "Special Energy Award of the United Nations", "the Zayed Future Energy Award", "the Large Enterprise Award", and "52 companies that changed the world" of the Fortune, through a strong market layout and a firm strategic move to promote global sustainable development.

UN Special Energy Award

Zayed Future Energy Award for Large Enterprise

CLEAN ENERGY STRATEGY

As the pioneer of global new energy solutions,
BYD is committed to building a sustainable new energy ecosystem.



BYD SOLAR

16 yr

BYD has been in solar industry for over 16 years

300+

The R&D team has more than 300 members

100+

Our business footprint covers more than 100 countries and regions around the world

200+

BYD Solar has over 200 technology patents

Solar energy is one of the basic layouts of BYD Group in new energy. It has built BYD's green dream with energy storage, electric vehicles and a complete industrial chain layout of silicon wafers, solar cells, solar modules and solar systems. The business footprint covers more than 100 countries and regions worldwide, providing efficient and reliable products and services to global customers.

For a long time, BYD has been pursuing the goal of changing people's lifestyle with clean energy and realizing sustainable development of human energy. It has a strong R&D Team team, a complete technological innovation system, and high-quality products and services. Unique advantages have laid a solid foundation laid a solid foundation for creating customer value.

GLOBAL LEADERSHIP

Global Leading PV Module Bankability

In 2022 BYD Solar PV module bankable value ranked 12th in the world. In addition, BYD Solar has been rated as one of the most bankable PV module brands by BNEF for many consecutive years.

12th

PV Module Bankability Ranking

Global Leading Tier 1 PV Module Manufacturer

With its strong financing strength, BYD Solar has been listed in the Tier 1 PV Module Maker List of Bloomberg New Energy Finance for several consecutive years.

Tier 1

Tier 1 PV Module Manufacturer

TRUSTWORTHY

REFINED MANAGEMENT

62	Quality Inspection Steps
3*100%	EL Full Inspection Process
12 yr	Process Quality Assurance
30 yr	Linear Power Warranty

EXCELLENT RELIABILITY

BYD modules have passed rigorous tests of third-party certification authorities.

LEADING TESTING CAPABILITY

The PV Product Testing Centre is a professional R&D and testing laboratory built by BYD Solar. Equipped with over 100 sets of advanced testing equipments such as steady-state solar simulators, IV testers and dynamic load tester, this centre has industry-leading testing capabilities.

The testing centre provides a strong guarantee for the production of premium quality photovoltaic products. As a "test site" for new product development, it contributes to the enhancement of technological innovation capabilities.

AURORA

KEY TECHNOLOGY

Gallium-doped silcon wafers

Multi-busbar technology

Non-destructive cutting

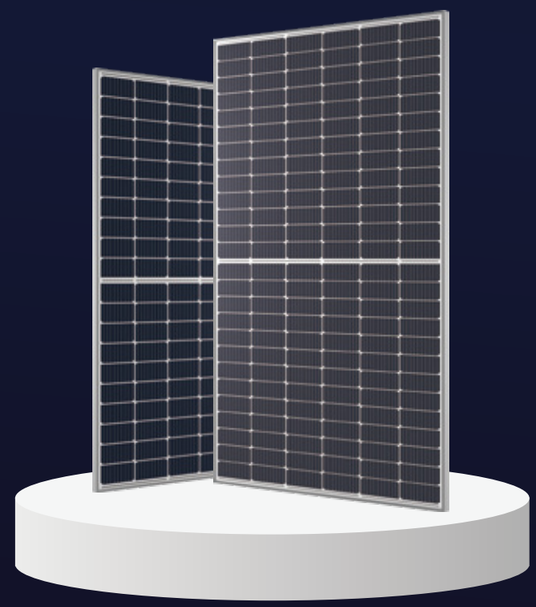
Half-cell technology

High density pack-aging

Bifacial PV technology

Loading capacity

System compatibility



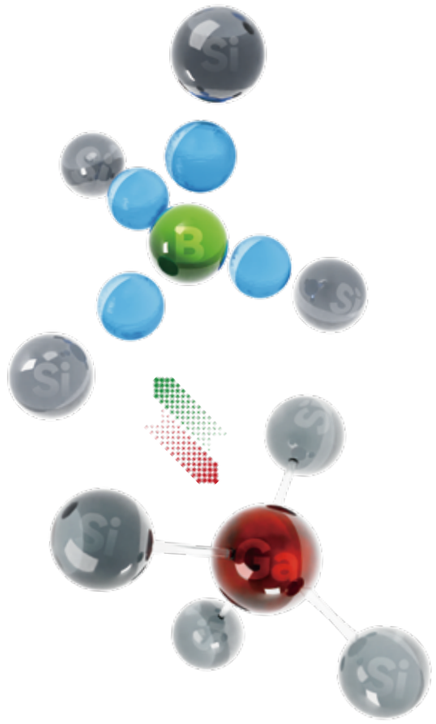
AURO P
KEY TECHNOLOGY

GALLIUM-DOPED TECHNOLOGY

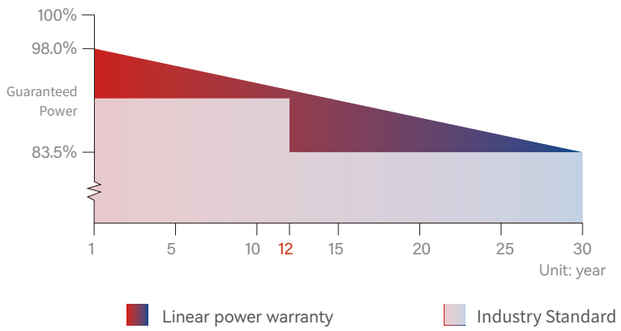
AURO P series module is made with gallium-doped PERC silicon wafers, which enable better anti-attenuation and maintain preeminent power generation performance.
With the first year attenuation of -1.5% and linear attenuation as low as -0.45%, the module generates more power over its lifetime.

Silicon atoms
Boron atoms
Oxygen atoms
Gallium atoms

↓ -0.50 %
Annual degradation

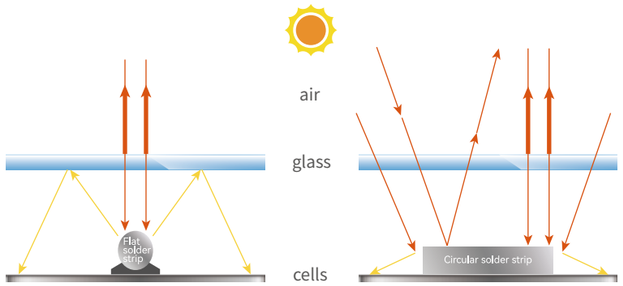


The use of gallium instead of boron as a dopant can effectively eliminate Boron-Oxygen Light Induced Degradation (BO LID), and inhibit the LID of the battery.



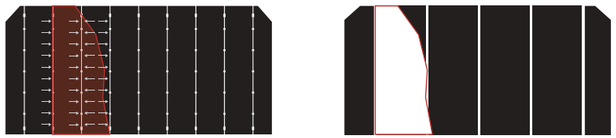
Improve optical utilization
Less current loss

With circular welding strip adopted, the shading area is reduced, so the incident light can be reflected many times, which improves the power generation of the module.



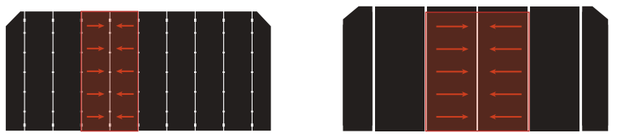
Reduces the risk of cracking

The grid line distribution is dense, the force is uniform, the risk of cracking is reduced, and the power loss is reduced.



Reduced internal resistance losses

The current conduction distance on the fingers is shortened by more than 50%, which reduces the internal resistance loss and improves the cell efficiency.



MULTI-BUSBAR TECHNOLOGY

Compared to conventional busbar technology, multi-busbar technology reduces power loss when current flows through secondary busbar and levels up current collection capacity.
Multi-busbar technology employs a thinner and narrower busbar design, effectively lowering the risk of hidden cracks caused by micro-cracks. The use of circular solder strip improves module light utilisation and increases power output by 2.5-3%.

↑ 2.5-3 %
Power increase

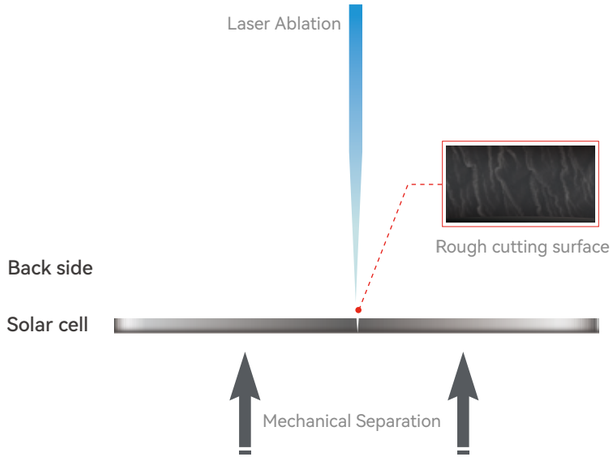
↑ 0.5-0.7 %
Efficiency increase

AURO P
KEY TECHNOLOGY

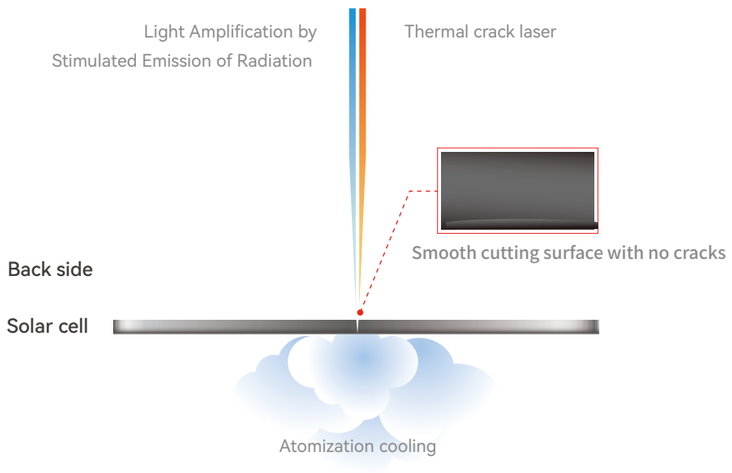
NON-DESTRUCTIVE CUTTING

AURO P series module adopts pioneering non-destructive cutting, uses low temperature laser technology, and combines the principle of thermal expansion and contraction. As a result, cells are naturally separated by thermal stress. The cutting surface is smooth and neat, without microscopic cracks, while the bending strength and performance of cells are greatly upgraded. This effectively decreases the risk of hidden cracks and ensures higher product reliability.

Traditional cutting



Non-destructive Cutting

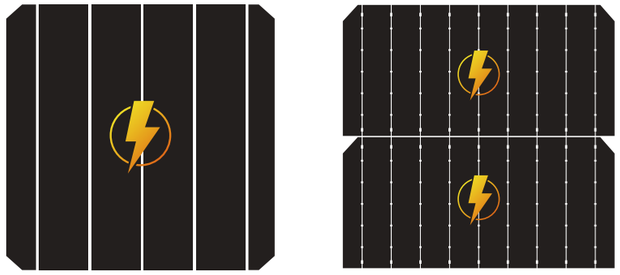


HALF-CELL TECHNOLOGY

AURO P Series module features half-cell technology. This allows the module to operate at a lower rated temperature, reducing internal current transmission loss and driving up module efficiency.
In addition, half-cell module cuts power generation loss due to shadow shading, resulting in a significant increase in power generation compared to full-cell module.

Less current loss

In half a cell, the current through each busbar is reduced to 1/2 of the original. The internal power loss of the half-chip module is reduced to 1/4 of the entire module.

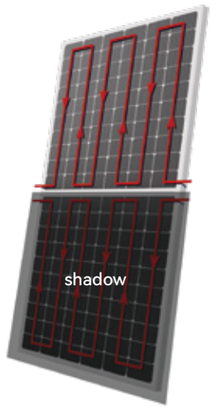


$P=I^2\times R$

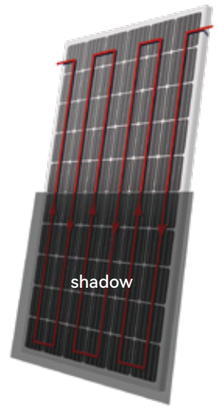
$P=(\frac{1}{2}I)^2\times R$

Lower impact of occlusion on power generation

The impact of shadows on power generation is reduced, and the power output of the module is improved.



Half-cell
~50% Power Output



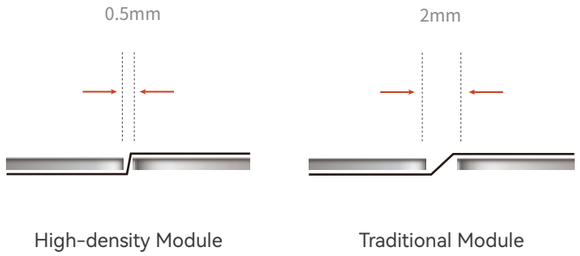
Whole-cell
0 Power Output

AURO P
KEY TECHNOLOGY

HIGH DENSITY PACKAGING

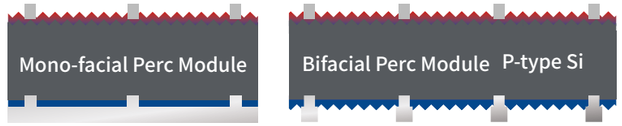
By narrowing the spacing between cells, the high-density packaging technology expands the effective power generation area of module and increases the conversion efficiency of AURO P module by 0.2%. Moreover, compared to conventional modules, high density module has better anti-attenuation and anti-shadow shading characteristics. This delivers more power generation gain in the same efficiency and environment.

↑ 0.2 %
Efficiency increase



High-density Module　　Traditional Module

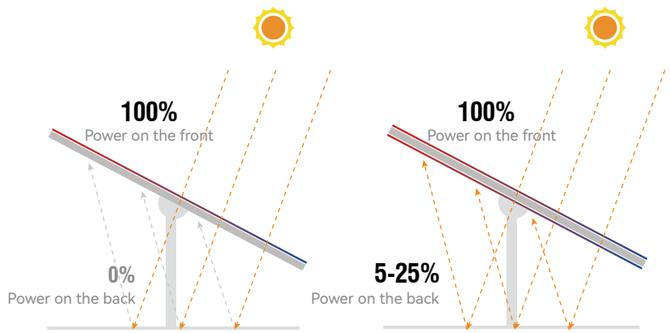
Bifacial cell structure



The all-aluminum layer blocks solar radiation.

Aluminum grids absorb solar radiation to achieve double-sided power generation.

Light utilization improved



Mono-facial Perc Modul　　Bifacial Perc Module

Bifacial technology & backside gain

5%-10%	10%-15%	10%-15%	10%-15%	15%-25%	25%-30%
Gobi Desert	Desert	Meadow	Surface of Water	Cement	White Paint

BIFACIAL TECHNOLOGY

The AURO P module features bifacial PERC technology and a partial aluminum gridline structure, allowing the back side to capture scattered sunlight. The module has the capability to produce power from both sides, resulting in a 5% to 25% increase in power generation and significantly reducing the LCOE.

↑ 5-25 %
Power increase

AURO P
KEY TECHNOLOGY

LOADING CAPACITY

AURO P series module is made of strong impact-resistant tempered glass on the surface and high strength aluminium alloy on the frame. This gives the module higher wind resistance and better loading capacity. AURO P series module has passed the IEC load test. With the front load up to 5400Pa and back load up to 2400Pa, this module is suitable for a wide range of application scenarios.

Static mechanical load capacity

Mechanical performance up to 5400 Pa front load and 2400 Pa back load

Dynamic load capacity

Strict IEC test

Nonuniform load capacity

No fear of 2.8 meters of snow

Stronger winds limit

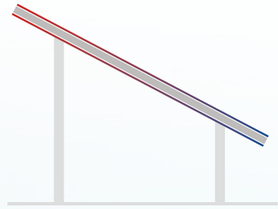
Withstanding a Category 12 Hurricane

Hail test

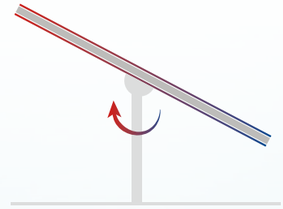
Resistance to 35mm hail

Perfect match for all mainstream inverters

Compatible with fixed and solar tracker mounting



Flx-tilt



Tracker

SYSTEM COMPATIBILITY

The AURO P series module is highly compatible with existing fixed mounts, 1P and 2P tracking mounts.
At the same time, the AURO P series module elevates electrical matching by optimising electrical parameters. With an operating current of less than 15A, the module can be well matched with different types of inverters such as centralized inverter and string inverter.

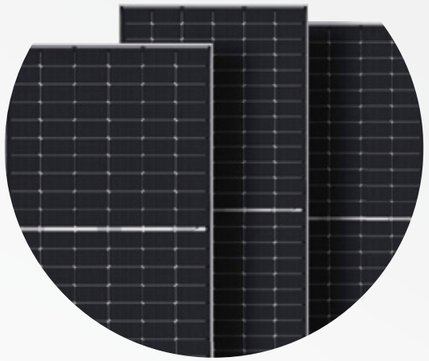
AURO P

P-type PERC Cell Technology

High power reneration — High power, High efficiency

High reliability — High mechanical strength, Low risk of cracks

Low LCOE — Reduce the cost of BOS effectively, Increase ROI of project



PRODUCT FEATURES

Gallium-doped technology
Reduce LID by Gallium-doped process

Multi-busbar technology
Power Generation increase 2.5%~3%

Non-destructive cutting
Application of advanced non-destructive cutting technology

High density packaging
The module efficiency is increased by 0.2%

Bifacial design
Power gain up to 5%~25%

High strength frame
5400Pa front load and 2400 Pa back load

Long warranty
30 years power warranty
12 years product warranty

Low degradation
Linear annual degradation-0.50%

High compatibility
Adapt to mainstream inverter and tracker

Low temperature coefficient
Peak power temperature coefficient -0.33%/℃

Wide applicability
Harsh environments
Wider range of application

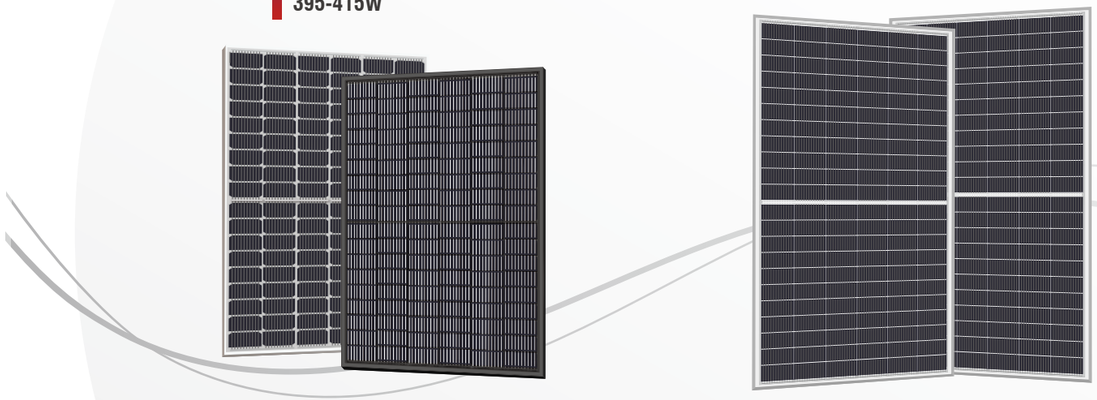
Low LCOE
LCOE reduced by 1.27%

AURO P FAMILIES

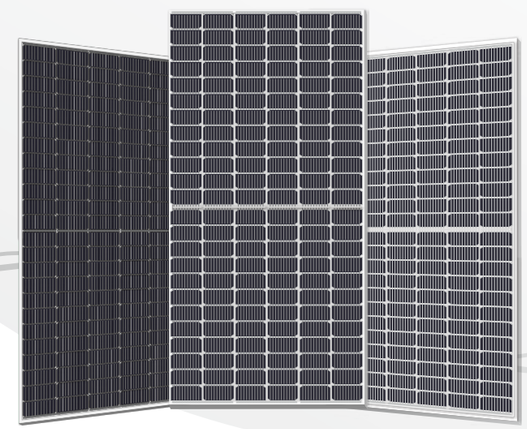
BYD Solar has created the AURO P series product matrix for household distributed, business distributed and large ground-mounted power station scenarios.
The module is equipped with a multitude of top-notch technologies, such as bifacial technology, multi-busbar technology and half-cell technology. This leads to a perfect balance between high efficiency and high reliability, better protecting customers' investment returns.

Best Choice for Distributed Applications
395-415W

Ground Power Station Promoted
650-675W



Full Scenario Application Product
530-555W



BEST CHOICE FOR DISTRIBUTED APPLICATIONS

The 395W-415W high-efficiency module is designed for the distributed market, with an average module efficiency of 21.25%. This results in more power generation from the same roof area.
The module is compatible with all types of installation and is highly adaptable. The lightweight product design facilitates manual handling and substantially diminishes installation costs. Thanks to its advantageous performance, AURO P module is poised to create more value for customers.

PRODUCT ADVANTAGES

Commercial and residential solution

Highly suitable for residential and industrial scenarios

Lightweight layout

Easy to handle and reduce installation costs

Long-term warranty

Single-sided modules product warranty 12 years
Linear power warranty 25 years

Efficient power generation

Advanced technology to improve efficiency and power generation

RECOMMENDED USE

Residential, commercial & industrial rooftop

Building integrated PV - BIPV

Module Type	Cell Type	Number of Cells	Power (W)	Dimension of Module (mm)	Weight (kg)
MLK-27	182mm	108 cells	395~415	1722*1134	20.6±5%
MLK-27BLACK	182mm	108 cells	395~415	1722*1134	20.6±5%

AURORA

Mono-facial Half Cell Module

395-415W **MLK-27**

Key Product Features

High conversion efficiency

High-efficiency monocrystalline cell, module efficiency up to 21.25%.

Light weight design

Easier to handle, less cost in installation.

Gallium-doped technology

Reduced LID via Gallium-doped technoloqy, more power generation over the life cycle.

Non-destructive cutting

Advanced non-destructive cutting technology to reduce potential micro cracks.

Multi-busbar technology

Enhanced module current collection capability with power output increased by 2.5%~3%.

PID resistant

Reduce PID and degradation via optimized cell production technoloqy and material control.

High density packaging

Module efficiency increased by 0.2% through narrowing the cell spacing.

Low LCOE(levelized cost of energy)

Cost of BOS reduced by 1.48%, LCOE reduced by 1.27%.

Comprehensive Product Certification

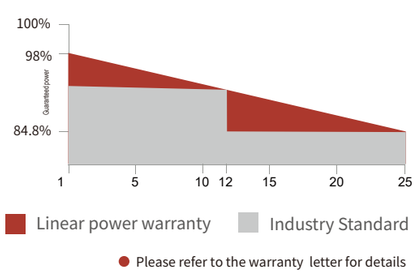
- IEC61215-1(ed.1)
- IEC61215-1-1(ed.1)
- IEC61215-2(ed.1)
- IEC61730-1(ed.2)
- IEC61730-2(ed.1)
- UL 61730-1 1st Edition
- UL 61730-2 1st Edition

Industry-leading Quality Assurance

12 year Product warranty

25 year linear power warranty

-0.55% Annual degradation



Please refer to the warranty letter for details

Electrical Data(STC*)

Module Type：MLK-27	395	400	405	410	415
Rate Maximum Power(Pmax)(W)	395	400	405	410	415
Open Circuit Voltage(Voc) (V)	36.9	36.98	37.06	37.14	37.31
Short Circuit Current(Isc) (A)	13.71	13.78	13.85	13.92	14.01
Maximum Power Voltage(Vmp)(V)	30.32	30.42	30.52	30.62	30.72
Maximum Power Current (Imp) (A)	13.03	13.15	13.27	13.39	13.51
Module Efficiency (%)	20.23	20.48	20.74	21.00	21.25

*Standard Test Conditions (STC) : irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C

Electrical Data(NMOT*)

Module Type：MLK-27	395	400	405	410	415
Rate Maximum Power(Pmax)(W)	294.8	298.8	302.8	306.9	311.0
Open Circuit Voltage(Voc) (V)	34.5	34.6	34.7	34.7	34.9
Short Circuit Current(Isc) (A)	11.08	11.13	11.19	11.25	11.32
Maximum Power Voltage(Vmp)(V)	28.3	28.5	28.6	28.8	29.0
Maximum Power Current (Imp) (A)	10.42	10.50	10.58	10.66	10.74

*Nominal Module Operating Temperature (NMOT):irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

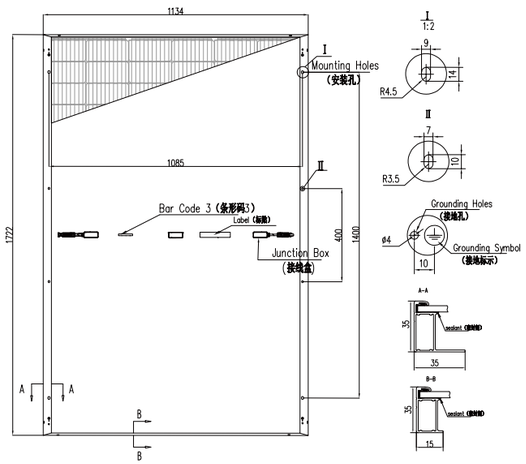
Operational Parameter

Operating Temperature	-40°C~+85°C
NMOT（Nominal Module Operating Temperature)	45°C±2°C
Maximum System Voltage(V)	1500V DC
Maximun Fuse Current Rating(A)	25A
Fire Safety	Class C
Power Tolerance	0~+5W

Mechanical Properties

Cell Type	182*91mm
Number of Cells	108
Dimension of Module	1722*1134*35mm
Weight	20.6 kg ± 5%
Front Glass	3.2mm tempered glass with AR Coating
Frame	Anodized aluminum alloy
Junction Box	IP68(3 Diodes)
Cable Length	+320mm , -260mm(4.0mm²) ; or Customized Length
Packing Information	806(31*26)pcs per 40'HQ

Drawing

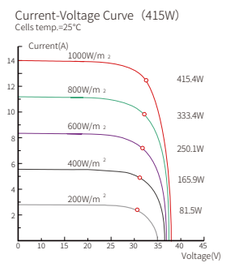


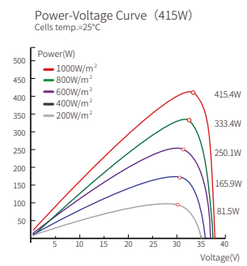
Temperature Coefficient

Peak Power Temperature Coefficient	-0.328%/°C
Open-Circuit Voltage Temperature Coefficient	-0.254%/°C
Short-Circuit Current Temperature Coefficient	0.0499%/°C

Declaration:With the technical progress and product updates,there exists a deviation between the technical parameter of the BYD Solar's future products and the technical parameter in this pecification.The BYD Solar reserves the right to adjust the technical parameter at any time without notifying the customers, BYD Solar reserves the final right of interpretation.

I-V Curve





AURO P

Mono-facial Half Cell Module

395-415W **MLK-27**

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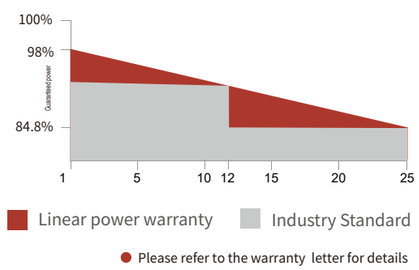
Industry-leading Quality Assurance

12 year Product warranty

25 year linear power warranty

-0.55% Annual degradation



Please refer to the warranty letter for details

Electrical Data(STC*)

Module Type：MLK-27	395	400	405	410	415
Rate Maximum Power(Pmax)(W)	395	400	405	410	415
Open Circuit Voltage(Voc) (V)	36.9	36.98	37.06	37.14	37.31
Short Circuit Current(Isc) (A)	13.71	13.78	13.85	13.92	14.01
Maximum Power Voltage(Vmp)(V)	30.32	30.42	30.52	30.62	30.72
Maximum Power Current (Imp) (A)	13.03	13.15	13.27	13.39	13.51
Module Efficiency (%)	20.23	20.48	20.74	21.00	21.25

*Standard Test Conditions (STC) : irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C

Electrical Data(NMOT*)

Module Type：MLK-27	395	400	405	410	415
Rate Maximum Power(Pmax)(W)	294.8	298.8	302.8	306.9	311.0
Open Circuit Voltage(Voc) (V)	34.5	34.6	34.7	34.7	34.9
Short Circuit Current(Isc) (A)	11.08	11.13	11.19	11.25	11.32
Maximum Power Voltage(Vmp)(V)	28.3	28.5	28.6	28.8	29.0
Maximum Power Current (Imp) (A)	10.42	10.50	10.58	10.66	10.74

*Nominal Module Operating Temperature (NMOT):irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

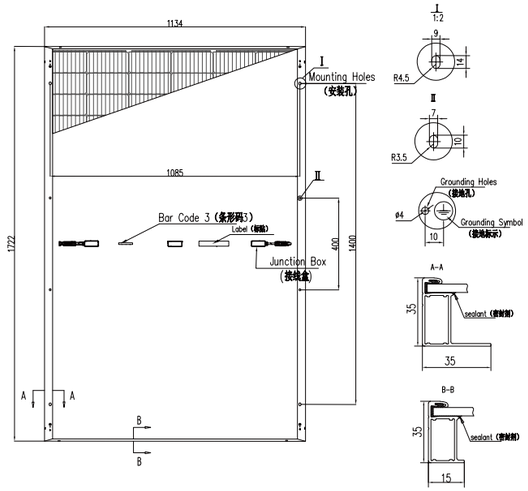
Operational Parameter

Operating Temperature	-40°C~+85°C
NMOT（Nominal Module Operating Temperature)	45°C±2°C
Maximum System Voltage(V)	1500V DC
Maximun Fuse Current Rating(A)	25A
Fire Safety	Class C
Power Tolerance	0~+5W

Mechanical Properties

Cell Type	182*91mm
Number of Cells	108
Dimension of Module	1722*1134*35mm
Weight	20.6 kg ± 5%
Front Glass	3.2mm tempered glass with AR Coating
Frame	Anodized aluminum alloy
Junction Box	IP68(3 Diodes)
Cable Length	+320mm , -260mm(4.0mm²) ; or Customized Length
Packing Information	806(31*26)pcs per 40'HQ

Drawing



Temperature Coefficient

Peak Power Temperature Coefficient	-0.328%/°C
Open-Circuit Voltage Temperature Coefficient	-0.254%/°C
Short-Circuit Current Temperature Coefficient	0.0499%/°C

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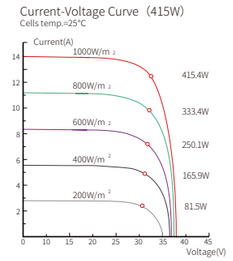
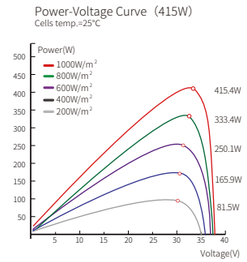
I-V Curve





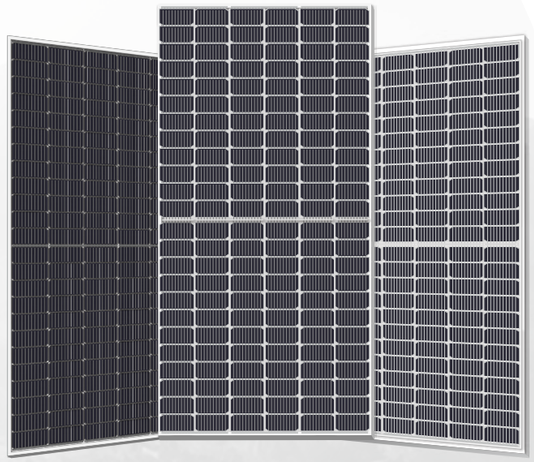
AURORA

FULL SCENARIO APPLICATION PRODUCT

The module is marked by a power output of 555W and a power generation efficiency of 21.48%, achieving a breakthrough in both high efficiency and high power. The module is highly weather resistant and suitable for tough environments such as high temperature and high humidity. Its outstanding low light performance and a wide range of designs enable the module to perfectly apply to diverse application scenarions.

RECOMMENDED USE

- Large ground power station
- Commercial and industry solutions
- Residential solutions



PRODUCT ADVANTAGES

Double-sided power generation

5~25% bifacial gain in power generation.

Excellent low light performance

Performant under low light environment such as haze and fog.

Excellent load capacity

Certified to withstand: 5400 Pa snow load and 2400 Pa wind load.

Adapt to harsh environment

Resistant to salt spray, sand, dust, ammonia and other harsh environments.

Module Type	Cell Type	Number of Cells	Power (W)	Dimension of Module (mm)	Weight (kg)
MLK-36	182mm	144 cells	530~555	2278*1134	27.0±5%
MLTK-36	182mm	144 cells	530~555	2278*1134	27.0±5%
MLBK-36	182mm	144 cells	530~555	2278*1134	30.0 ±5%

AURO P

Mono-facial Half Cell Module

530-555W **MLK-36**

Key Product Features

High power output
Using 182mm size Mono wafer, module power output up to 555W.

Higher mechanical load capacity
High-strength aluminum alloy frame, mechanical load capacity up to 5400 Pa snow load and 2400 Pa wind load.

Bifacial design
Double-sided power generation, power gain up to 5%~25%.

High compatibility
Excellent system compatibility, adapt to mainstream inverter and tracker.

Low temperature coefficient
Peak power temperature coefficient, excellent power generation performance in high temperature environment.

Wide applicability
Harsh environments, wider range of application.

Excellent low-light performance
Better low-light power generation performance in low radiation environment such as haze and cloudy days.

Low LCOE(Levelized Cost of Energy)
Cost of BOS reduced by 1.48%, LCOE reduced by 1.27%.

Comprehensive Product Certification

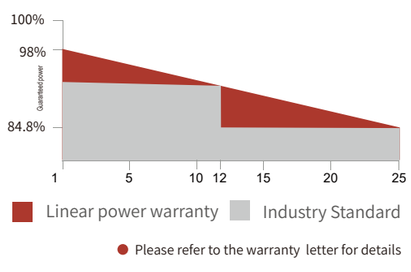
- IEC61215-1(ed.1)
- IEC61215-1-1(ed.1)
- IEC61215-2(ed.1)
- IEC61730-1(ed.2)
- IEC61730-2(ed.1)
- UL 61730-1 1st Edition
- UL 61730-2 1st Edition

Industry-leading Quality Assurance

12year Product warranty

25year linear power warranty

-0.55% Annual degradation



Please refer to the warranty letter for details

Electrical Data(STC*)

Module Type：MLK-36	530	535	540	545	550	555
Rate Maximum Power(Pmax)(W)	530	535	540	545	550	555
Open Circuit Voltage(Voc) (V)	49.12	49.42	49.72	50.02	50.32	50.62
Short Circuit Current(Isc) (A)	13.45	13.49	13.53	13.57	13.61	13.65
Maximum Power Voltage(Vmp)(V)	41.61	41.83	42.05	42.27	42.49	42.71
Maximum Power Current (Imp) (A)	12.74	12.79	12.84	12.89	12.94	12.99
Module Efficiency (%)	20.52	20.71	20.90	21.10	21.29	21.48

*Standard Test Conditions (STC) : irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C

Electrical Data(NMOT*)

Module Type：MLK-36	530	535	540	545	550	555
Rate Maximum Power(Pmax)(W)	395.2	398.8	402.4	406.1	409.8	413.4
Open Circuit Voltage(Voc) (V)	45.9	46.2	46.5	46.8	47.0	47.3
Short Circuit Current(Isc) (A)	10.86	10.89	10.92	10.96	10.99	11.02
Maximum Power Voltage(Vmp)(V)	38.4	38.7	38.9	39.1	39.4	39.6
Maximum Power Current (Imp) (A)	10.28	10.31	10.34	10.37	10.40	10.44

*Nominal Module Operating Temperature (NMOT):irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

Operational Parameter

Operating Temperature	-40°C~+85°C
NMOT（Nominal Module Operating Temperature）	45°C±2°C
Maximum System Voltage(V)	1500V DC
Maximun Fuse Current Rating(A)	25A
Fire Safety	Class C
Power Tolerance	0~+5W

Mechanical Properties

Cell Type	182mm*91mm
Number of Cells	144
Dimension of Module	2278*1134*35mm
Weight	27.0kg ± 5%
Front Glass	3.2mm tempered glass with AR Coating
Frame	Anodized aluminum alloy
Junction Box	IP68(3 Diodes)
Cable Length	+320mm , -260mm(4.0mm²) ; or Customized Length
Packing Information	620(31*20)pcs per 40'HQ

Temperature Coefficient

Peak Power Temperature Coefficient	- -0.332%/°C
Open-Circuit Voltage Temperature Coefficient	-0.252%/°C
Short-Circuit Current Temperature Coefficient	0.046%/°C

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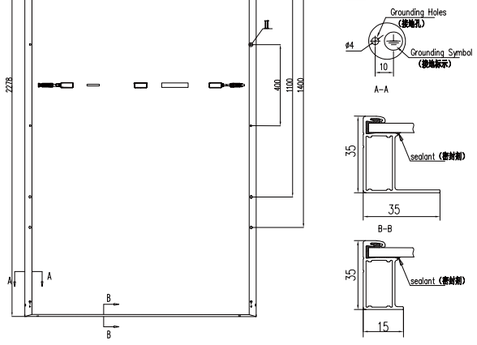
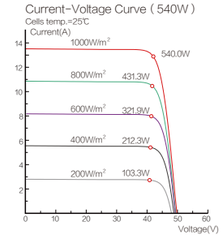
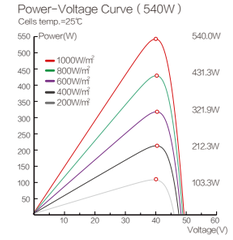
Drawing



I-V Curve





AURO P

Mono Bifacial Half Cell Module

530-555W **MLTK-36**

Key Product Features

High power output
Using 182mm size Mono wafer, module power output up to 555W.

Higher mechanical load capacity
High-strength aluminum alloy frame, mechanical load capacity up to 5400 Pa snow load and 2400 Pa wind load.

Bifacial design
Double-sided power generation, power gain up to 5%~25%.

High compatibility
Excellent system compatibility, adapt to mainstream inverter and tracker.

Low temperature coefficient
Peak power temperature coefficient, excellent power generation performance in high temperature environment.

Wide applicability
Harsh environments, wider range of application.

Excellent low-light performance
Better low-light power generation performance in low radiation environment such as haze and cloudy days.

Low LCOE(Levelized Cost of Energy)
Cost of BOS reduced by 1.48%, LCOE reduced by 1.27%.

Comprehensive Product Certification

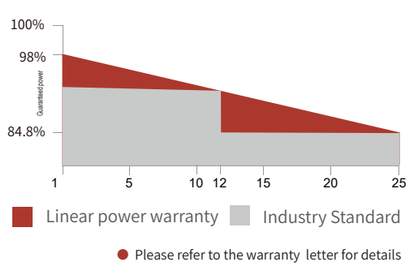
- IEC61215-1(ed.1)
- IEC61215-1-1(ed.1)
- IEC61215-2(ed.1)
- IEC61730-1(ed.2)
- IEC61730-2(ed.1)
- UL 61730-1 1st Edition
- UL 61730-2 1st Edition

Industry-leading Quality Assurance

12year Product warranty

25year linear power warranty

-0.55% Annual degradation



Electrical Data(STC*)

Module Type：MLTK-36	530	535	540	545	550	555
Rate Maximum Power(Pmax)(W)	530	535	540	545	550	555
Open Circuit Voltage(Voc) (V)	49.12	49.42	49.72	50.02	50.32	50.62
Short Circuit Current(Isc) (A)	13.45	13.49	13.53	13.57	13.61	13.65
Maximum Power Voltage(Vmp)(V)	41.61	41.83	42.05	42.27	42.49	42.71
Maximum Power Current (Imp) (A)	12.74	12.79	12.84	12.89	12.94	12.99
Module Efficiency (%)	20.52	20.71	20.90	21.10	21.29	21.48

*Standard Test Conditions (STC) : irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C

Electrical Data(NMOT*)

Module Type：MLTK-36	530	535	540	545	550	555
Rate Maximum Power(Pmax)(W)	395.2	398.8	402.4	406.1	409.8	413.4
Open Circuit Voltage(Voc) (V)	45.9	46.2	46.5	46.8	47.0	47.3
Short Circuit Current(Isc) (A)	10.86	10.89	10.92	10.96	10.99	11.02
Maximum Power Voltage(Vmp)(V)	38.4	38.7	38.9	39.1	39.4	39.6
Maximum Power Current (Imp) (A)	10.28	10.31	10.34	10.37	10.40	10.44

*Nominal Module Operating Temperature (NMOT):irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

Operational Parameter

Operating Temperature	-40°C~+85°C
NMOT（Nominal Module Operating Temperature）	45°C±2°C
Maximum System Voltage(V)	1500V DC
Maximun Fuse Current Rating(A)	30A
Fire Safety	Class C
Power Tolerance	0~+5W
Bifacial Factor	70±5%

PG. 530W	5%	10%	15%	20%	25%
Rate Maximum Power(Pmax)(W)	557	583	610	636	663
Open Circuit Voltage(Voc) (V)	49.12	49.12	49.12	49.12	49.12
Short Circuit Current (Isc) (A)	14.12	14.80	15.47	16.14	16.81
Maximum Power Voltage(Vmp)(V)	41.61	41.61	41.61	41.61	41.61
Maximum Power Current(Imp) (A)	13.377	14.014	14.651	15.288	15.925

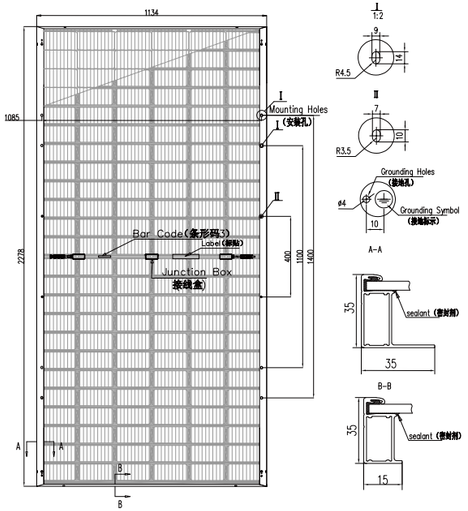
Mechanical Properties

Cell Type	182mm*91mm
Number of Cells	144
Dimension of Module	2278*1134*35mm
Weight	27.0kg ± 5%
Front Glass	3.2mm tempered glass with AR Coating
Frame	Anodized aluminum alloy
Junction Box	IP68(3 Diodes)
Cable Length	+320mm , -260mm(4.0mm²) ; or Customized Length
Packing Information	620(31*20)pcs per 40'HQ

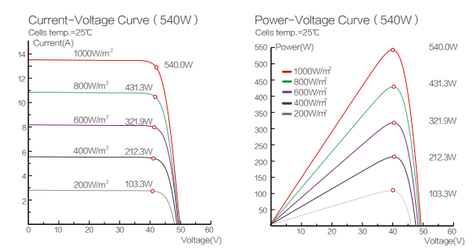
Temperature Coefficient

Peak Power Temperature Coefficient	-0.332%/°C
Open-Circuit Voltage Temperature Coefficient	-0.252%/°C
Short-Circuit Current Temperature Coefficient	0.046%/°C

Drawing



I-V Curve



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AURO P

Mono Bifacial Dual Glass Module

530-555W **MLBK-36**

Key Product Features

High power output
Using 182mm size Mono wafer, module power output up to 555W.

Higher mechanical load capacity
High-strength aluminum alloy frame, mechanical load capacity up to 5400 Pa snow load and 2400 Pa wind load.

Bifacial design
Double-sided power generation, power gain up to 5%~25%.

High compatibility
Excellent system compatibility, adapt to mainstream inverter and tracker.

Low temperature coefficient
Peak power temperature coefficient, excellent power generation performance in high temperature environment.

Wide applicability
Harsh environments, wider range of application.

Excellent low-light performance
Better low-light power generation performance in low radiation environment such as haze and cloudy days.

Low LCOE(Levelized Cost of Energy)
Cost of BOS reduced by 1.48%, LCOE reduced by 1.27%.

Comprehensive Product Certification

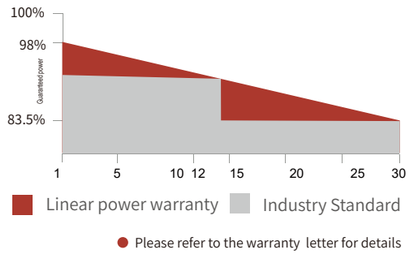
- IEC61215-1(ed.1)
- IEC61215-1-1(ed.1)
- IEC61215-2(ed.1)
- IEC61730-1(ed.2)
- IEC61730-2(ed.1)
- UL 61730-1 1st Edition
- UL 61730-2 1st Edition

Industry-leading Quality Assurance

12 year Product warranty

30 year linear power warranty

-0.50% Annual degradation



Please refer to the warranty letter for details

Electrical Data(STC*)

Module Type：MLBK-36	530	535	540	545	550	555
Rate Maximum Power(Pmax)(W)	530	535	540	545	550	555
Open Circuit Voltage(Voc) (V)	49.12	49.42	49.72	50.02	50.32	50.62
Short Circuit Current(Isc) (A)	13.45	13.49	13.53	13.57	13.61	13.65
Maximum Power Voltage(Vmp)(V)	41.61	41.83	42.05	42.27	42.49	42.71
Maximum Power Current (Imp) (A)	12.74	12.79	12.84	12.89	12.94	12.99
Module Efficiency (%)	20.52	20.71	20.90	21.10	21.29	21.48

*Standard Test Conditions (STC) : irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C

Electrical Data(NMOT*)

Module Type：MLBK-36	530	535	540	545	550	555
Rate Maximum Power(Pmax)(W)	394.7	398.3	402.0	405.5	409.3	413.0
Open Circuit Voltage(Voc) (V)	46.0	46.3	46.5	46.8	47.1	47.4
Short Circuit Current(Isc) (A)	10.85	10.88	10.91	10.94	10.98	11.01
Maximum Power Voltage(Vmp)(V)	38.5	38.7	39.0	39.2	39.4	39.7
Maximum Power Current (Imp) (A)	10.25	10.28	10.31	10.34	10.38	10.41

*Nominal Module Operating Temperature (NMOT):irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

Operational Parameter

Operating Temperature	-40°C~+85°C
NMOT（Nominal Module Operating Temperature）	45°C±2°C
Maximum System Voltage(V)	1500 VDC
Maximun Fuse Current Rating(A)	30A
Fire Safety	Class C
Power Tolerance	0~+5W
Bifacial Factor	70v±5%

PG. 530W	5%	10%	15%	20%	25%
Rate Maximum Power(Pmax)(W)	557	583	610	636	663
Open Circuit Voltage(Voc) (V)	49.12	49.12	49.12	49.12	49.12
Short Circuit Current (Isc) (A)	14.12	14.80	15.47	16.14	16.81
Maximum Power Voltage(Vmp)(V)	41.61	41.61	41.61	41.61	41.61
Maximum Power Current(Imp) (A)	13.38	14.01	14.65	15.29	15.93

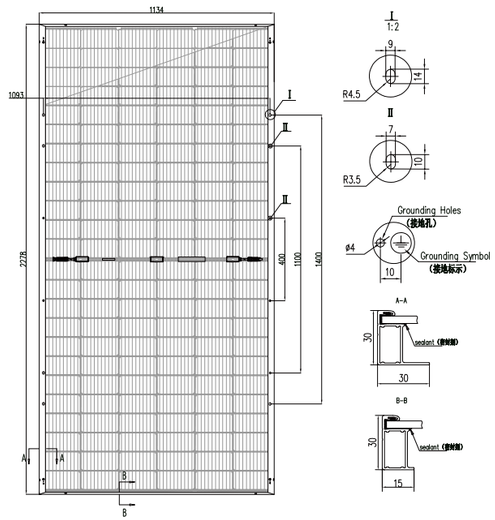
Mechanical Properties

Cell Type	182*91mm
Number of Cells	144
Dimension of Module	2278*1134*30mm
Weight	30.0kg±5%
Front Glass	2.0mm semi-tempered glass with AR Coating
Back Glass	2mm semi-tempered grid printing glass
Frame	Anodized aluminum alloy
Junction Box	IP68(3 Diodes)
Cable Length	+320mm，-260mm(4.0mm2); or Customized Length
Packing Information	720(36*20)pcs per 40'HQ

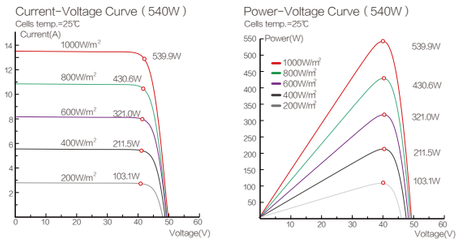
Temperature Coefficient

Peak Power Temperature Coefficient	-0.328%/°C
Open-Circuit Voltage Temperature Coefficient	-0.254%/°C
Short-Circuit Current Temperature Coefficient	0.041%/°C

Drawing



I-V Curve



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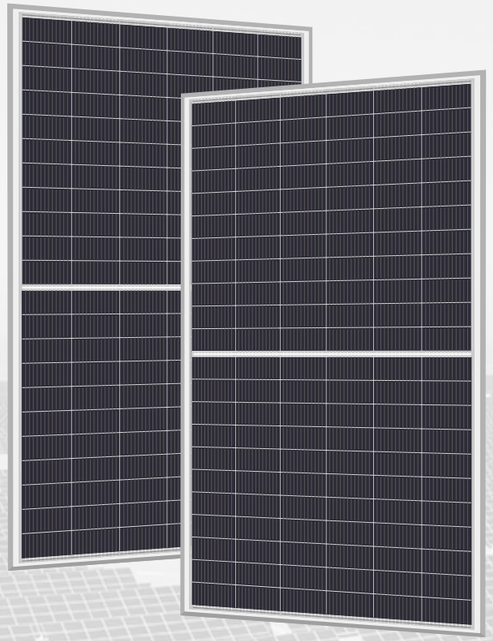
AURORA

DESIGNED FOR UTILITY-SCALE POWER STATION

Based on 210mm large size silicon wafers, the module efficiency and power are elevated by applying non-destructive cutting, high density packaging and bifacial power generation.
The module efficiency is 21.73% and the power output is up to 675W. 600W+ ultra-high power module possesses unique merits in terms of performance, reliability and technical cost, which makes it ideal for large surface power station projects.



PRODUCT ADVANTAGES

Outstanding power generation capacity

Advanced technology and manufacturing process
More power generation under the same conditions

High reliability

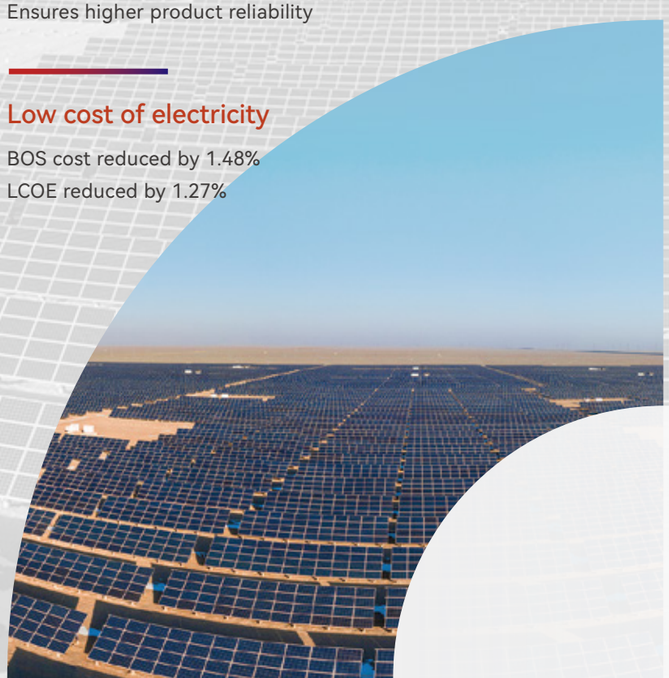
Passed triple IEC standard certification
Ensures higher product reliability

Low temperature coefficient

In high temperature and high radiation areas
better power generation performance

Low cost of electricity

BOS cost reduced by 1.48%
LCOE reduced by 1.27%



RECOMMENDED USE

- Large-scale utility applications
- Commercial and industry solutions
- Residential solutions

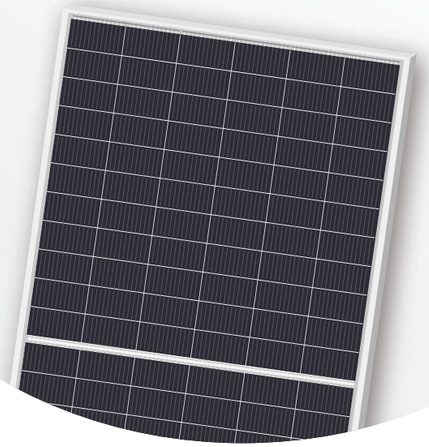
*It is suitable for high temperature, high cold, high humidity, high salt spray, desert, coastal and other power station environments

Module Type	Cell Type	Number of Cells	Power (W)	Dimension of Module (mm)	Weight (kg)
MSTK-33	210mm	132 cells	650~675	2384*1303	33.9±5%

AURO P

Mono Bifacial Half Cell Module

650-675W **MSTK-33**



Key Product Features

High power output
Using 210mm size Mono wafer, module power output up to 675W.

Higher mechanical load capacity
High-strength aluminum alloy frame, mechanical load capacity up to 5400 Pa snow load and 2400 Pa wind load.

Bifacial design
Double-sided power generation, power gain up to 5%~25%.

High compatibility
Excellent system compatibility, adapt to mainstream inverter and tracker.

Low temperature coefficient
Peak power temperature coefficient -0.328%/°C,excellent power generation in high temperature environment.

Wide applicability
Harsh environments, wider range of application.

Excellent low-light performance
Better low-light power generation performance in low radiation environment such as haze and cloudy days.

Low LCOE(Levelized Cost of Energy)
Cost of BOS reduced by 1.48%, LCOE reduced by 1.27%.

Comprehensive Product Certification

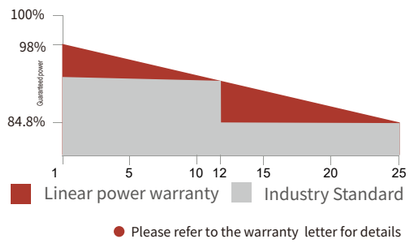
- IEC61215-1(ed.1)
- IEC61215-1-1(ed.1)
- IEC61215-2(ed.1)
- IEC61730-1(ed.2)
- IEC61730-2(ed.1)
- UL 61730-1 1st Edition
- UL 61730-2 1st Edition

Industry-leading Quality Assurance

12 year Product warranty

25 year linear power warranty

-0.55% Annual degradation



Please refer to the warranty letter for details

AURO P

MSTK-33 650-675 W

Electrical Data(STC*)

Module Type：MSTK-33	650	655	660	665	670	675
Rate Maximum Power(Pmax)(W)	650	655	660	665	670	675
Open Circuit Voltage(Voc) (V)	45.45	45.58	45.72	45.85	45.98	46.11
Short Circuit Current(Isc) (A)	18.17	18.21	18.24	18.27	18.33	18.38
Maximum Power Voltage(Vmp)(V)	37.86	37.95	38.04	38.12	38.21	38.31
Maximum Power Current (Imp) (A)	17.18	17.27	17.36	17.45	17.54	17.63
Module Efficiency (%)	20.92	21.10	21.26	21.41	21.57	21.73

*Standard Test Conditions (STC) : irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C

Electrical Data(NMOT*)

Module Type：MSTK-33	650	655	660	665	670	675
Rate Maximum Power(Pmax)(W)	486.7	490.2	493.8	497.6	501.5	505.6
Open Circuit Voltage(Voc) (V)	42.6	42.7	42.9	43.0	43.1	43.2
Short Circuit Current(Isc) (A)	14.66	14.69	14.71	14.73	14.78	14.82
Maximum Power Voltage(Vmp)(V)	35.1	35.2	35.4	35.6	35.7	35.9
Maximum Power Current (Imp) (A)	13.87	13.91	13.95	13.99	14.04	14.09

*Nominal Module Operating Temperature (NMOT):irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

Operational Parameter

Operating Temperature	-40°C~+85°C
NMOT（Nominal Module Operating Temperature）	45±2°C
Maximum System Voltage(V)	1500V DC
Maximun Fuse Current Rating(A)	35A
Fire Safety	Class C
Power Tolerance	0~+5W
Bifacial Factor	70±5%

PG. 660W	5%	10%	15%	20%	25%
Rate Maximum Power(Pmax)(W)	693	726	759	792	825
Open Circuit Voltage(Voc) (V)	45.72	45.72	45.72	45.72	45.72
Short Circuit Current (Isc) (A)	19.15	20.07	20.98	21.89	22.80
Maximum Power Voltage(Vmp)(V)	38.04	38.04	38.04	38.04	38.04
Maximum Power Current(Imp) (A)	18.23	19.09	19.96	20.83	21.70

Mechanical Properties

Cell Type	210mm*105mm
Number of Cells	132
Dimension of Module	2384*1303*35mm
Weight	33.9kg±5%
Front Glass	3.2mm tempered glass with AR Coating
Frame	Anodized aluminum alloy
Junction Box	IP68(3 Diodes)
Cable Length	+320mm , -260mm(4.0mm²) ； or Customized Length
Packing Information	558(31*18)pcs per 40'HQ

Temperature Coefficient

Peak Power Temperature Coefficient	-0.328%/°C
Open-Circuit Voltage Temperature Coefficient	-0.254%/°C
Short-Circuit Current Temperature Coefficient	0.041%/°C

Drawing

I-V Curve

Declaration:With the technical progress and product updates,there exists a deviation between the technical parameter of the BYD Solar's future products and the technical parameter in this pecification.The BYD Solar reserves the right to adjust the technical parameter at any time without notifying the customers, BYD Solar reserves the final right of interpretation.