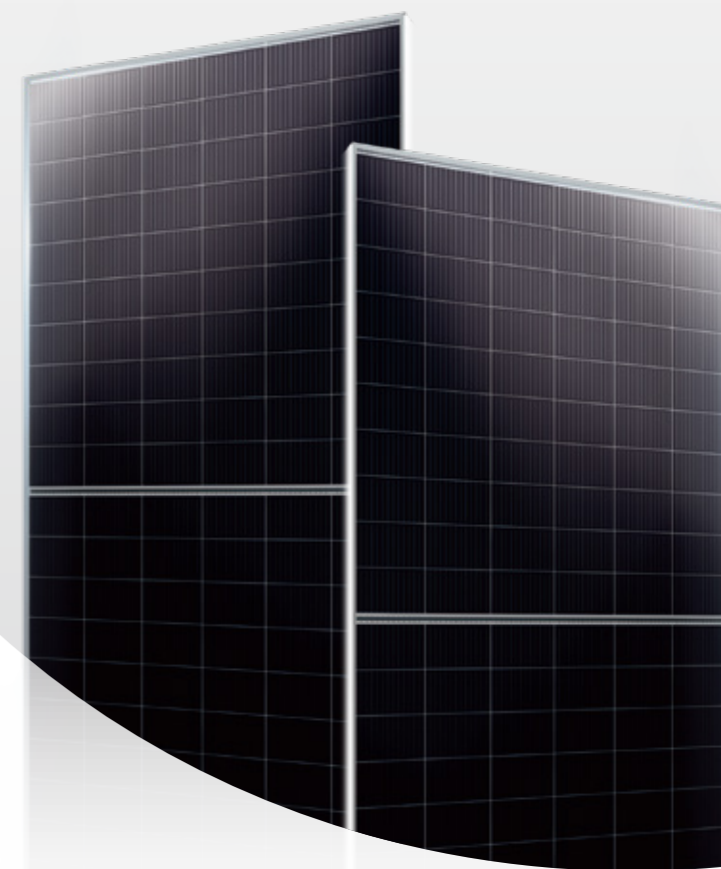




LIGHT UP THE WORLD WITH GREEN ENERGY

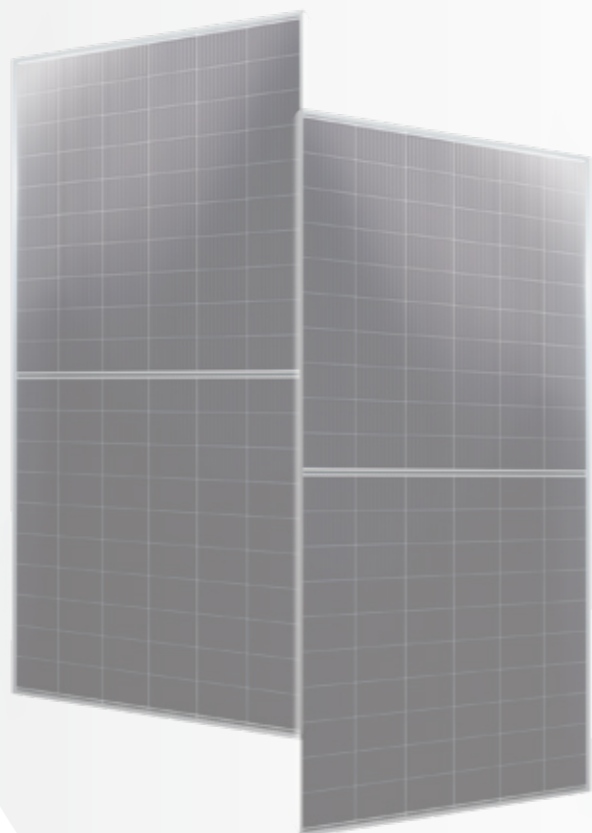
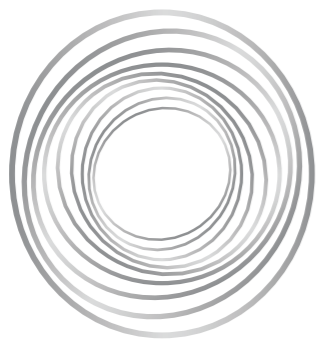


比亚迪股份有限公司
BYD COMPANY LIMITED

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AUR[◎]P 产品手册

用绿色光能点亮世界



CONTENTS

目录

01

品牌优势

COMPANY INTRODUCTION

- < 关于比亚迪
- < 清洁能源战略
- < 比亚迪太阳能
- < 全球领先
- < 值得信赖

03

产品介绍

PRODUCT RELIABILITY

- < 分布式优选
- < 全场景应用
- < 地面电站首推
- < 全黑组件

02

关键技术

KEY TECHNOLOGY

- < 掺镓硅片
- < 多主栅技术
- < 无损切割
- < 半片技术
- < 高密度封装
- < 双面技术

ABOUT BYD

关于比亚迪

比亚迪成立于1995年，是一家致力于“用技术创新，满足人们对美好生活的向往”的高新技术企业，年营业额和总市值均超千亿元。

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.

经过20多年的高速发展，比亚迪已在汽车、轨道交通、新能源和电子领域发挥着举足轻重的作用，从能源的获取、存储，再到应用，形成了全方位零排放新能源整体解决方案。

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.



发展理念

Development Concept

比亚迪始终坚持“技术为王，创新为本”的发展理念，凭借研发实力和创新发展模式获得了全面的发展。

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.

持续增长

Sustained Growth

2022年营业额

Revenue

4200 亿元

年均复合增长率

The compound annual growth rate

56%

社会责任

Social Responsibility

从治污到治堵，比亚迪提供创新技术及解决方案为地球升温做减法。

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

每天减少二氧化碳排放量约

Approximately reduce carbon dioxide emissions every day

35,088,923 kg

相当于每天植树约

Equivalent to planting trees every day

2,924,077 棵

企业荣誉

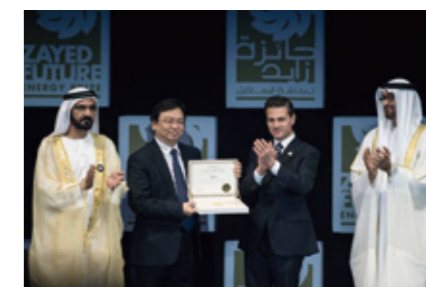
Enterprise Honor

比亚迪通过强有力的市场布局，以及坚定推动全球可持续发展的战略举动，赢得了“联合国特别能源奖”、“扎耶德未来能源奖 - 大型企业奖”、以及《财富》杂志“改变世界的52家公司”等一系列国内外奖项。

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.



联合国能源特别奖



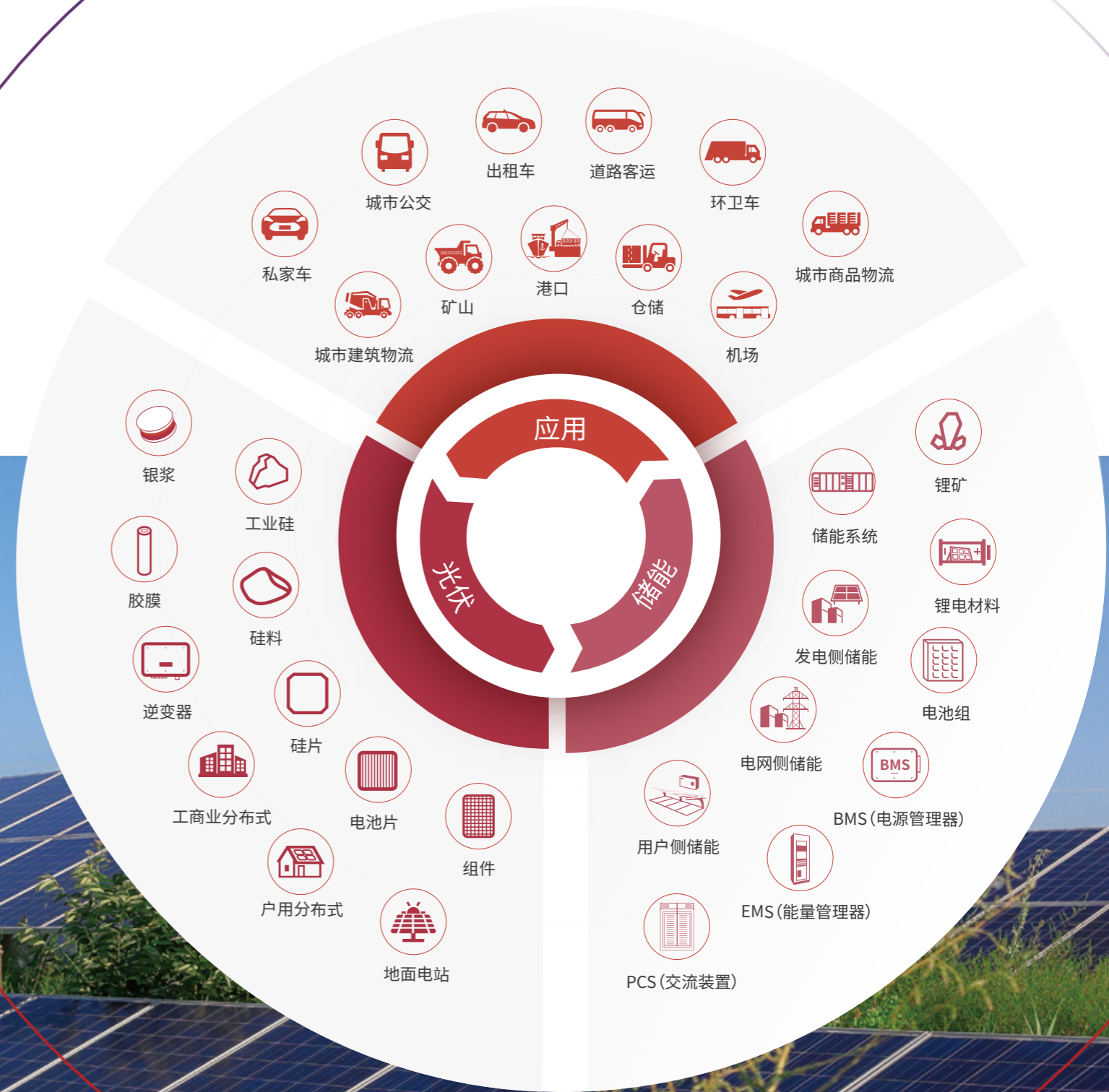
扎耶德未来能源奖 - 大型企业奖

CLEAN ENERGY STRATEGY

清洁能源战略

LIGHT UP THE WORLD WITH GREEN ENERGY

比亚迪作为全球新能源整体解决方案开创者，
致力于全面打造可持续的新能源生态系统。
As the pioneer of global new energy solutions,
BYD is committed to building a sustainable new energy ecosystem.





16 年

深耕太阳能行业16年
BYD has been in solar industry
for over 16 years

300+

研发团队人员超300位
The R&D team has more than
300 members

太阳能是比亚迪集团在新能源领域的重要布局之一，与储能、电动汽车共同构建了比亚迪的绿色梦想，拥有硅片、电池片、光伏组件、光伏系统应用等全产业链布局，业务足迹遍布全球100多个国家和地区，为全球客户提供高效、可靠的产品与服务。

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.

100+

业务遍布全球100多个国家和地区
Our business footprint covers more than 100
countries and regions around the world

200+

技术专利超过200项
BYD Solar has over 200 technology
patents

自创始以来，比亚迪太阳能始终致力于用清洁能源改变人类生活方式，以实现能源的可持续发展为目标，其拥有强大的研发团队，完善的技术创新体系，优质的产品与服务。这些融汇而成的独特优势，为创造卓著客户价值奠定了坚实基础。

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

全球领先

LIGHT UP THE WORLD WITH GREEN ENERGY



全球领先的组件可融资价值 Global Leading PV Module Bankable Value

2022年，比亚迪太阳能光伏组件可融资价值高居全球第12位。此外，比亚迪太阳能连续多年被BNEF评为最具融资价值光伏组件品牌之一。

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.



光伏组件可融资价值排名
PV Module Bankability Ranking



全球领先的一级组件制造商 Global Leading Tier 1 PV Module Manufacturer

凭借强大的可融资实力，比亚迪太阳能连续多年荣登彭博新能源财经光伏组件制造商第一梯队(Tier 1)名单。

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.



一级组件制造商
Tier 1 PV Module Manufacturer

TRUSTWORTHY

值得信赖

LIGHT UP THE WORLD WITH GREEN ENERGY



精细化管理

Sustained Growth

62 道 | 质量检验步骤
quality inspection steps

3*100% | EL全检流程
EL full inspection process

12 年 | 工艺质保
process quality assurance

30 年 | 功率质保
linear power warranty

卓越的可靠性

Sustained Growth

产品通过以下权威机构认证，能适应多种严苛的气候环境。



领先的检测能力

Sustained Growth

光伏产品检测中心是比亚迪太阳能筹建的专业化研发和检测实验室。检测中心配备稳态太阳光模拟器、IV测试仪、动态载荷测试仪等先进测试设备100余台，具备行业领先的检测能力。

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.

检测中心为生产高质量的光伏产品提供有力保证，是新产品开发的“试验基地”，助力提高技术创新能力。

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.

AURO P

KEY TECHNOLOGY | 关键技术



掺镓硅片



多主栅技术



无损切割



半片技术



高密度封装



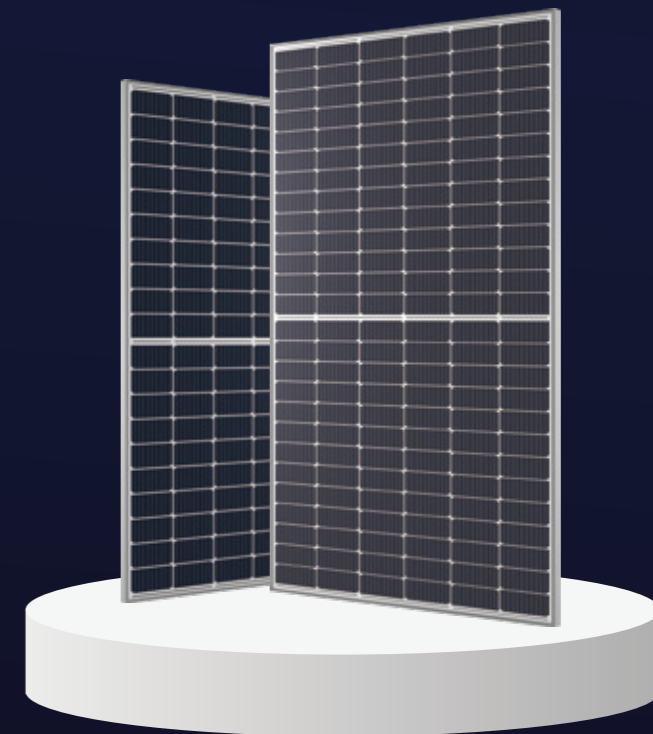
双面技术



载荷能力



系统兼容性



掺镓硅片

Gallium-doped Silicon Wafers

AURO P系列组件应用掺镓PERC硅片,使组件具有更优异的抗衰减能力,保持更好的发电性能。组件首年衰减-1.5%,线性衰减低至-0.45%,全生命周期内带来更多发电量。

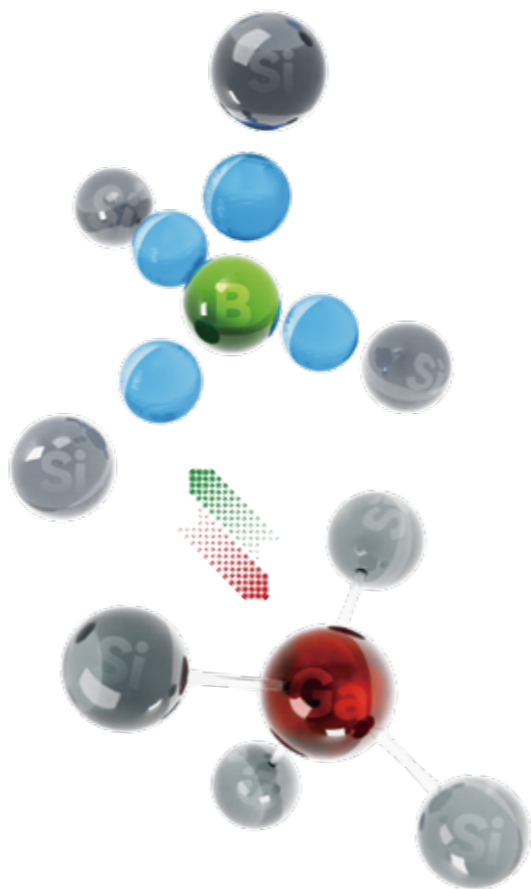
AURO P series module is made with gallium-doped PERC silicon wafers, which enable better anti-attenuation and maintain preminent power generation performance. With the first year attenuation of -1.5% and linear attenuation as low as -0.45%, the module generates more power over its lifetime.



↓ -0.50%

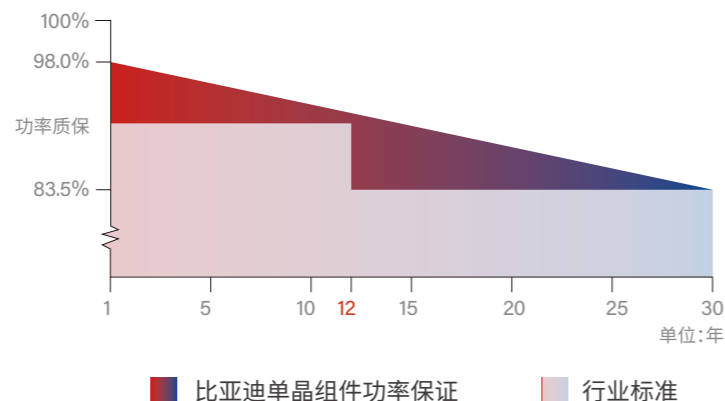
线性年衰减

Ga+



采用镓替代硼作为掺杂剂,可有效消除硼氧缺陷光致衰减(BO-LID),抑制电池的光致衰减。

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.

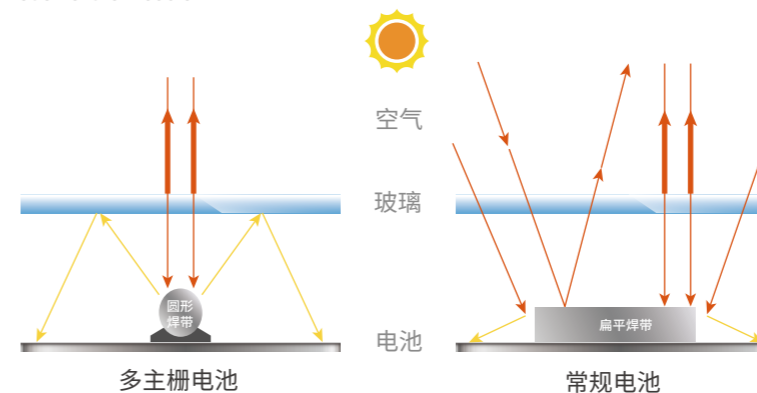


提升光学利用率

Improve optical utilization

采用圆形焊带,遮光面积减小,入射光线多次反射,提升组件发电量。

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.

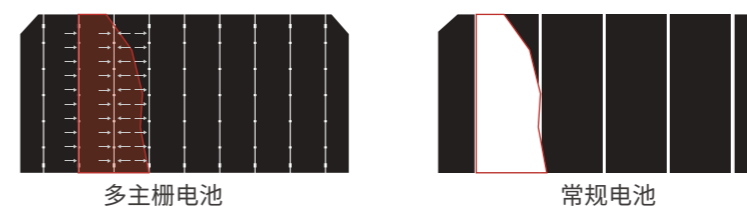


降低隐裂风险

Reduces the risk of cracking

栅线分布密集,受力均匀,降低隐裂风险,减少功率损失。

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

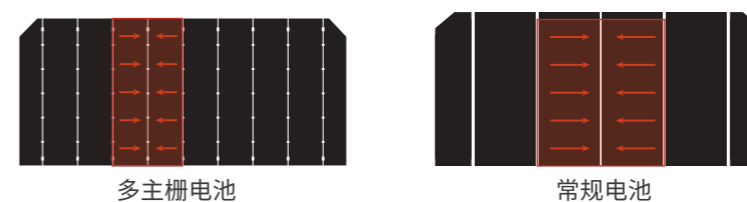


降低内阻损失

Reduced internal resistance losses

细栅上电流传导距离缩短50%以上,降低内阻损失,提高电池转换效率。

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



多主栅技术

Multi-busbar Technology

相较于传统主栅技术,多主栅技术可减少电流流经副栅产生的功率损耗,同时提高电流收集能力。多主栅技术采用更细更窄的主栅设计,有效降低微裂纹带来的隐裂风险。圆形焊带的使用,提高组件光学利用率,使功率输出提升2.5-3%。

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%
功率提升

↑ 0.5-0.7%
转换效率提升

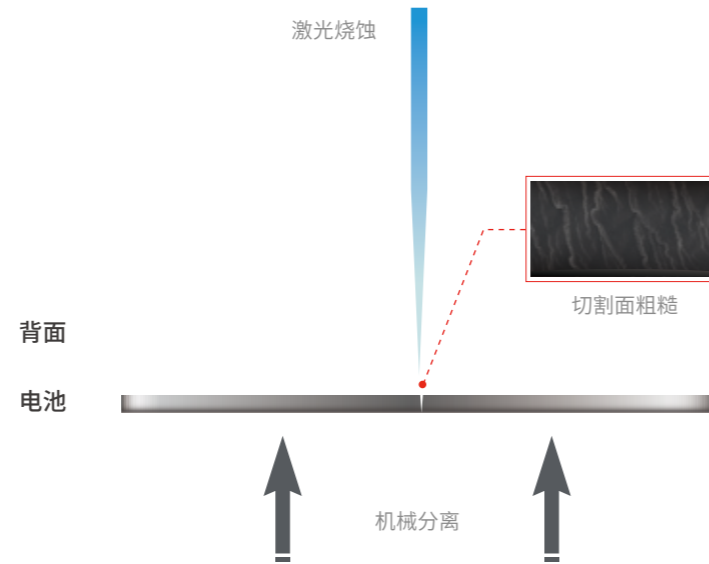
无损切割

Non-destructive Cutting

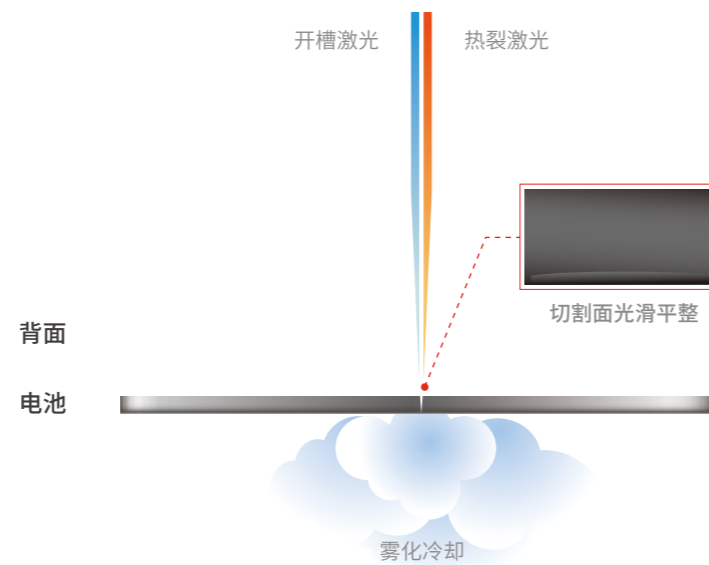
AURO P系列组件采用先进的无损切割工艺,使用低温激光技术,结合热胀冷缩原理,电池片通过热应力自然分开,切割表面光滑整齐,不会出现微裂纹,电池片抗弯强度和性能大幅提升,有效降低隐裂风险,保证产品更高可靠性。

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.

传统切割 Traditional cutting



无损切割 Non-destructive Cutting

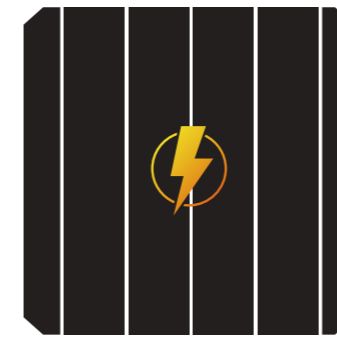


更少的电流损失

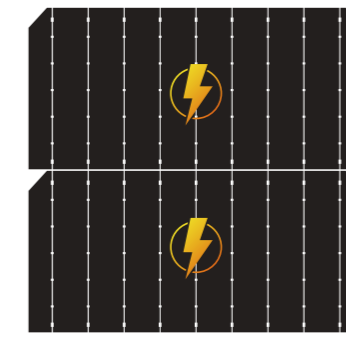
Less current loss

半片电池片中,通过每根主栅的电流降低为原来的1/2。半片组件内部功率损耗降低为整片组件的1/4。

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.



$$P=I^2 \times R$$



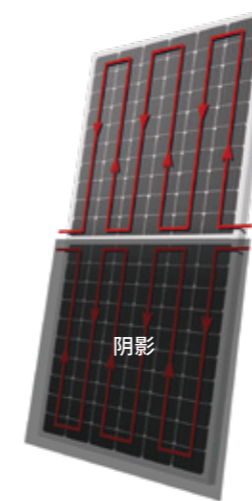
$$P=(\frac{1}{2} I)^2 \times R$$

减少遮挡对发电量的影响

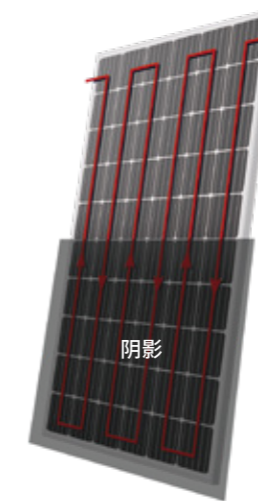
Lower impact of occlusion on power generation

降低了阴影对发电量的影响,提升组件功率输出。

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



半片
~50% 功率输出



全片
0 功率输出

半片技术

HALF-CHIP Technology

AURO P系列组件均采用半片电池技术,使组件具有较低的额定工作温度,可有效降低组件内部电流传输损耗,提高组件发电效率。此外,半片电池组件可降低阴影遮挡造成的发电功率损失,发电量相较于全片电池组件有显著提升。

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.

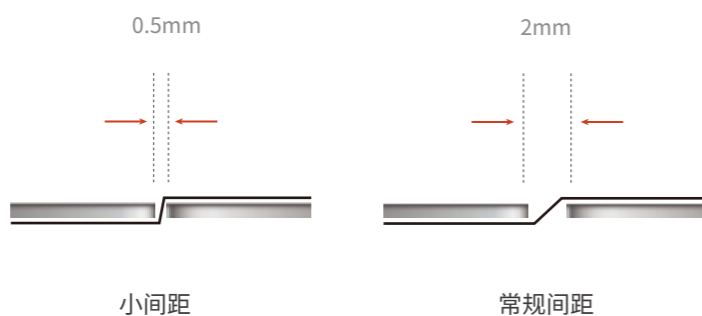
高密度封装

High Density Packaging

高密度封装技术通过缩小电池片之间的间距，增加组件的有效发电面积，使AURO P组件转换效率提升0.2%。此外，相较于传统组件产品，高密度组件具有更优的抗衰减、抗阴影遮挡特性，实现同效率同环境下更多发电量增益。

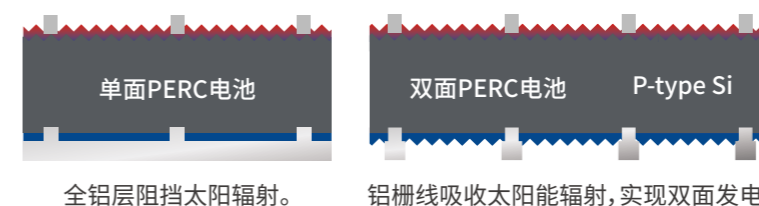
By narrowing the spacing between cells, the high-density packaging technology expands the effective power generation area of module and increases the conversion efficiency of AURO P module by 0.2%. Moreover, compared to conventional modules, high density module has better anti-attenuation and anti-shadow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

↑ 0.2%
组件转换效率提升



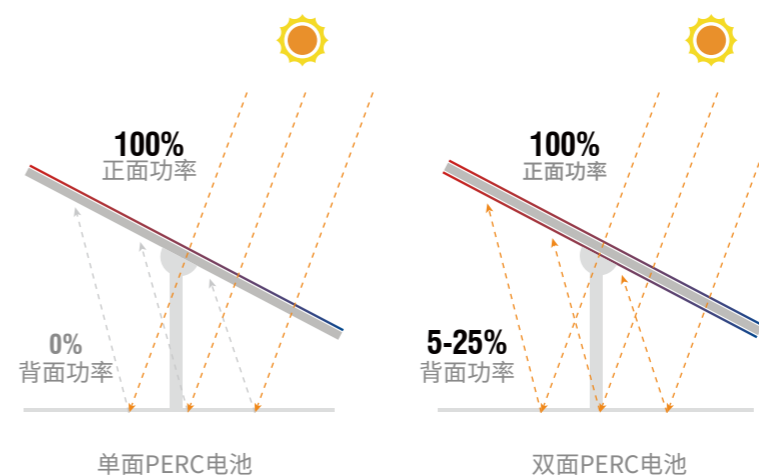
双面电池结构

Bifacial cell structure



提高光线利用率

Light utilization improved



双面技术 背面增益

Bifacial technology & backside gain



双面技术

Bifacial Technology

AURO P组件采用双面PERC技术, 局部铝栅线结构使其背面可吸收散射的太阳光, 组件具有双面发电能力, 可实现5-25%的发电增益, 显著降低度电成本。

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.

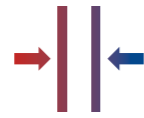
↑ 5-25%
组件发电量增益

载荷能力

Loading Capacity

AURO P系列组件表面采用强耐冲击的钢化玻璃,边框采用高强度铝合金材质,使组件具有更高的抗风性能,更优异的载荷能力。AURO P系列组件已通过IEC标准的载荷测试,组件正面载荷高达5400Pa,背面载荷高达2400Pa,可适用于多种应用场景。

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.



静态载荷
5400/2400 Pa
正/背面载荷



动态载荷
IEC 严苛测试



不均匀载荷
无惧2.8米暴雪



抗风极限
抗阵风11-12级



冰雹冲击
抗35mm冰雹

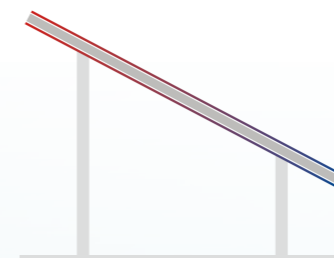
完美匹配各主流逆变器

Perfect match for all mainstream inverters

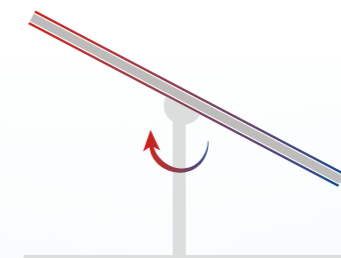


适配固定支架和跟踪支架

Compatible with fixed and solar tracker mounting



固定支架



跟踪支架

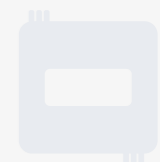
系统兼容性

System Compatibility

AURO P系列组件具有极高的安装兼容性,可完美兼容现有的固定支架及1P、2P跟踪支架。同时,AURO P系列组件通过优化电气参数提升电气匹配性,组件工作电流小于15A,可与集中式逆变器、组串式逆变器等不同类型逆变器实现良好匹配。

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.

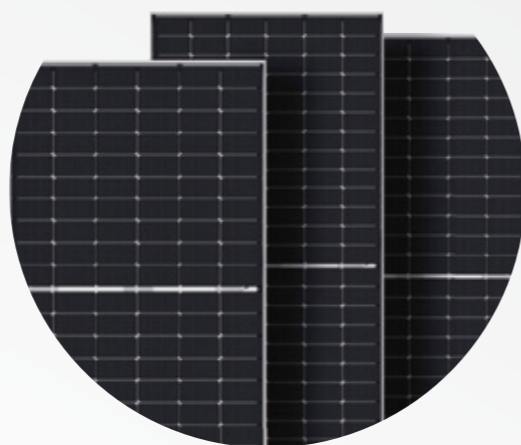


P型 PERC电池技术

高发电量 高功率
高效率

高可靠性 高机械强度
低隐裂风险

低度电成本 有效降低系统BOS成本
提高项目投资收益率



产品特性 Product features

- 掺镓硅片** (Ga+) 有效降低光致衰减
- 多主栅技术** (++) 功率输出可提升2.5%~3%
- 无损切割技术** 截面光滑, 无微裂纹
- 高密度封装** (0.5mm) 组件转换效率提升0.2%
- 双面设计** 组件发电量增益5~25%
- 高强度边框** 可承受5400/2400Pa正/背面载荷
- 超长质保** 功率质保30年, 工艺质保12年
- 低衰减** 线性年衰减-0.50%
- 高兼容性** 兼容行业主流逆变器和支架
- 低温度系数** 峰值功率温度系数-0.33%/°C
- 高耐候性** 耐盐雾、沙尘、氨气等恶劣环境
- 低度电成本** (LCOE) LCOE降低1.27%

AURO P 家族

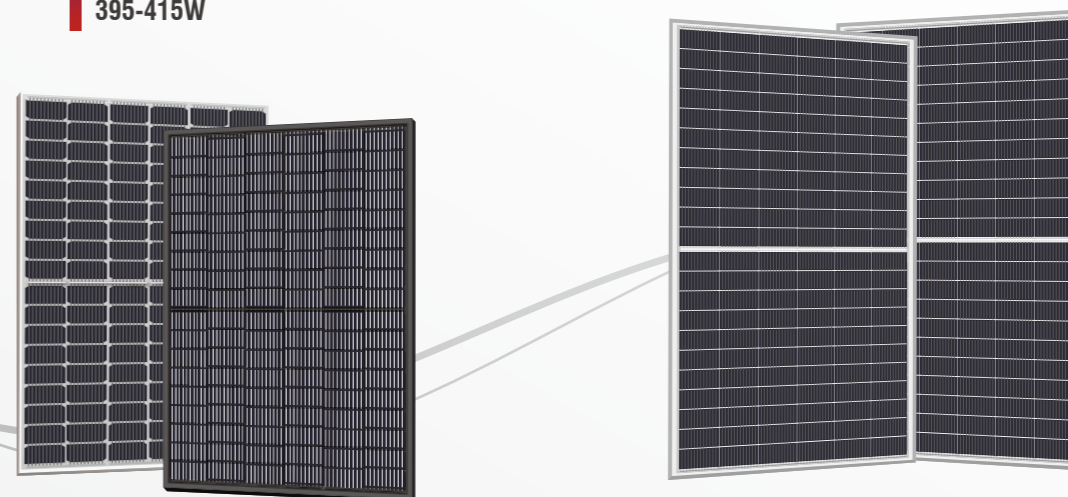
比亚迪太阳能针对户用分布式、工商业分布式和大型地面电站等应用场景, 打造AURO P系列全场景产品矩阵。组件叠加双面技术、多主栅技术、半片技术等多种先进技术, 实现高效率与高可靠性的完美平衡, 更好保障客户的投资收益。

BYD Solar has created the AURO P series product matrix for household distributed, business distributed and large ground-mounted power station scenarios.

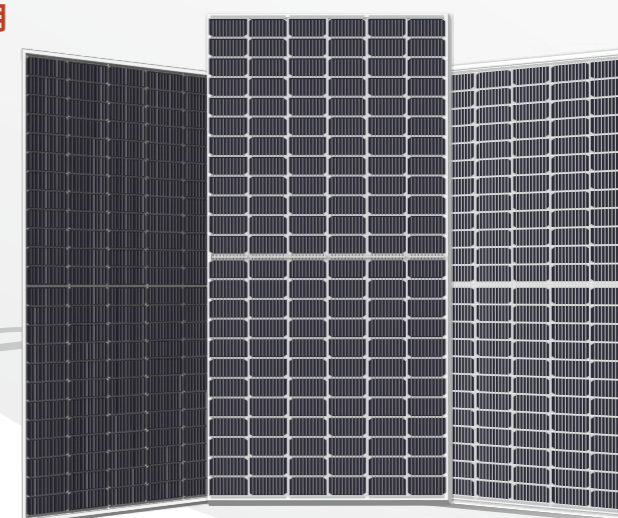
The module is equipped with a multitude of top-notch technologies, such as bifacial technology, multi-busbar technology and half-cell technology. This leads to a perfect balance between high efficiency and high reliability, better protecting customers' investment returns.

分布式优选
395-415W

地面电站首推
650-675W



全场景应用
530-555W



分布式优选

395W-415W 高效组件专为分布式市场打造，组件转换效率高达 21.25%，相同屋顶面积带来更高发电量。组件兼容各类安装方式，具有极高的安装适配性；轻量化的产品设计便于人工搬运，可以显著降低安装成本，AURO P 组件用优越性能为客户创造更多价值。

The 395W-510W 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.

产品优势

Product advantages

宜商宜家

完美适用于户用、工商业多场景项目

版型轻巧

便于搬运降低安装成本

超长质保

单面组件功率质保25年，工艺质保12年

高效发电

应用先进技术，提高发电效率，有效增益发电量

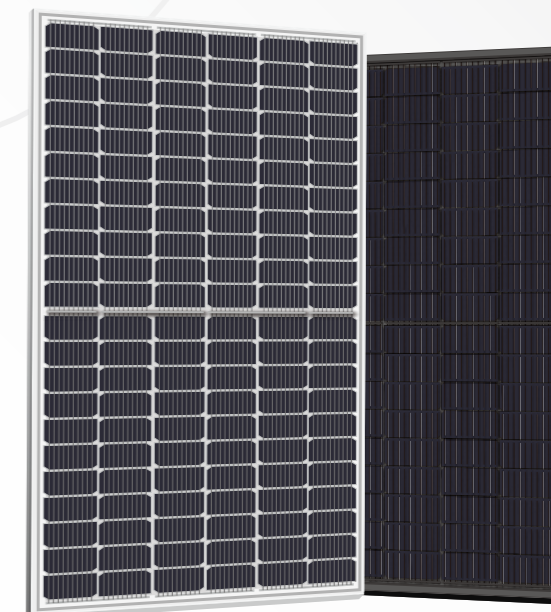


推荐运用

Recommended use

居民、工商业屋顶

光伏建筑一体化项目



组件型号	电池片	电池数量	功率(W)	尺寸(mm)	重量(kg)
MLK-27	182mm	108 cells	395~415	1722*1134	20.6±5%
MLK-27全黑	182mm	108 cells	395~415	1722*1134	20.6±5%

全场景应用

全场景应用组件功率输出高达 555W，转换效率可达 21.48%，实现高效率和高功率的双重突破。组件具有高耐候性，适用于高温、高湿等严苛环境；优异的弱光发电性能，提升组件发电量；丰富的版型设计，使组件可与各种应用场景匹配。

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 scenarios.

产品优势

Product advantages

双面发电

能叠加组件背面发电，增益 5%-25% 的发电量

优异的弱光性能

在雾霾、阴天等低辐照环境下具有更优的弱光发电性能

优越的载荷能力

已通过 IEC 标准的载荷测试，能承受 5400/2400Pa 正 / 背面载荷


适应严酷环境


耐盐雾、沙尘、氨气等恶劣环境，组件应用范围更加广泛




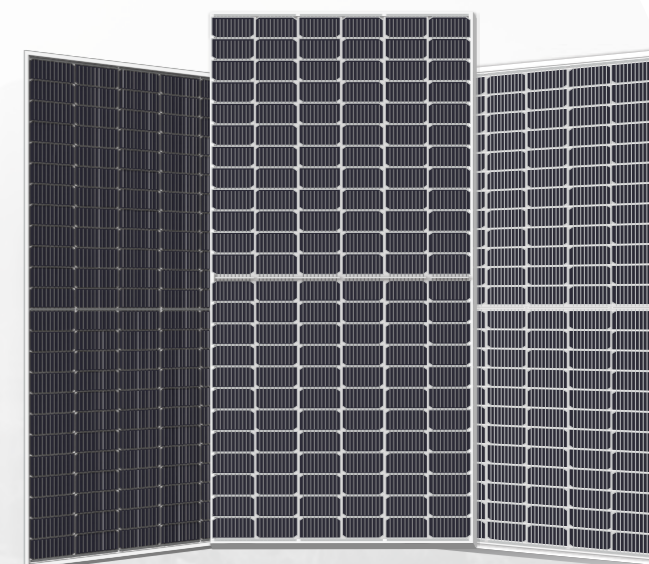
推荐运用

Recommended use

 大型地面电站

 工商业分布式

 户用分布式



组件型号	电池片	电池数量	功率(W)	尺寸(mm)	重量(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%



产品特性

高功率输出
采用182大尺寸单晶硅片
组件功率输出高达555W

双面设计
组件正背面受光发电
发电量增益5%-25%

低温度系数
峰值功率温度系数-0.331%/°C
在高温环境下发电性能优异

优异弱光响应
在雾霾、阴天等低辐照环境下
具有更优的弱光发电性能

更强载荷能力
配备高强度铝合金边框
可承受 5400/2400Pa 正/背面载荷

高兼容性
组件具备更优的系统兼容性
适配主流逆变器与支架

广泛适用性
耐盐雾、沙尘、氨气等恶劣环境
组件应用范围更加广泛

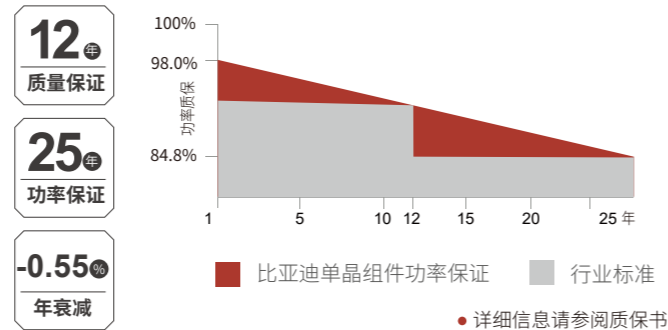
低度电成本
BOS成本降低1.48%
LCOE降低1.27%

产品体系及产品认证

- 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



行业领先的质量保证



电性参数(STC*)

组件型号: MLTK-36	530	535	540	545	550	555
峰值功率 (Pmax)	530	535	540	545	550	555
开路电压(Voc) (V)	49.12	49.42	49.72	50.02	50.32	50.62
短路电流(Isc) (A)	13.45	13.49	13.53	13.57	13.61	13.65
最大工作电压(Vmp)(V)	41.61	41.83	42.05	42.27	42.49	42.71
最大工作电流(Imp) (A)	12.74	12.79	12.84	12.89	12.94	12.99
组件效率(%)	20.52	20.71	20.90	21.10	21.29	21.48

*标准测试条件 (STC): 辐照度1000 W/m², AM=1.5, 电池片温度25°C

电性参数(NMOT*)

组件型号: MLTK-36	530	535	540	545	550	555
峰值功率 (Pmax)	395.2	398.8	402.4	406.1	409.8	413.4
开路电压(Voc) (V)	45.9	46.2	46.5	46.8	47.0	47.3
短路电流(Isc) (A)	10.86	10.89	10.92	10.96	10.99	11.02
最大工作电压(Vmp)(V)	38.4	38.7	38.9	39.1	39.4	39.6
最大工作电流(Imp) (A)	10.28	10.31	10.34	10.37	10.40	10.44

*组件标称工作温度 (NMOT): 辐照度800 W/m², AM=1.5, 环境温度20°C, 风速1m/s

运行参数

工作温度	-40°C~+85°C				
组件标称工作温度 (NMOT)	45°C±2°C				
最大电压(V)	1500V DC				
最大串联保险丝额定值(A)	30A				
防火等级	Class C				
功率容差	0~+5W				
双面因子	70±5%				
功率增益 (Eg.530W)	5%	10%	15%	20%	25%
峰值功率 (Pmax)	557	583	610	636	663
开路电压(Voc) (V)	49.12	49.12	49.12	49.12	49.12
短路电流(Isc) (A)	14.12	14.80	15.47	16.14	16.81
最大工作电压(Vmp)(V)	41.61	41.61	41.61	41.61	41.61
最大工作电流(Imp) (A)	13.377	14.014	14.651	15.288	15.925

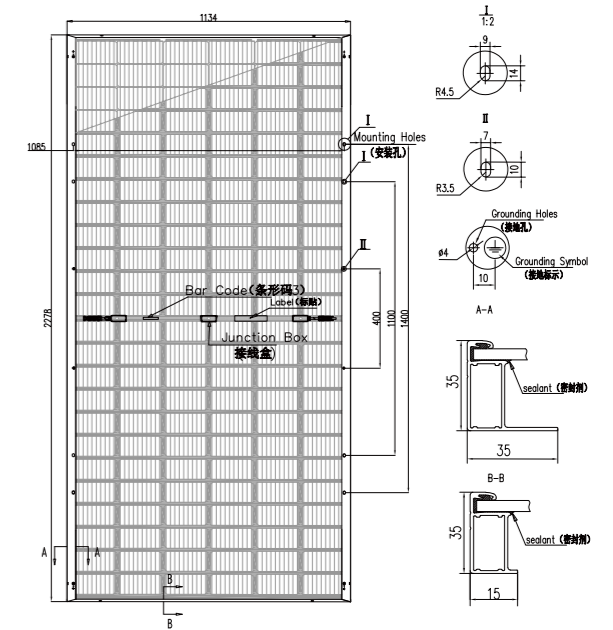
机械参数

电池规格	182mm*91mm
电池数量	144
尺寸	2278*1134*35mm
重量	27.0kg±5%
前玻璃	3.2mm镀膜钢化光伏玻璃
边框	阳极氧化铝边框
接线盒	IP68(3个二极管)
电缆规格	+320mm, -260mm(4.0mm ²);或可定制化
包装信息	868 (31*28) 片 / 平板车

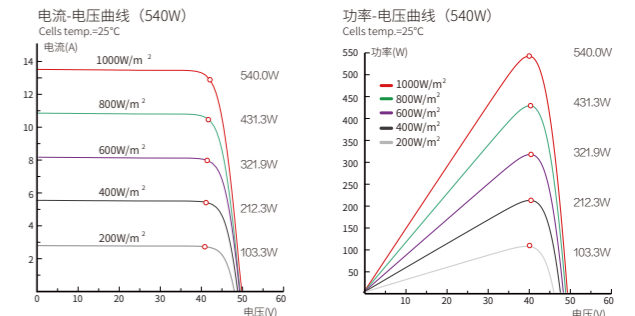
温度参数

峰值功率温度系数	-0.332%/°C
开路电压温度系数	-0.252%/°C
短路电流温度系数	0.046%/°C

图纸



I-V曲线



申明: 本技术参数文件中包含的技术参数可能略有偏差, 比亚迪并不能保证其完全准确无误。由于不断创新、研发和产品改良, 比亚迪有权不在事先通知的情况下, 随时调整技术参数中的信息。



产品特性

- 高功率输出**
采用182大尺寸单晶硅片
组件功率输出高达555W
- 掺镓技术**
掺镓工艺降低光致衰减
全生命周期内更多发电量
- 低温度系数**
峰值功率温度系数-0.331%/°C
在高温环境下发电性能优异
- 优异弱光响应**
在雾霾、阴天等低辐照环境下
具有更优的弱光发电性能

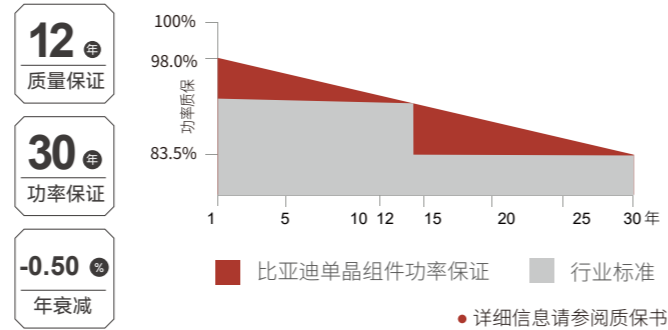
- 更强载荷能力**
配备高强度铝合金边框
可承受 5400/2400Pa 正/背面载荷
- 高兼容性**
组件具备更优的系统兼容性
适配主流逆变器与支架
- 多主栅技术**
增强组件电流收集能力
功率提升2.5%-3%
- 低度电成本**
BOS成本降低1.48%
LCOE降低1.27%

产品体系及产品认证

- 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



行业领先的质量保证



电性参数(STC*)

组件型号: MLBK-36	530	535	540	545	550	555
峰值功率 (Pmax)	530	535	540	545	550	555
开路电压(Voc) (V)	49.12	49.42	49.72	50.02	50.32	50.62
短路电流(Isc) (A)	13.45	13.49	13.53	13.57	13.61	13.65
最大工作电压(Vmp)(V)	41.61	41.83	42.05	42.27	42.49	42.71
最大工作电流(Imp) (A)	12.74	12.79	12.84	12.89	12.94	12.99
组件效率(%)	20.52	20.71	20.90	21.10	21.29	21.48

*标准测试条件 (STC): 辐照度1000 W/m², AM=1.5, 电池片温度25°C

电性参数(NMOT*)

组件型号: MLBK-36	530	535	540	545	550	555
峰值功率 (Pmax)	394.7	398.3	402.0	405.5	409.3	413.0
开路电压(Voc) (V)	46.0	46.3	46.5	46.8	47.1	47.4
短路电流(Isc) (A)	10.85	10.88	10.91	10.94	10.98	11.01
最大工作电压(Vmp)(V)	38.5	38.7	39.0	39.2	39.4	39.7
最大工作电流(Imp) (A)	10.25	10.28	10.31	10.34	10.38	10.41

*组件标称工作温度 (NMOT): 辐照度800 W/m², AM=1.5, 环境温度20°C, 风速1m/s

运行参数

工作温度	-40°C~+85°C				
组件标称工作温度 (NMOT)	45°C±2°C				
最大电压(V)	1500V DC				
最大串联保险丝额定值(A)	30A				
防火等级	Class C				
功率容差	0~+5W				
双面因子	70±5%				
功率增益 (Eg.530W)	5%	10%	15%	20%	25%
峰值功率 (Pmax)	557	583	610	636	663
开路电压(Voc) (V)	49.12	49.12	49.12	49.12	49.12
短路电流(Isc) (A)	14.12	14.80	15.47	16.14	16.81
最大工作电压(Vmp)(V)	41.61	41.61	41.61	41.61	41.61
最大工作电流(Imp) (A)	13.38	14.01	14.65	15.29	15.93

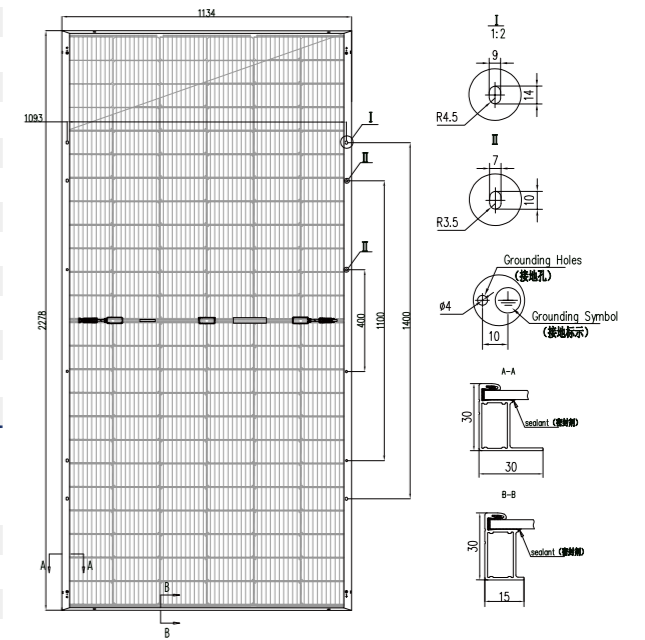
机械参数

电池规格	182*91mm
电池数量	144
尺寸	2278*1134*30mm
重量	30.0kg±5%
前玻璃	2.0mm半钢化镀膜玻璃
后玻璃	2.0mm半钢化丝印玻璃
边框	阳极氧化铝边框
接线盒	IP68(3个二极管)
电缆规格	+320mm, -260mm(4.0mm ²); 或可定制
包装信息	936 (36*26) 片 / 平板车

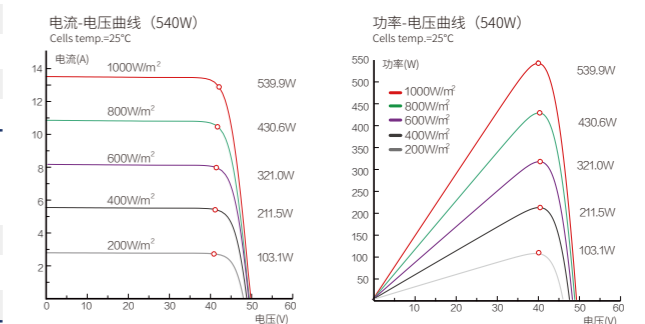
温度参数

峰值功率温度系数	-0.328%/°C
开路电压温度系数	-0.254%/°C
短路电流温度系数	0.041%/°C

图纸



I-V曲线



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地面电站首推

基于210mm大尺寸硅片,应用无损切割、高密度封装和双面发电技术等提升组件效率和功率,组件效率为21.73%,功率输出高达675W。600W+超高功率组件在性能、可靠性、技术成本等方面独具优势,可完美适用于大型地面电站项目。

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.

产品优势

Product advantages

发电能力出众

先进技术和制造工艺,相同条件下带来更多发电量

低温度系数

在雾霾、阴天等低辐照环境下具有更优的弱光发电性能

高可靠性

通过3倍IEC标准测试,保证产品更高可靠性


低度电成本


BOS成本降低1.48%, LCOE降低1.27%

推荐运用

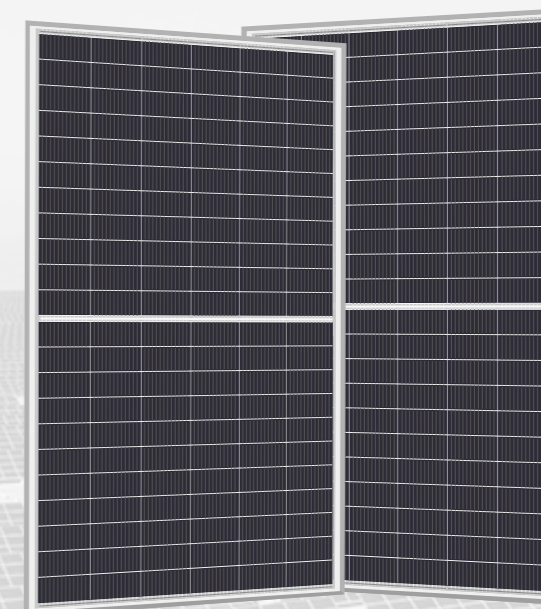
Recommended use

 大型地面电站

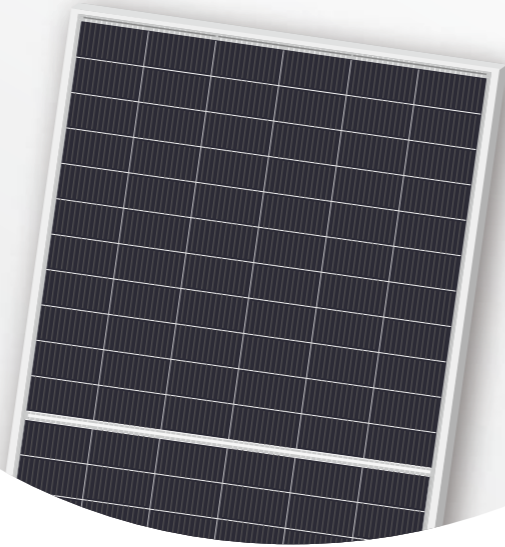
 工商业分布式

 户用分布式

*适合高温、高寒、高湿、高盐雾、沙漠、沿海等电站环境



组件型号	电池片	电池数量	功率(W)	尺寸(mm)	重量(kg)
MSTK-33	210mm	132 cells	650~675	2384*1303	33.9±5%



产品特性

高功率输出
采用210mm大尺寸单晶硅片
组件功率输出高达675W

双面设计
组件正背面受光发电
发电量增益5%-25%

低温度系数
峰值功率温度系数-0.328%/°C
在高温环境下发电性能优异

优异弱光响应
在雾霾、阴天等低辐照环境下
具有更优的弱光发电性能

更强载荷能力
配备高强度铝合金边框
可承受 5400/2400Pa 正/背面载荷

高兼容性
组件具备更优的系统兼容性
适配主流逆变器与支架

广泛适用性
耐盐雾、沙尘、氨气等恶劣环境
组件应用范围更加广泛

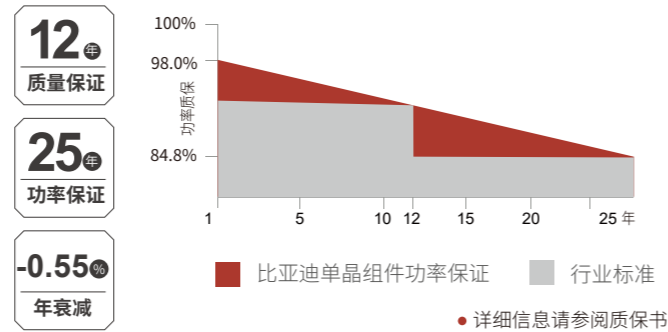
低度电成本
BOS成本降低1.48%
LCOE降低1.27%

产品体系及产品认证

- 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



行业领先的质量保证



电性参数(STC*)

组件型号: MSTK-33	650	655	660	665	670	675
峰值功率 (Pmax)	650	655	660	665	670	675
开路电压(Voc) (V)	45.45	45.58	45.72	45.85	45.98	46.11
短路电流(Isc) (A)	18.17	18.21	18.24	18.27	18.33	18.38
最大工作电压(Vmp)(V)	37.86	37.95	38.04	38.12	38.21	38.31
最大工作电流(Imp) (A)	17.18	17.27	17.36	17.45	17.54	17.63
组件效率(%)	20.92	21.10	21.26	21.41	21.57	21.73

*标准测试条件 (STC): 辐照度1000 W/m², AM=1.5, 电池片温度25°C

电性参数(NMOT*)

组件型号: MSTK-33	650	655	660	665	670	675
峰值功率 (Pmax)	486.7	490.2	493.8	497.6	501.5	505.6
开路电压(Voc) (V)	42.6	42.7	42.9	43.0	43.1	43.2
短路电流(Isc) (A)	14.66	14.69	14.71	14.73	14.78	14.82
最大工作电压(Vmp)(V)	35.1	35.2	35.4	35.6	35.7	35.9
最大工作电流(Imp) (A)	13.87	13.91	13.95	13.99	14.04	14.09

*组件标称工作温度 (NMOT): 辐照度800 W/m², AM=1.5, 环境温度20°C, 风速1m/s

运行参数

工作温度	-40°C~+85°C				
组件标称工作温度 (NMOT)	45±2°C				
最大电压(V)	1500V DC				
最大串联保险丝额定值(A)	35A				
防火等级	Class C				
功率容差	0~+5W				
双面因子	70±5%				
功率增益 (Eg.660W)	5%	10%	15%	20%	25%
峰值功率 (Pmax)	693	726	759	792	825
开路电压(Voc) (V)	45.72	45.72	45.72	45.72	45.72
短路电流(Isc) (A)	19.15	20.07	20.98	21.89	22.80
最大工作电压(Vmp)(V)	38.04	38.04	38.04	38.04	38.04
最大工作电流(Imp) (A)	18.23	19.09	19.96	20.83	21.70

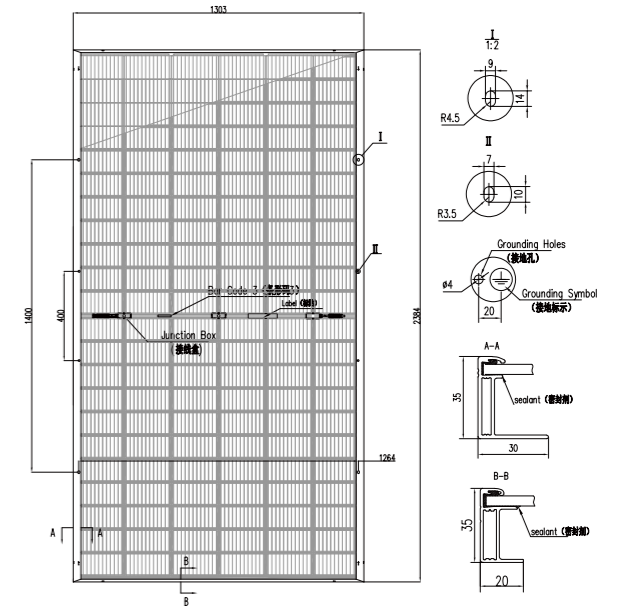
机械参数

电池规格	210*105mm
电池数量	132PCS
尺寸	2384*1303*35mm
重量	33.9kg ± 5%
前玻璃	3.2mm镀膜钢化光伏玻璃
边框	阳极氧化铝边框
接线盒	IP68(3个二极管)
电缆规格	+320mm, -260mm(4.0mm ²); 或可客制化
包装信息	837 (31*27) 片 / 平板车

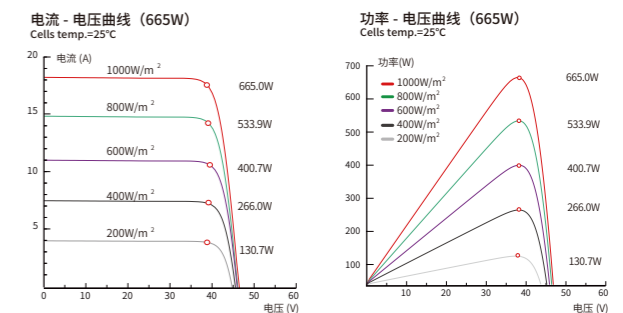
温度参数

峰值功率温度系数	-0.328%/°C
开路电压温度系数	-0.254%/°C
短路电流温度系数	0.041%/°C

图纸



I-V曲线



申明: 本技术参数文件中包含的技术参数可能略有偏差, 比亚迪并不能保证其完全准确无误。由于不断创新、研发和产品改良, 比亚迪有权不在事先通知的情况下, 随时调整技术参数中的信息。