

产品系列 Products Series



# DMS525-550W

## 182MBB Half-cell Module

模块的半电池配置由10BB PERC电池组装而成，具有更高的功率输出、更好的温度相关性、减少对能量产生的阴影影响、降低热点风险以及增强的机械负载耐受性等优点。

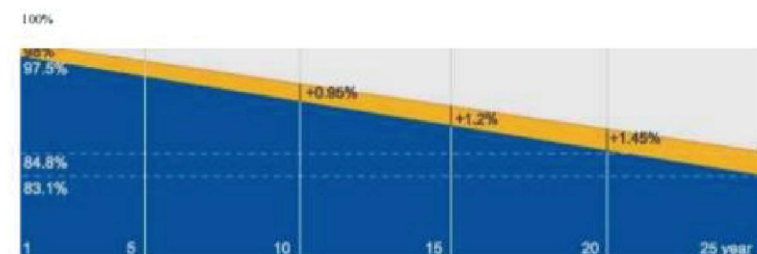
Assembled with 10BB PERC cells, the half-cell configuration of the modules offers the advantages of higher power output, better temperature-dependent performance, reduced shading effect on the energy generation, lower risk of hot spot, as well as enhanced tolerance for mechanical loading.

### Superior Warranty 高级保修

12-year product warranty 12年产品保修

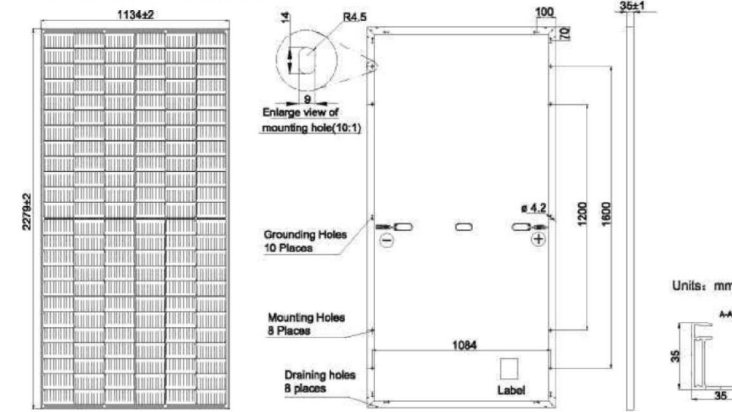
25-year linear power output warranty 25年线性功率输出保修

0.55% Annual Degradation Over 25years  
25年内每年退化0.55%



New linear power warranty ■ Standard module linear power warranty

## DMS525-550W



## Specifications 规格

Cell 电池	Mono 单晶
Weight 重量	28.6kg±3%
Dimensions 尺寸	2279±2mmx1134±2mm*35±1 mm
Cable Cross Section Size 电缆横截面尺寸	4mm <sup>2</sup> (IEC), 12AWG(UL)
No. of cells 电池片数量	144(6x24)
Junction Box 接线盒	IP68, 3 diodes
Connector 连接器	QC4.10(1000V) QC 4.10-35(1500V)
Cable Length (Including Connector) 电缆长度 (包括连接器)	Portrait 纵向: 300mm(+)/400mm(-); Landscape 横向: 1300mm(+)/1300mm(-)
Packaging Configuration 包装配置	31pcs/Pallet, 620pcs/40ft Container 31件/托盘, 620件/40英尺集装箱

## Electrical parameters at STC STC的电气参数

TYPE 类型	FMS525M-144	FMS530M-144	FMS535M-144	FMS540M-144	FMS545M-144	FMS550M-144
Rated Maximum Power(Pmax) [W] 额定最大功率 ( Pmax )	525	530	535	540	545	550
Open Circuit Voltage(Voc) [V] 开路电压 ( Voc )	49.15	49.3	49.45	49.6	49.75	49.9
Maximum Power Voltage(Vmp) [V] 最大功率电压 ( Vmp )	41.15	41.31	41.47	41.64	41.8	41.96
Short Circuit Current(Isc) [A] 短路电流 ( Isc )	13.65	13.72	13.79	13.86	13.93	14
Maximum Power Current(Imp) [A] 最大功率电流 ( Imp )	12.76	12.83	12.9	12.97	13.04	13.11
Module Efficiency [%] 模块效率	20.3	20.5	20.7	20.9	21.1	21.3
Power Tolerance 功率容差						0~+5W
Temperature Coefficient of Isc(ajsc)Isc温度系数						+0.045%/°C
Temperature Coefficient of Vbc(3_Voc) Vbc的温度系数 ( 3_Voc )						-0.275%/°C
Temperature Coefficient of Pmax(v_Pmp) Pmax温度系数 ( v_Pmp )						-0.350%/°C
STC	Irradiance 1000W/m <sup>2</sup> , cell temperature 25°C, AM1.5G 辐照度1000W/m <sup>2</sup> , 电池温度25°C, AM1.5G					

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types  
备注: 本目录中的电气数据并非指单个模块, 也不是报价的一部分。它们仅用于不同模块类型之间的比较

## Electrical parameters at NOCT NOCT电参数

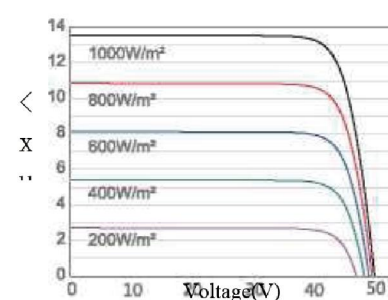
TYPE 类型	FMS525M-144	FMS530M-144	FMS535M-144	FMS540M-144	FMS545M-144	FMS550M-144
Rated Max Power(Pmax) 额定最大功率[W]	397	401	405	408	412	416
Open Circuit Voltage(Voc) [V] 开路电压	46.05	46.18	46.31	46.43	46.55	46.68
Max Power Voltage(Vmp) [V] 最大功率电压	38.36	38.57	38.78	38.99	39.2	39.43
Short Circuit Current(Isc) [A] 短路电流	10.97	11.01	11.05	11.09	11.13	11.17
Max Power Current(Imp) [A] 最大功率电流	10.35	10.39	10.43	10.47	10.51	10.55
NOCT	Irradiance 800W/m <sup>2</sup> , ambient temperature 20°C, wind speed 1m/s, AM1.5G 辐照度800W/m <sup>2</sup> , 环境温度20°C, 风速1m/s, AM1.5G					

## Operating conditions 操作条件

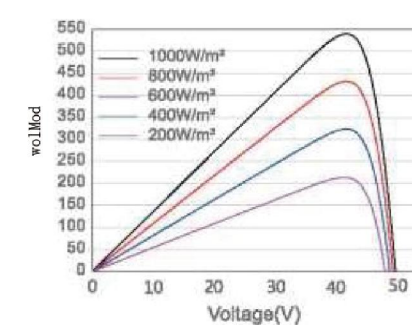
Maximum System Voltage 最大系统电压	1000V/1500V DC
Operating Temperature 工作温度	-40C~+85C
Maximum Series Fuse Rating 最大串联保险丝额定值	25A
Maximum Static Load,Front* 最大静载荷, 前面*	5400Pa(112lb/ft <sup>2</sup> )
Maximum Static Load,Back* 最大静载荷, 背面*	2400Pa(50lb/ft <sup>2</sup> )
NOCT	45±2C
Safety Class 安全等级	Class II
Fire Performance 防火性能	UL Type 1 UL类型1

## Premium Cells, Premium Modules 高级电池、高级模块

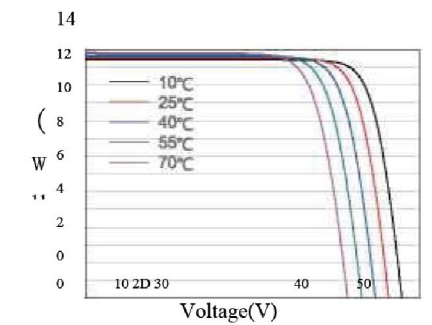
Current-Voltage Curve FMS-540M-144  
电流-电压曲线FMS-540M-144

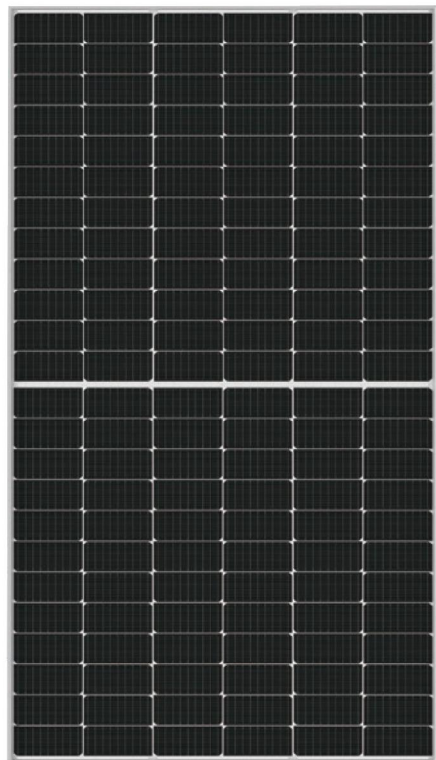


Power-Voltage Curve FMS-540M-144  
电源电压曲线FMS-540M-144



Current-Voltage Curve FMS-540M-144  
电流-电压曲线FMS-540M-144





## DMS430-144

### High efficiency & low attenuation 高效率&低衰减

- Module power positive tolerance +5W 组件功率正公差+5W
- Module conversion efficiency is as high as 20.93% 组件转换效率高达 20.93%

### Excellent product performance 产品性能优异

- Excellent low-irradiation performance 优异的低辐照性能
- The best choice for large-scale photovoltaic power plants and photovoltaic distributed projects 大型光伏电站和光伏分布式项目的最佳选择

### Strict quality assurance 严格的质量保障

- The components have passed the TUV certification of anti-PID(Anti-potential induced attenuation performance) 组件通过了TUV认证的抗PID(抗电势诱导衰减性能)
- 100% EL detection 100% EL检测

### Adapt to multiple environments 适应多种环境

- Passed the salt spray and ammonia environment test certification 通过了盐雾和氨气环境测试认证
- The components can withstand 5400pa snow pressure and 2400pa wind pressure 组件可承受5400pa雪压和2400pa风压

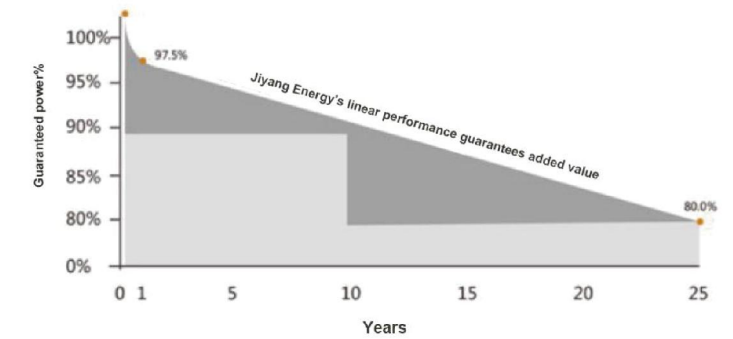
### Superior Warranty 高级保修

12-year product warranty 12年产品保修

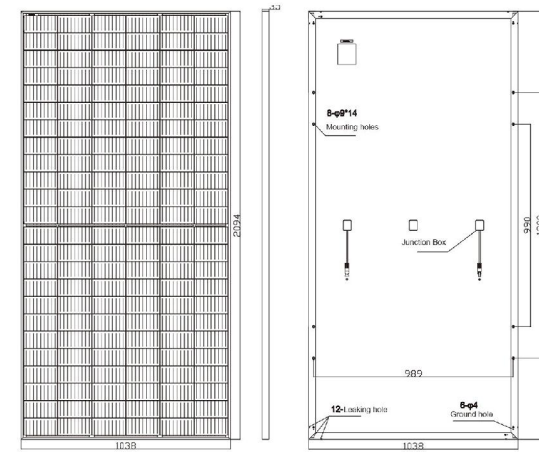
25-year linear power output warranty 25年线性功率输出保修

0.55% Annual Degradation Over 25years

25年内每年退化0.55%



### Component size 组件尺寸



### Mechanical parameters 机械参数

Cell type 电池片类型	Monocrystalline 单晶
Number of cells 电池片数量	144 pcs(6*24)
size 尺寸	2094x1038x35mm
weight 重量	23.5kg
Packaging Information 包装信息	30pcs/tow 30块/拖
	720pcs/13mcar 720块/13米车
	960pcs/17.5mcar 960块/17.5米车
	280pcs/20GP 280块/20GP 660pcs/40HQ 660块/40HQ

### Electrical performance parameters 电性能参数

Model 型号	FMS430M6-144	FMS435M6-144	FMS440M6-144	FMS445M6-144	FMS450M6-144	FMS455M6-144
Maximum power 最大功率 Pm(W)	430	435	440	445	450	455
Open circuit voltage 开路电压 Voc(V)	48.5	48.7	48.9	49.1	49.3	49.5
Short circuit current 短路电流 Isc(A)	11.31	11.39	11.46	11.53	11.6	11.66
Maximum power voltage 最大功率电压 Vmp(V)	40.7	40.9	41.1	41.3	41.5	41.7
Maximum power current 大功率电流 Imp(A)	10.57	10.64	10.71	10.78	10.85	10.92

STC; Irradiance 1000W/m<sup>2</sup>, battery temperature 25°C, air quality 1.5 STC: 辐照度 1000W/m<sup>2</sup>, 电池温度 25°C, 大气质量 1.5

### Temperature Coefficient 温度系数

Rated battery operating temperature 额定电池工作温度 (NOCT)	45±2°C
Maximum power temperature coefficient 最大功率温度系数 (%/C)	-0.35
Open circuit voltage temperature coefficient 开路电压温度系数 (%/C)	-0.27
Short-circuit current temperature coefficient 短路电流温度系数 (%/C)	0.048

### Conditions of Use 使用条件

Conditions of Use 工作温度	-40~+85°C
storage temperature 存储温度	-40~+85°C
Maximum rated current of fuse 最大保险丝额定电流	20A
Maximum system voltage 最大系统电压	DC1500V

## 产品系列 Products Series

# DMS N-TYPE 72HL4-(V)

565-585 Watt

DMS N-TYPE 72HL4- (V) 565-585瓦

高效单晶硅单面半片太阳能组件

High-efficiency monocrystalline silicon single-sided half-chip solar module

## N-Type

0~+3%正公差 0~+3%Positive tolerance

IEC61215(2016),IEC61730(2016)

ISO9001 : 2015 : 质量管理体系 quality management system

ISO14001 : 2015 : 环境管理体系 Environmental management system

ISO45001 : 2018 : 职业健康安全管理体系 Occupational health and safety management system



## Component characteristics 组件特性



### 多主栅技术 Multi-gate technology

更优的光线利用率和电流收集能力，有效提升产品功率输出和可靠性。

Better light utilization and current collection capacity, effectively improving product power output and reliability



### 抗 PID 保证 Anti-PID guarantee

通过电池生产技术优化及材料管控将 PID 现象造成的衰减几率降至最小。

Minimize the attenuation probability caused by PID phenomenon through battery production technology optimization and material control



### 严酷环境的适应性

### Adaptability to harsh environment

第三方认证通过高盐雾及高氨气腐蚀测试。

Third-party certification passed the corrosion test of high salt spray and high ammonia gas



### HOT 2.0 技术 HOT2.0 technology

使用 HOT 2.0 技术的 N 型组件具有更佳可靠性以及更低 LID/LETID 衰减。

N-type components using HOT2.0 technology have better reliability and lower LID/LETID attenuation



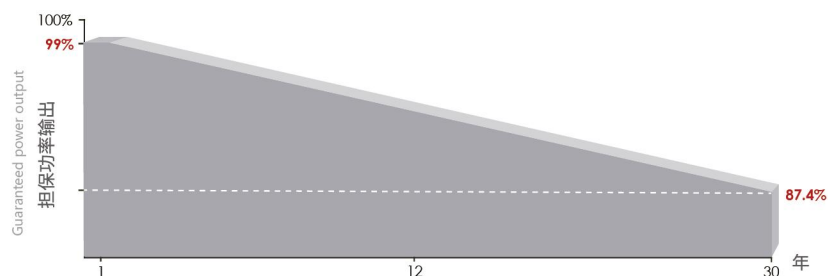
### 载荷能力 Load capacity

整体组件通过 2400Pa 的风载荷及 5400Pa 的雪载荷认证。

The whole assembly has passed the certification of 2400Pa wind load and 5400Pa snow load



## Industry-leading linear warranty 业内领先的线性质保



12 年材料工艺质保

12-year material and process warranty

30 年线性质保

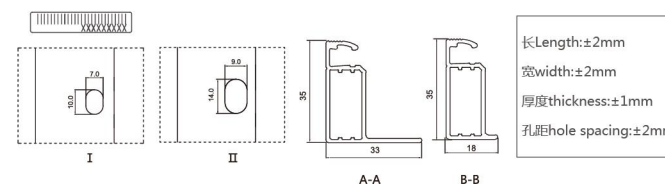
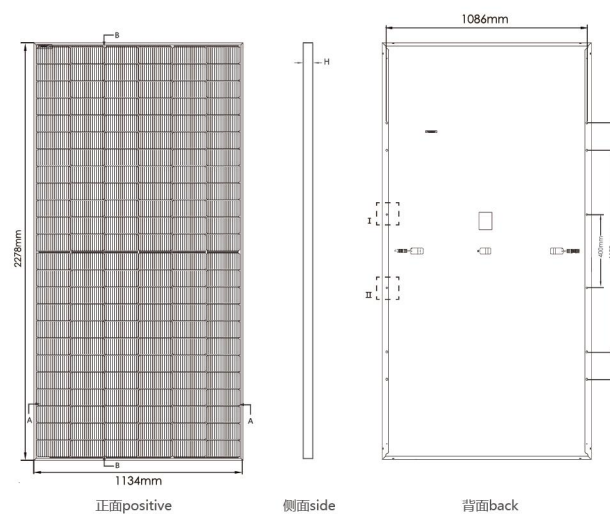
30-year linear warranty

优异质保承诺30年功率质保

0.4% 线性功率衰减

Excellent warranty commitment 30 years power warrant 0.4% linear power attenuation

## Assembly drawing 装配图



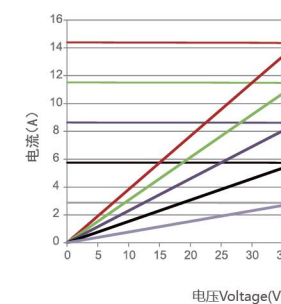
### Packaging standard 包装标准

平板车运输装车量(车型:高低板-车总长17.5米,高板长度3.5-4.5米)  
Transportation and loading capacity of flat car (model: high and low plate-the total length of the car is 17.5 meters, and the length of the high plate is 3.5-4.5 meters)

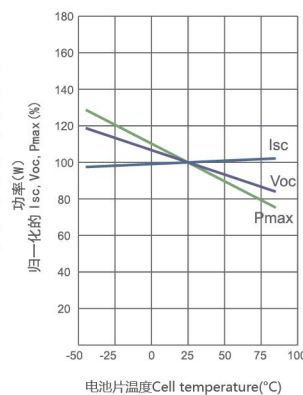
每托尺寸(mm)2308x1120x1249 31块/托,30托/车,930块/车  
Each pallet size (mm) 2308x1120x1249 31 pieces/pallet, 30 pallets/vehicle, 930 pieces/vehicle

## Diagram 曲线图

电流电压及功率电压曲线(575W)  
Current voltage and power voltage curve



Isc, Voc, Pmax的温度曲线  
Temperature curve of Isc, Voc and Pmax



### Structural parameters 结构参数

电池片类型Cell type	N型单晶硅电池片 N-type monocrystalline silicon cell
半片电池片数目Cell type	144(2×72)
组件尺寸Number of half cells	2278×1134×35mm
组件重量Component size	28kg
上表面玻璃材质 Upper surface glass material	3.2 mm,高透镀膜玻璃, 低铁钢化玻璃, 压花 3.2mm, high permeability coated glass, low iron fully tempered glass, embossing
边框Frame	阳极氧化铝合金 Anodized aluminum alloy
接线盒Junction box	防护等级IP68 Protection grade IP68
输出导线Output wire	TUV 1x4.0mm <sup>2</sup> 导线长度: (+):300mm,(-):200mm;或定制 Wire length: (+): 300mm (-): 200mm: or customized

## Electrical performance parameters 电性能参数

Component model组件型号	JKM565N-72HL4		JKM570N-72HL4		JKM575N-72HL4		JKM580N-72HL4		JKM585N-72HL4	
	JKM565N-72HL4-V	JKM570N-72HL4-V	JKM575N-72HL4-V	JKM580N-72HL4-V	JKM585N-72HL4-V	JKM565N-72HL4-V	JKM570N-72HL4-V	JKM575N-72HL4-V	JKM580N-72HL4-V	JKM585N-72HL4-V
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum power最大功率(Pmax)	565Wp	425Wp	570Wp	429Wp	575Wp	432Wp	580Wp	436Wp	585Wp	440Wp
Optimal working voltage最佳工作电压(mp)	41.92V	39.38V	42.07V	39.51V	42.22V	39.60V	42.37V	39.69V	42.52V	39.81V
Optimal working current最佳工作电流(mp)	13.48A	10.79A	13.55A	10.85A	13.62A	10.92A	13.69A	10.99A	13.76A	11.05A
Open circuit voltage开路电压(Voc)	50.60V	48.06V	50.74V	48.20V	50.88V	48.33V	51.02V	48.46V	51.16V	48.60V
Short circuit current短路电流(sc)	14.23A	11.49A	14.31A	11.55A	14.39A	11.62A	14.47A	11.68A	14.55A	11.75A
Component efficiency组件效率(%)	21.87%		22.07%		22.26%		22.45%		21.65%	
Operating temperature range工作温度范围(°C)	-40°C~+85°C									
Maximum system voltage最大系统电压	1000/1500VDC (IEC)									
Maximum rated fuse current最大额定熔丝电流	25A									
Output power tolerance输出功率公差	0~+3%									
Temperature coefficient of maximum power 最大功率的温度系数(Pmax)	-0.30%/°C									
Temperature coefficient of open circuit voltage 开路电压的温度系数(voc)	-0.25%/°C									
Temperature coefficient of short-circuit current 短路电流(sc)的温度系数(sc)	0.046%/°C									
Nominal battery operating temperature 名义电池工作温度(NocT)	45±2°C									

STC: 光照强度 1000W/m<sup>2</sup>  
Light intensity

电池温度: 25°C  
Battery temperature

大气质量=1.5  
Air quality

NOCT: 光照强度 800W/m<sup>2</sup>  
Light intensity

环境温度: 20°C  
Ambient temperature

大气质量=1.5  
Air quality

风速 1m/s  
wind speed

\* 功率测量误差+/-3%  
Power measurement error+/-3%

## 产品系列 Products Series

# DMS N-TYPE 72HL4-BDV

560-580 Watt

DMS N-TYPE 72HL4-BDV560-580瓦

高效单晶硅双面半片太阳能组件

High-efficiency monocrystalline silicon double-sided half-chip solar module

N-Type

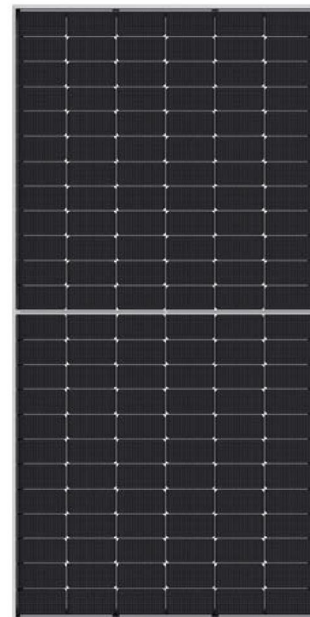
0~+3%正公差 0~+3%Positive tolerance

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Minimize the attenuation probability caused by PID phenomenon through battery production technology optimization and material control



### 双面发电 Double-sided power generation

双面发电增益随背面受光增加,最高可达25%,显著降低LCOE  
Double-sided power generation gain increases with back light exposure, up to 25%, significantly reducing LCOE



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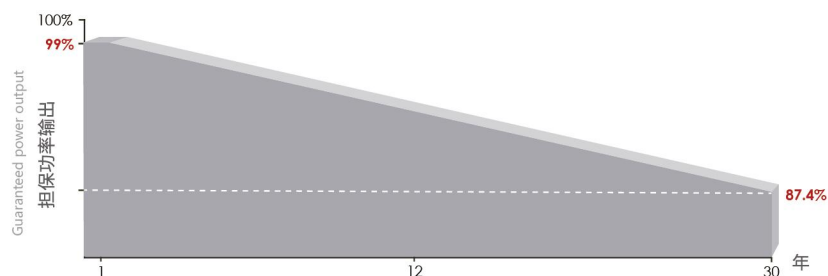
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## Industry-leading linear warranty 业内领先的线性质保



**12** 年材料工艺质保 **30** 年线性质保

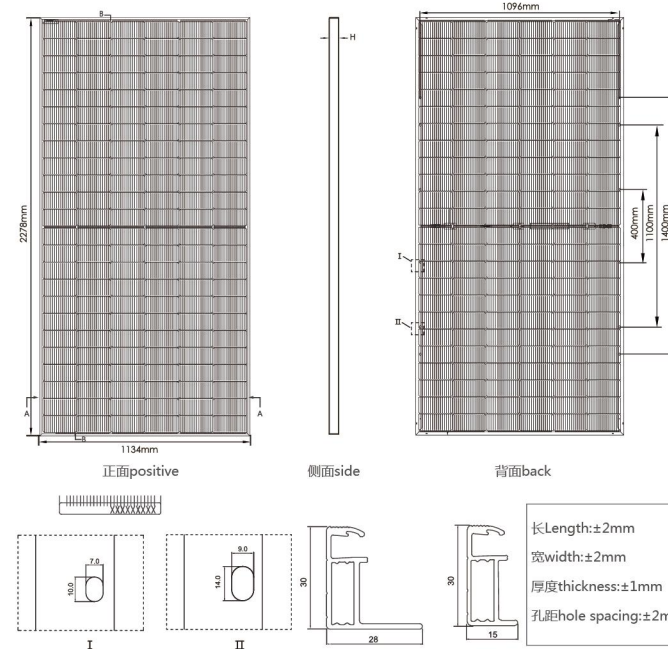
12-year material and process warranty 30-year linear warranty

优异质保承诺30年功率质保

**0.4%** 线性功率衰减

Excellent warranty commitment 30 years power warrant 0.4% linear power attenuation

## Assembly drawing 装配图



### Packaging standard 包装标准

平板车运输装车量(车型:高低板-车总长17.5米,高板长度3.5-4.5米)

Transportation and loading capacity of flat car (model: high and low plate-the total length of the car is 17.5 meters, and the length of the high plate is 3.5-4.5 meters)

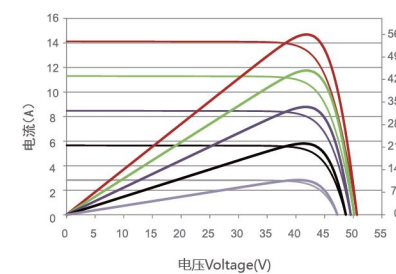
每托尺寸(mm)2334X1140x1249 36块/托,25托/车,900块/车

Size of each tray (mm) 2334X1140 x 1249 36 pieces/tray, 25 pieces/car, 900 pieces/car

## Diagram 曲线图

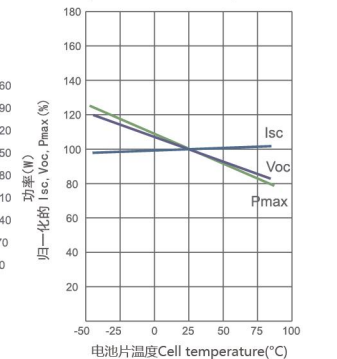
电流电压及功率电压曲线(580W)

Current voltage and power voltage curve



Isc, Voc, Pmax的温度曲线

Temperature curve of Isc, Voc and Pmax



### Structural parameters 结构参数

电池片类型Cell type	N型单晶硅电池片 N-type monocrystalline silicon cell
半片电池片数目Cell type	144(2x72)
组件尺寸Number of half cells	2278x1134x30mm
组件重量Component size	32kg
上表面玻璃材质 Upper surface glass material	2.0mm,高透镀膜玻璃 2.0mm, high permeability coated glass
上表面玻璃材质 Upper surface glass material	2.0mm,半钢化玻璃 2.0mm, semi-tempered glass
边框Frame	阳极氧化铝合金 Anodized aluminum alloy
接线盒Junction box	防护等级IP68 Protection grade IP68
输出导线Output wire	TUV 1x4.0mm <sup>2</sup> 导线长度: (+):300mm,(-):200mm;或定制 Wire length: (+): 300mm (-): 200mm; or customized

## Electrical performance parameters 电性能参数

Component model/组件型号	JKM560N-72HL4-BDV		JKM565N-72HL4-BDV		JKM570N-72HL4-BDV		JKM575N-72HL4-BDV		JKM580N-72HL4-BDV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum power最大功率(Pmax)	560Wp	421Wp	565Wp	425Wp	570Wp	429Wp	575Wp	432Wp	580Wp	436Wp
Optimal working voltage最佳工作电压(mp)	41.95V	39.39V	42.14V	39.52V	42.29V	39.65V	42.44V	39.78V	42.59V	39.87V
Optimal working current最佳工作电流(mp)	13.35A	10.69A	13.41A	10.75A	13.48A	10.81A	13.55A	10.87A	13.62A	10.94A
Open circuit voltage开路电压(Voc)	50.67V	48.13V	50.87V	48.32V	51.07V	48.51V	51.27V	48.70V	51.47V	48.89V
Short circuit current短路电流(sc)	14.13A	11.41A	14.19A	11.46A	14.25A	11.50A	14.31A	11.55A	14.37A	11.60A
Component efficiency组件效率(%)	21.68%		21.87%		22.07%		22.26%		22.45%	
Operating temperature range工作温度范围(°C)	-40°C~+85°C									
Maximum system voltage最大系统电压	1500VDC (IEC)									
Maximum rated fuse current最大额定熔丝电流	30A									
Output power tolerance输出功率公差	0~+3%									
Temperature coefficient of maximum power最大功率的温度系数(Pmax)	-0.30%/°C									
Temperature coefficient of open circuit voltage开路电压的温度系数(voc)	-0.25%/°C									
Temperature coefficient of short-circuit current短路电流(sc)的温度系数(sc)	0.046%/°C									
Nominal battery operating temperature名义电池工作温度(NoCT)	45±2°C									
Reference. Double-sided factor参考双面因子	80±5%									

### Double-sided power generation parameters (back gain) 双面发电参数(背面增益)

	5%	15%	25%
Maximum power最大功率(Pmax)	588Wp	644Wp	700Wp
Component efficiency组件效率(%)	22.77%	24.93%	27.10%
Maximum power最大功率(Pmax)	593Wp	650Wp	706Wp
Component efficiency组件效率(%)	22.97%	25.15%	27.34%
Maximum power最大功率(Pmax)	599Wp	656Wp	713Wp
Component efficiency组件效率(%)	23.17%	25.37%	27.58%
Maximum power最大功率(Pmax)	604Wp	661Wp	719Wp
Component efficiency组件效率(%)	23.37%	25.60%	27.82%
Maximum power最大功率(Pmax)	609Wp	667Wp	725Wp
Component efficiency组件效率(%)	23.57%	25.82%	28.07%

STC: 光照强度 1000W/m<sup>2</sup>  
Light intensity

电池温度: 25°C  
Battery temperature

大气质量=1.5  
Air quality

NOCT: 光照强度 800W/m<sup>2</sup>  
Light intensity

环境温度: 20°C  
Ambient temperature

大气质量=1.5  
Air quality

风速 1m/s  
wind speed

\* 功率测量误差 +/- 3%  
Power measurement error +/- 3%

## 产品系列 Products Series

# DMS N-TYPE 78HL4-BDV

605-625 Watt

DMS N-TYPE 78HL4-BDV 605-625瓦

### 高效单晶硅双面半片太阳能组件

High-efficiency monocrystalline silicon double-sided half-chip solar module

### N-Type

0~+3%正公差 0~+3%Positive tolerance

IEC61215(2016),IEC61730(2016)

ISO9001 : 2015 : 质量管理体系 quality management system

ISO14001 : 2015 : 环境管理体系 Environmental management system

ISO45001 : 2018 : 职业健康安全管理体系 Occupational health and safety management system



### Component characteristics 组件特性



#### 多主栅技术 Multi-gate technology

更优的光线利用率和电流收集能力，有效提升产品功率输出和可靠性。

Better light utilization and current collection capacity, effectively improving product power output and reliability



#### 抗PID保证 Anti-PID guarantee

通过电池生产优化及材料管控将PID现象造成的衰减几率降至最小。

Minimize the attenuation probability caused by PID phenomenon through battery production technology optimization and material control



#### 双面发电 Double-sided power generation

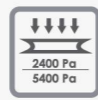
双面发电增益随背面受光增加，最高可达25%，显著降低LCOE  
Double-sided power generation gain increases with back light exposure, up to 25%, significantly reducing LCOE



#### HOT 2.0 技术 HOT2.0 technology

使用HOT 2.0技术的N型组件具有更佳可靠性以及更低LID/LETID衰减。

N-type components using HOT2.0 technology have better reliability and lower LID/LETID attenuation



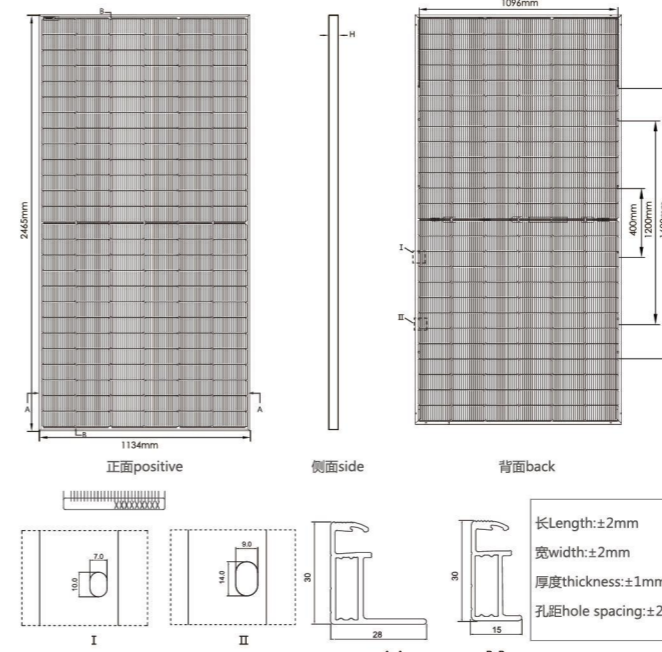
#### 载荷能力 Load capacity

整体组件通过2400Pa的风载荷及5400Pa的雪载荷认证。

The whole assembly has passed the certification of 2400Pa wind load and 5400Pa snow load



### Assembly drawing 装配图

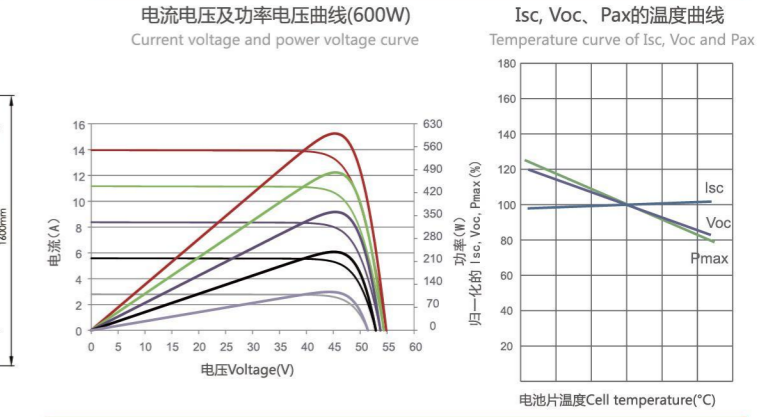


#### Packaging standard 包装标准

平板车运输装车量(车型:高低板-车总长17.5米,高板长度3.5-4.5米)  
Transportation and loading capacity of flat car (model: high and low plate-the total length of the car is 17.5 meters, and the length of the high plate is 3.5-4.5 meters)

每托尺寸(mm)2525X1140×1249 36块/托,22托/车,792块/车  
Size of each tray (mm) 2525X1140 × 1249 36 pieces/tray, 22 pieces/tray, 792 pieces/car

### Diagram 曲线图



#### Structural parameters 结构参数

电池片类型Cell type	N型单晶硅电池片 N-type monocrystalline silicon cell
半片电池片数目Cell type	156(2×78)
组件尺寸Number of half cells	2465×1134×30mm
组件重量Component size	34.6kg
上表面玻璃材质 Upper surface glass material	2.0mm,高透镀膜玻璃 2.0mm, high permeability coated glass
上表面玻璃材质 Upper surface glass material	2.0mm,半钢化玻璃 2.0mm, semi-tempered glass
边框Frame	阳极氧化铝合金 Anodized aluminum alloy
接线盒Junction box	防护等级IP68 Protection grade IP68
输出导线Output wire	TUV 1x4.0mm <sup>2</sup> 导线长度: (+):300mm,(-):200mm;或定制 Wire length: (+): 300mm (-): 200mm; or customized

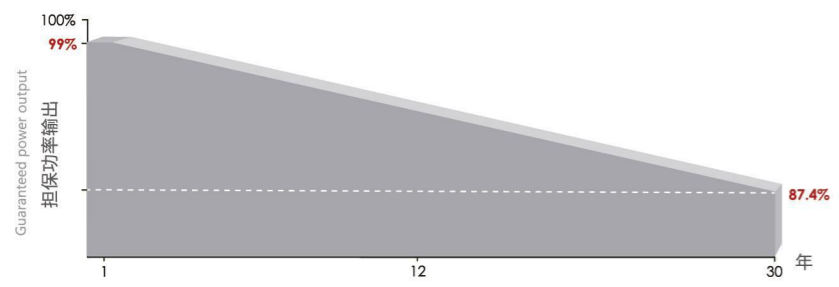
### Electrical performance parameters 电性能参数

Component model/组件型号	JKM605N-78HL4-BDV		JKM610N-78HL4-BDV		JKM615N-78HL4-BDV		JKM620N-78HL4-BDV		JKM625N-78HL4-BDV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum power最大功率(Pmax)	605Wp	455Wp	610Wp	459Wp	615Wp	462Wp	620Wp	466Wp	625Wp	470Wp
Optimal working voltage最佳工作电压(mp)	45.42V	42.23V	45.60V	42.35V	45.77V	42.46V	45.93V	42.57V	46.10V	42.68V
Optimal working current最佳工作电流(mp)	13.32A	10.77A	13.38A	10.83A	13.44A	10.89A	13.50A	10.95A	13.56A	11.01A
Open circuit voltage开路电压(Voc)	55.17V	52.41V	55.31V	52.54V	55.44V	52.66V	55.58V	52.79V	55.72V	52.93V
Short circuit current短路电流(sc)	13.95A	11.26A	14.03A	11.33A	14.11A	11.39A	14.19A	11.46A	14.27A	11.52A
Component efficiency组件效率(%)	21.64%		21.82%		22.00%		22.18%		22.36%	
Operating temperature range工作温度范围(°C)	-40°C~+85°C									
Maximum system voltage最大系统电压	1500VDC (IEC)									
Maximum rated fuse current最大额定熔丝电流	30A									
Output power tolerance输出功率公差	0~+3%									
Temperature coefficient of maximum power最大功率的温度系数(Pmax)	-0.30%/°C									
Temperature coefficient of open circuit voltage开路电压的温度系数(voc)	-0.25%/°C									
Temperature coefficient of short-circuit current短路电流(sc)的温度系数(sc)	0.046%/°C									
Nominal battery operating temperature名义电池工作温度(Noct)	45±2°C									
Reference. Double-sided factor参考: 双面因子	80±5%									

#### Double-sided power generation parameters (back gain) 双面发电参数(背面增益)

	5%	15%	25%
Maximum power最大功率(Pmax)	635Wp	696Wp	756Wp
Component efficiency组件效率(%)	22.73%	24.89%	27.05%
Maximum power最大功率(Pmax)	641Wp	702Wp	763Wp
Component efficiency组件效率(%)	22.91%	25.10%	27.28%
Maximum power最大功率(Pmax)	646Wp	707Wp	769Wp
Component efficiency组件效率(%)	23.10%	25.30%	27.50%
Maximum power最大功率(Pmax)	651Wp	713Wp	775Wp
Component efficiency组件效率(%)	23.29%	25.51%	27.73%
Maximum power最大功率(Pmax)	656Wp	719Wp	781Wp
Component efficiency组件效率(%)	23.48%	25.71%	27.95%

### Industry-leading linear warranty 业内领先的线性质保



**12** 年材料工艺质保  
12-year material and process warranty

**30** 年线性质保  
30-year linear warranty

优异质保承诺30年功率质保  
**0.4%** 线性功率衰减

Excellent warranty commitment 30 years power warrant 0.4% linear power attenuation

STC: 光照强度 1000W/m<sup>2</sup> Light intensity | 电池温度: 25°C Battery temperature | 大气质量=1.5 Air quality

NOCT: 光照强度 800W/m<sup>2</sup> Light intensity | 环境温度: 20°C Ambient temperature | 大气质量=1.5 Air quality | 风速 1m/s wind speed

\* 功率测量误差+/-3% Power measurement error+/- 3%

## 产品系列 Products Series

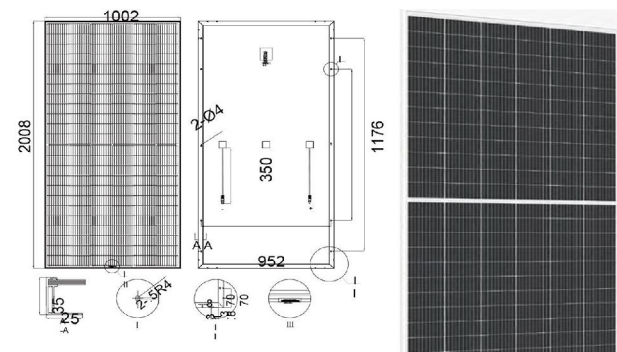
### 6x24 HALF CELLS MONO PANEL 158.75

Modules	GPM-H395W	GPM-H400W	GPM-H405W	GPM-H410W	GPM-H415W
Standard Test	STC	STC	STC	STC	STC
TORLERANCE (W)	0~+3	0~+3	0~+3	0~+3	0~+3
EFFICIENCY (%)	19.64	19.89	20.13	20.38	20.63
Maximum Power Pmax (W)	395	400	405	410	415
Open Circuit Voltage Voc(V)	49.54	49.89	50.3	50.71	51.11
Short Cuit Current Isc(A)	10.22	10.27	10.32	10.36	10.41
Maximum Power Voltage Vm(V)	41.44	41.73	42.07	42.41	42.75
Maximum Power Current Im(A)	9.54	9.59	9.63	9.67	9.71
CELLS (mm)	9BB-158.75×79.375 Mono cells				
CELLS QTY (Pcs)	144(6×24)				
Max System Voltage (V)	DC1000/DC1500				
open Circuit Voltage Temp (%/°C)	-0.282				
short Circuit Current Temp (%/°C)	0.041				
Peak Power Temp (%/°C)	-0.387				
Operate Temp Scope °C	-40 to 85				
Nominal Operating Temp °C	45±2				
Max Series Fuse Rating (A)	15/20				
Frontal static load (Pa)	5400				
Back static load (Pa)	2400				

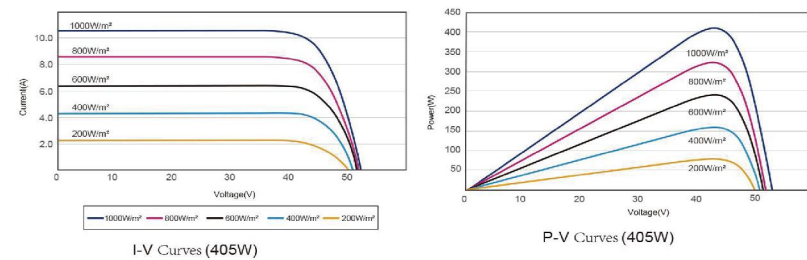
Standard Test Conditions(STC): irradiance 1,000 W/m<sup>2</sup>; AM 1.5; module temperature 25°C.

Measuring uncertainty of power is within ±3% Tolerance of Pmpp:0~+3%. Certified in accordance with IEC61215, IEC61730-1/2

### Flame



### i-v curves



### Raw material

Frame	Alloy Aluminium
Glass	3.2mm
Cells	6X24 158.75*79.375mm mono solar cells
Junction box	IP≥68, TÜV&UL
Connect	4mm <sup>2</sup> , EVO2
Cable	350mm

### Package

module size (mm)	2008x1002x35
Weight (kg)	22.4
Loading	680PCS/40HQ
Package pcs/plt	31

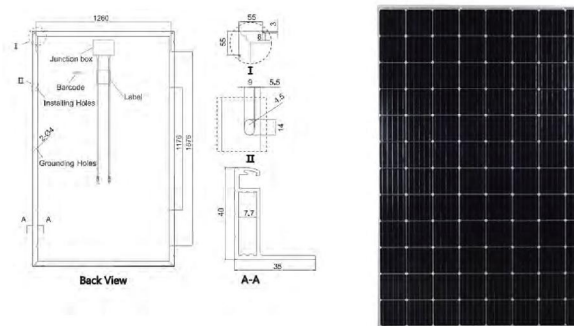
### 8x12 MONO SOLAR PANEL 158.75

Modules	GPM480W	GPM490W	GPM500W	GPM510W	GPM520W
Standard Test	STC	STC	STC	STC	STC
TORLERANCE (W)	0~+3	0~+3	0~+3	0~+3	0~+3
EFFICIENCY (%)	18.28	18.66	19.05	19.43	19.81
Maximum Power Pmax (W)	480	490	500	510	520
Open Circuit Voltage Voc(V)	58.20	58.44	58.68	58.92	59.16
Short Cuit Current Isc(A)	10.48	10.56	10.74	10.91	11.08
Maximum Power Voltage Vm(V)	48.70	48.80	48.90	49.10	49.30
Maximum Power Current Im(A)	9.98	10.06	10.22	10.39	10.55
CELLS (mm)	158.75×158.75 Mono cells				
CELLS QTY (Pcs)	96(8x12)				
Max System Voltage (V)	DC1000/DC1500				
open Circuit Voltage Temp (%/°C)	-0.282				
short Circuit Current Temp (%/°C)	0.041				
Peak Power Temp (%/°C)	-0.387				
Operate Temp Scope °C	40 to 85				
Nominal Operating Temp °C	45±2				
Max Series Fuse Rating (A)	15/20				
Frontal static load (Pa)	5400				
Back static load (Pa)	2400				

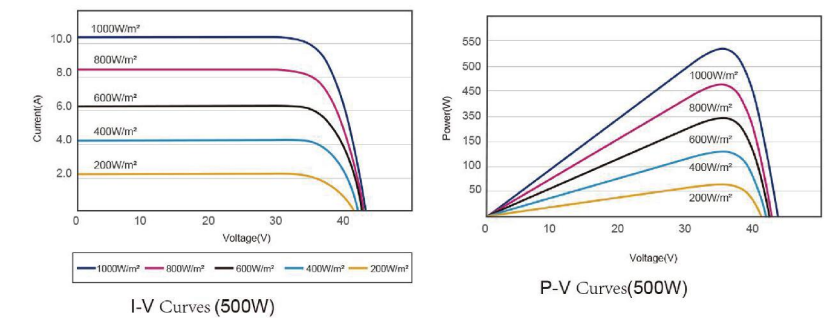
Standard Test Conditions(STC): irradiance 1,000 W/m<sup>2</sup>; AM 1.5; module temperature 25°C.

Measuring uncertainty of power is within ±3% Tolerance of Pmpp:0~+3%. Certified in accordance with IEC61215, IEC61730-1/2

### Flame



### i-v curves



### Raw material

Frame	Alloy Aluminium
Glass	3.2mm
Cells	8x12 158.75*96 MONO CELLS
Junction box	IP≥68, TÜV&UL
Connect	4mm <sup>2</sup> , EVO2
Cable	900mm

### Package

module size (mm)	1979x1340x40
Weight (kg)	27
Loading	500PCS/40HQ
Package pcs/plt	27

## 产品系列 Products Series

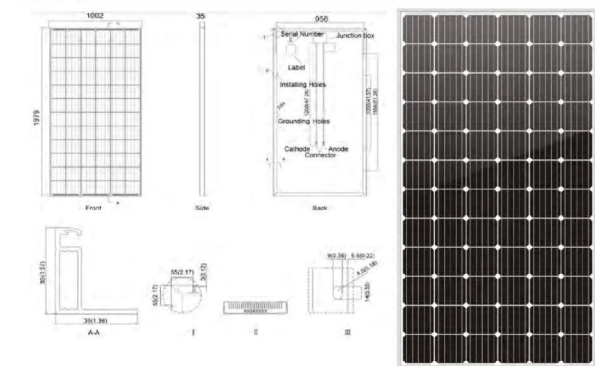
### 6x24 HALF CELLS MONO PANEL 158.75

Modules	GPM380W	GPM385W	GPM390W	GPM395W	GPM400W	GPM405W	GPM410W
Standard Test	STC	STC	STC	STC	STC	STC	STC
TORLERANCE (W)	0~+3	0~+3	0~+3	0~+3	0~+3	0~+3	0~+3
EFFICIENCY (%)	18.93	19.15	19.37	19.68	19.98	20.28	20.59
Maximum Power Pmax (W)	380	385	390	395	400	405	410
Open Circuit Voltage Voc(V)	47.18	47.36	47.52	47.76	48.00	48.24	48.48
Short Cuit Current Isc(A)	10.18	10.26	10.34	10.42	10.50	10.58	10.66
Maximum Power Voltage Vm(V)	39.20	39.40	39.60	39.80	40.00	40.20	40.40
Maximum Power Current Im(A)	9.70	9.78	9.85	9.92	10.00	10.07	10.15
CELLS (mm)	158.75×158.75 Mono cells						
CELLS QTY (Pcs)	72(6×12)						
Max System Voltage (V)	DC1000/DC1500						
open Circuit Voltage Temp (%/°C)	-0.282						
short Circuit Current Temp (%/°C)	0.041						
Peak Power Temp (%/°C)	-0.387						
Operate Temp Scope °C	-40 to 85						
Nominal Operating Temp °C	45±2						
Max Series Fuse Rating (A)	15/20						
Frontal static load (Pa)	5400						
Back static load (Pa)	2400						

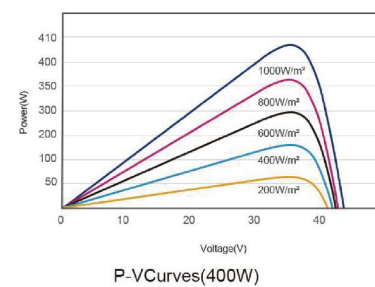
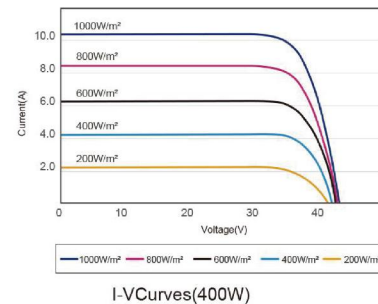
Standard Test Conditions(STC): irradiance 1,000 W/m<sup>2</sup>; AM 1.5; module temperature 25°C.

Measuring uncertainty of power is within ±3% Tolerance of Pmpp:0~+3%. Certified in accordance with IEC61215, IEC61730-1/2

#### Flame



#### i-v curves



#### Raw material

Frame	Alloy Aluminium
Glass	3.2mm
Cells	6X12 158.75mm mono solar cells
Junction box	IP≥68, TÜV&UL
Connect	4mm <sup>2</sup> , EVO2
Cable	900mm

#### Package

module size (mm)	1979x1002x40
Weight (kg)	21.3
Loading	680PCS/40HQ
Package pcs/plt	27

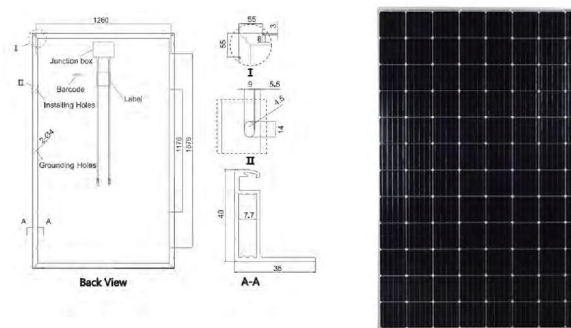
### 6x10 MONO SOLAR PANEL 158.75

Modules	GPM320W	GPM325W	GPM330W	GPM335W	GPM340W
Standard Test	STC	STC	STC	STC	STC
TORLERANCE (W)	0~+3	0~+3	0~+3	0~+3	0~+3
EFFICIENCY (%)	19.37	19.68	19.98	20.28	20.59
Maximum Power Pmax (W)	320	325	330	335	340
Open Circuit Voltage Voc(V)	39.36	39.60	39.84	40.08	40.32
Short Cuit Current Isc(A)	10.24	10.34	10.44	10.53	10.63
Maximum Power Voltage Vm(V)	32.80	33.00	33.20	33.40	33.60
Maximum Power Current Im(A)	9.76	9.85	9.94	10.03	10.12
CELLS (mm)	158.75×158.75 mono cells				
CELLS QTY (Pcs)	60(6×10)				
Max System Voltage (V)	DC1000/DC1500				
open Circuit Voltage Temp (%/°C)	-0.282				
short Circuit Current Temp (%/°C)	0.041				
Peak Power Temp (%/°C)	-0.387				
Operate Temp Scope °C	-40 to 85				
Nominal Operating Temp °C	45±2				
Max Series Fuse Rating (A)	15/20				
Frontal static load (Pa)	5400				
Back static load (Pa)	2400				

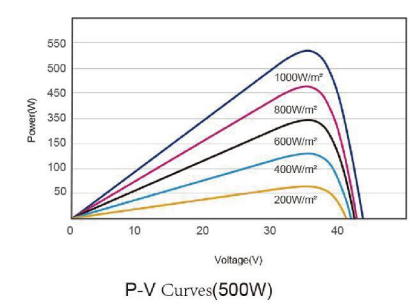
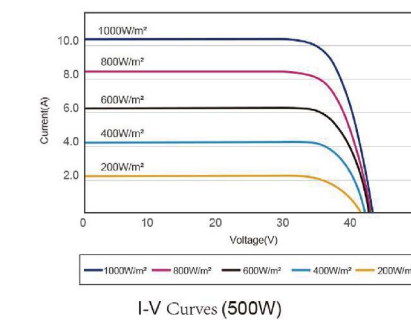
Standard Test Conditions(STC): irradiance 1,000 W/m<sup>2</sup>; AM 1.5; module temperature 25°C.

Measuring uncertainty of power is within ±3% Tolerance of Pmpp:0~+3%. Certified in accordance with IEC61215, IEC61730-1/2

#### Flame



#### i-v curves



#### Raw material

Frame	Alloy Aluminium
Glass	3.2mm
Cells	6X10 158.75*60 mono cells
Junction box	IP≥68, TÜV&UL
Connect	4mm <sup>2</sup> , EVO2
Cable	900mm

#### Package

module size (mm)	1665x1002x35
Weight (kg)	18
Loading	900PCS/40HQ
Package pcs/plt	31

## 产品系列 Products Series

### 6x12 POLY SOLAR PANEL 156.75

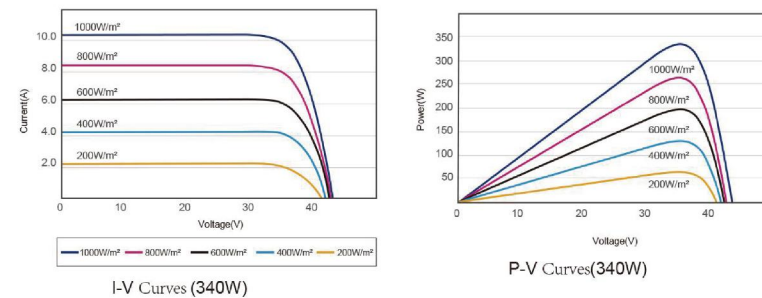
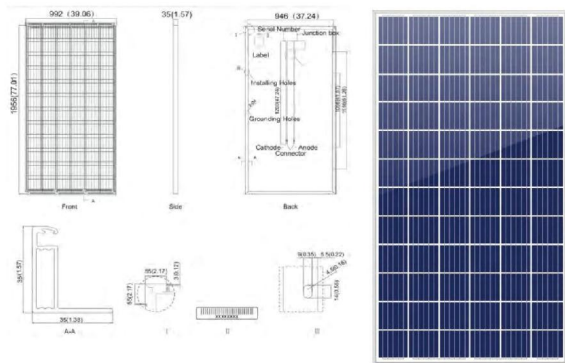
Modules	GPP325W	GPP330W	GPP335W	GPP340W	GPP345W
Standard Test	STC	STC	STC	STC	STC
TORLERANCE (W)	0~+3	0~+3	0~+3	0~+3	0~+3
EFFICIENCY (%)	16.75	17.01	17.26	17.52	17.78
Maximum Power Pmax (W)	325	330	335	340	345
Open Circuit Voltage Voc(V)	45.48	45.84	46.02	46.20	46.50
Short Cuit Current Isc(A)	9.00	9.08	9.16	9.26	9.37
Maximum Power Voltage Vm(V)	37.90	38.20	38.35	38.50	38.75
Maximum Power Current Im(A)	8.58	8.64	8.74	8.83	8.90
CELLS (mm)	156.75×156.75 Poly cells				
CELLS QTY (Pcs)	72(6×12)				
Max System Voltage (V)	DC1000/DC1500				
open Circuit Voltage Temp (%/°C)	-0.282				
short Circuit Current Temp (%/°C)	0.041				
Peak Power Temp (%/°C)	-0.387				
Operate Temp Scope °C	-40 to 85				
Nominal Operating Temp °C	45±2				
Max Series Fuse Rating (A)	15/20				
Frontal static load (Pa)	5400				
Back static load (Pa)	2400				

Standard Test Conditions(STC): irradiance 1,000 W/m<sup>2</sup>; AM 1.5; module temperature 25°C.

Measuring uncertainty of power is within ±3% Tolerance of Pmpp:0~+3%. Certified in accordance with IEC61215, IEC61730-1/2

### Flame

### i-v curves



### Raw material

Frame	Alloy Aluminium
Glass	3.2mm
Cells	156.75*72 POLY CELLS
Junction box	IP≥68, TÜV&UL
Connect	4mm <sup>2</sup> , EVO2
Cable	900mm

### Package

module size (mm)	1956x992x40
Weight (kg)	20.5
Loading	740PCS/40HQ
Package pcs/plt	27

### 6x10 POLY SOLAR PANEL 156.75

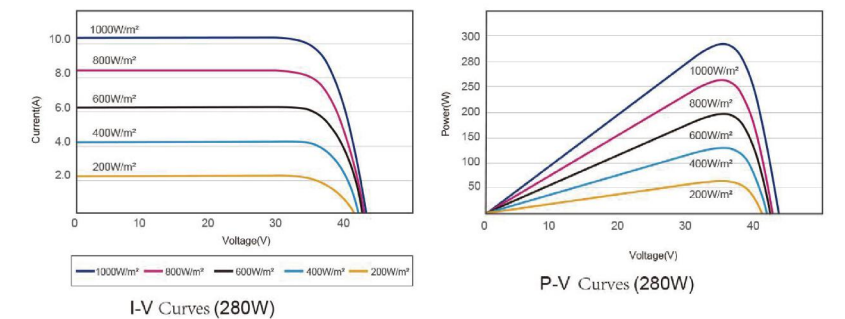
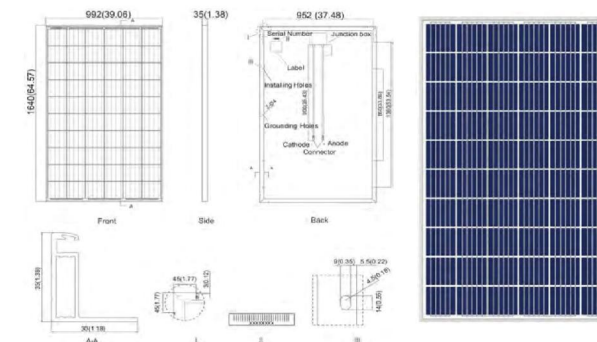
Modules	GPP275W	GPP280W	GPP285W	GPP290W	GPP295W
Standard Test	STC	STC	STC	STC	STC
TORLERANCE (W)	0~+3	0~+3	0~+3	0~+3	0~+3
EFFICIENCY (%)	16.90	17.21	17.52	17.83	17.99
Maximum Power Pmax (W)	275	280	285	290	295
Open Circuit Voltage Voc(V)	38.16	38.52	38.76	39.00	39.00
Short Cuit Current Isc(A)	9.08	9.16	9.26	9.37	9.48
Maximum Power Voltage Vm(V)	31.80	32.10	32.30	32.50	32.70
Maximum Power Current Im(A)	8.65	8.72	8.82	8.92	9.03
CELLS (mm)	156.75×156.75 Poly cells				
CELLS QTY (Pcs)	60(6×10)				
Max System Voltage (V)	DC1000/DC1500				
open Circuit Voltage Temp (%/°C)	-0.282				
short Circuit Current Temp (%/°C)	0.041				
Peak Power Temp (%/°C)	-0.387				
Operate Temp Scope °C	-40 to 85				
Nominal Operating Temp °C	45±2				
Max Series Fuse Rating (A)	15/20				
Frontal static load (Pa)	5400				
Back static load (Pa)	2400				

Standard Test Conditions(STC): irradiance 1,000 W/m<sup>2</sup>; AM 1.5; module temperature 25°C.

Measuring uncertainty of power is within ±3% Tolerance of Pmpp:0~+3%. Certified in accordance with IEC61215, IEC61730-1/2

### Flame

### i-v curves



### Raw material

Frame	Alloy Aluminium
Glass	3.2mm
Cells	156.75*60 POLY CELLS
Junction box	IP≥68, TÜV&UL
Connect	4mm <sup>2</sup> , EVO2
Cable	900mm

### Package

module size (mm)	1640x992x35
Weight (kg)	17.5
Loading	960PCS/40HQ
Package pcs/plt	31



## 产品系列 Products Series



### Electrical performance

Module Type		330P-72	370M-72
Power Output	Pmax(W)	300	300
Power Tolerance	Pmax(W)	±7%	±8%
Module Efficiency	nm(%)	21	22
Voltage at Pmax	Vm(V)	36	36
Current at Pmax	Im(A)	8.33	8.33
Open-Circuit Voltage	Voc(V)	44	44
Short-Circuit Current	Isc(A)	8.92	8.92

STC:1000w/m<sup>2</sup>irradiance.25°C module temperature.AM1.5 spectrum.

### Operating conditions

Max.System Voltage	1000V
Max.Series Fuse Rating	15A
Application Class	A
Fire Resistance Rating	C

### Operating conditions

Front Cover(material/type/thickness)	tempered glass/3.2mm
Cell(quantity/material/type/dimension)	72/polycrystalline/156.75*156.75mm
Encapsulant(material)	ethylene vinyl acetate(EVA)
Frame(material/anodization color)	anodized aluminum alloy/silver or black
Junction Box(protection degree)	IP65
Cable(length/cross-sectional area)	900mm/2.5mm <sup>2</sup>
Plug Connector	MC4 compatible

### General characteristics

Dimension(L/W/H)	1956*992*40mm
Weight	20.3kg

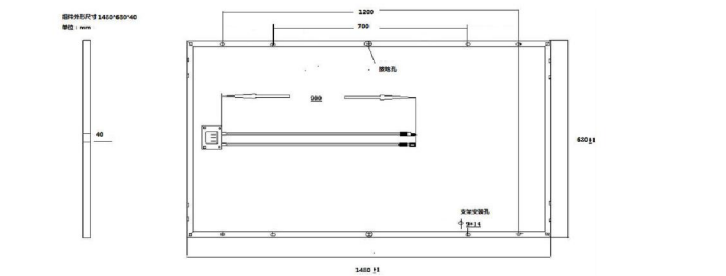
### International certificates

SGS-PSI/ISO9001:2015

### Electrical performance

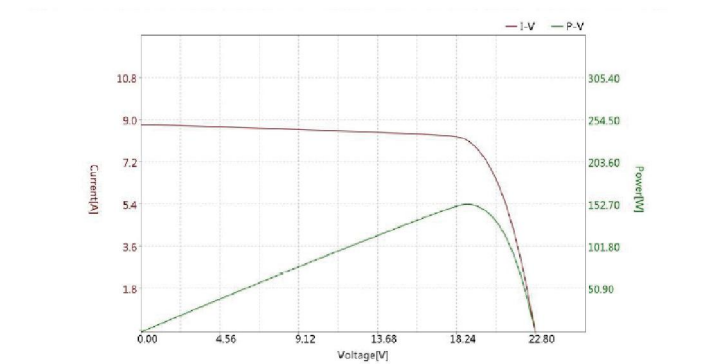
Module Type		170M-36	180M-36
Power Output	Pmax(W)	170	180
Power Tolerance	Pmax(W)	±5%	±5%
Module Efficiency	nm(%)	19	20
Voltage at Pmax	Vm(V)	18.2	18.8
Current at Pmax	Im(A)	9.34	9.58
Open-Circuit Voltage	Voc(V)	22.5	23.5
Short-Circuit Current	Isc(A)	9.85	10.28

STC:1000w/m<sup>2</sup>irradiance.25°C module temperature.AM1.5 spectrum.



### Operating conditions

Max.System Voltage	1000V
Max.Series Fuse Rating	15A
Application Class	A
Fire Resistance Rating	C



### Operating conditions

Front Cover(material/type/thickness)	tempered glass/3.2mm
Cell(quantity/material/type/dimension)	36/polycrystalline/156.75*156.75mm
Encapsulant(material)	ethylene vinyl acetate(EVA)
Frame(material/anodization color)	anodized aluminum alloy/silver or black
Junction Box(protection degree)	IP65
Cable(length/cross-sectional area)	900mm/2.5mm <sup>2</sup>
Plug Connector	MC4 compatible

### General characteristics

Dimension(L/W/H)	1480*680*40mm
Weight	12kg

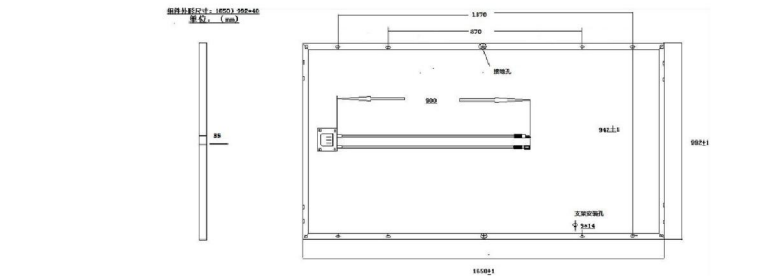
### International certificates

SGS-PSI/ISO9001:2015

### Electrical performance

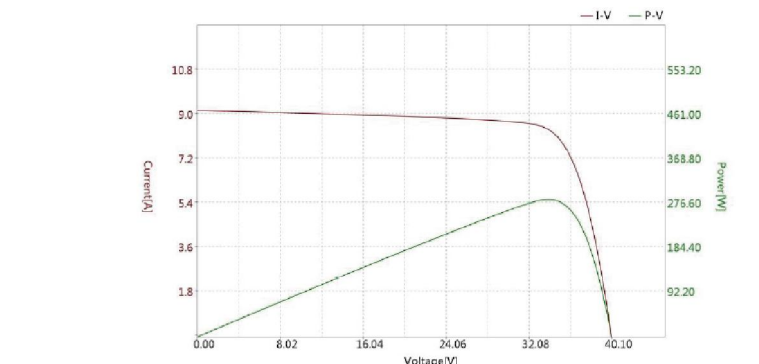
Module Type		280P-60	310M-60
Power Output	Pmax(W)	250	250
Power Tolerance	Pmax(W)	±5%	±5%
Module Efficiency	nm(%)	19	20
Voltage at Pmax	Vm(V)	30	30
Current at Pmax	Im(A)	8.33	8.33
Open-Circuit Voltage	Voc(V)	36	36
Short-Circuit Current	Isc(A)	8.92	8.92

STC:1000w/m<sup>2</sup>irradiance.25°C module temperature.AM1.5 spectrum.



### Operating conditions

Max.System Voltage	1000V
Max.Series Fuse Rating	15A
Application Class	A
Fire Resistance Rating	C



### Operating conditions

Front Cover(material/type/thickness)	tempered glass/3.2mm
Cell(quantity/material/type/dimension)	60/polycrystalline/156.75*156.75mm
Encapsulant(material)	ethylene vinyl acetate(EVA)
Frame(material/anodization color)	anodized aluminum alloy/silver or black
Junction Box(protection degree)	IP65
Cable(length/cross-sectional area)	900mm/2.5mm <sup>2</sup>
Plug Connector	MC4 compatible

### General characteristics

Dimension(L/W/H)	1640*992*35mm
Weight	16kg

### International certificates

SGS-PSI/ISO9001:2015