



66HL4M-BDV 605-630W

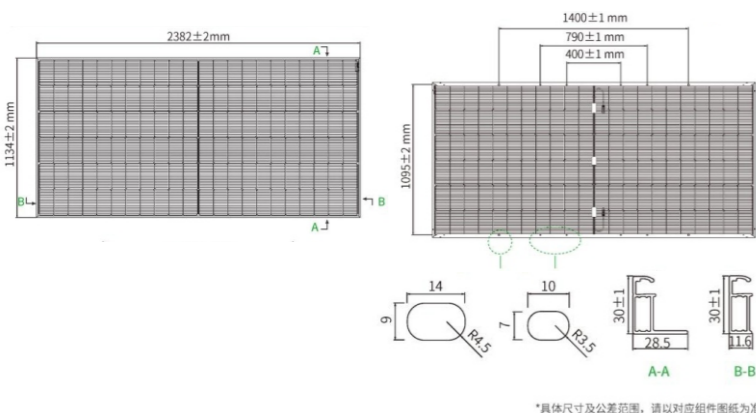
# 高效单晶硅双面半片 太阳能组件

High-efficiency monocrystalline silicon  
bifacial half-cell solar panel

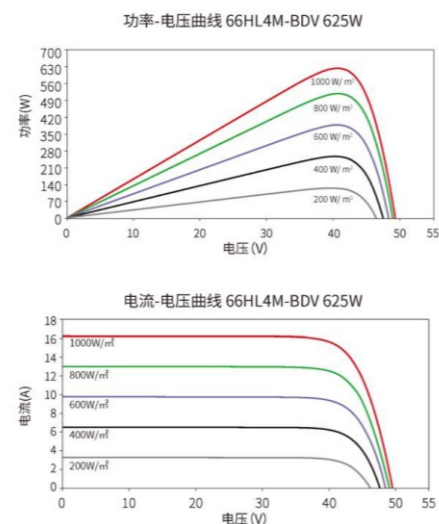


- 使用Tunnel Oxide Passivating Contacts (TOPCon)技术的N型组件具有更低的LID/LeTID衰减, 以及更优的弱光表现。
- 使用HOT 3.0技术的N型组件具有更佳的可靠性及发电效率。
- 双面发电增益随背面受光增加, 显著降低LCOE。
- 整体组件通过 5400Pa 的正面最大测试静态载荷及 2400Pa 的背面最大测试静态载荷认证。
- 更优的光线利用率和电流收集能力, 有效提升产品功率输出和可靠性。
- 通过电池生产技术优化及材料管控将PID 现象造成的衰减几率降至最小。
- N-type modules using Tunnel Oxide Passivating Contacts (TOPCon) technology feature lower LID/LeTID degradation and better low-light performance.
- N-type modules using HOT 3.0 technology offer improved reliability and power generation efficiency.
- Bifacial power generation gain increases with rear-side light exposure, significantly reducing LCOE.
- The complete module is certified for a maximum tested static load of 5400 Pa on the front side and 2400 Pa on the rear side.
- Better light utilization and current collection capability effectively increase product power output and reliability.
- Through optimization of cell production technology and material control, the probability of degradation caused by PID (Potential Induced Degradation) is minimized.

## 装配图 Assembly drawing



## 曲线图 Curve graph



## 结构参数 Structural parameters

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	Number of Half-Cells	132 (66x2)	132 (66x2)
组件尺寸	Module Dimensions	2382x1134x30 mm	2382x1134x30 mm
组件重量	Module Weight	32.4 kg	32.4 kg
上表面玻璃材质	Front Glass Material	2.0mm, 高透镀膜玻璃	2.0mm, Anti-Reflective coated glass
下表面玻璃材质	Back Glass Material	2.0mm, 钢化玻璃阳极氧化铝合金	2.0mm, Semi-Tempered Glass
边框	Frame	防护等级IP68	Protection Class IP68
接线盒	Junction Box	Class II	Class II
安全防护等级	Safety Protection Class	ClassC	ClassC
IEC组件防火等级	IEC Module Fire Rating	JK03M/MC4/其他	JK03M/MC4/Others
连接器类型	Connector Type	4.0mm <sup>2</sup>	4.0mm <sup>2</sup>
输出导线	Output Cables	导线长度:(+):300 mm,(-):200mm;	Cable Length:(+):300 mm,(-):200mm;

## 包装标准 Packing Standard

每托尺寸	Dimensions per pallet	2396x1110x1251mm	2396x1110x1251mm
包装信息	Packaging information	13米平板车:36块/托, 20托/车, 720块/车 17.5米平板车:36块/托, 25托/车, 900块/车	13m flatbed truck: 36 pcs/pallet, 20 pallets/truck → 720 pcs/truck 17.5m flatbed truck: 36 pcs/pallet, 25 pallets/truck → 900 pcs/truck

## 电性能参数(STC) Electrical Performance Parameters (STC)

最大功率Pmax[W]	Maximum Power (Pmax) [W]	605	610	615	620	625	630
最佳工作电压Vmp[M]	Optimum Operating Voltage (Vmp) [V]	40.31	40.46	40.60	40.74	40.88	41.02
最佳工作电流Imp[A]	Optimum Operating Current (Imp) [A]	15.01	15.08	15.15	15.22	15.29	15.36
开路电压Voc[M]	Open Circuit Voltage (Voc) [V]	48.48	48.68	48.88	49.08	49.28	49.48
短路电流Isc[A]	Short Circuit Current (Isc) [A]	15.90	15.96	16.02	16.08	16.14	16.20
组件效率[%]	Module Efficiency [%]	22.4	22.6	22.8	23.0	23.1	23.3
输出功率公差	Output Power Tolerance	0~+3%					
最大功率的温度系数Pmax	Temperature Coefficient of Pmax	-0.29%/°C					
开路电压的温度系数Voc	Temperature Coefficient of Voc	-0.25%/°C					
短路电流的温度系数Isc	Temperature Coefficient of Isc	0.045%/°C					

标准测试条件(STC):光照强度1000W/m<sup>2</sup>, 电池温度25°C, 大气质量1.5  
Standard Test Conditions (STC): irradiance 1000 W/m<sup>2</sup>, cell temperature 25°C, air mass 1.5

## 电性能参数(BNPI) Electrical Performance Parameters (BNPI)

最大功率Pmax[W]	Maximum Power Pmax [W]	668	674	679	685	690	696
最佳工作电压Vmp[V]	Optimum Operating Voltage Vmp [V]	40.29	40.46	40.59	40.75	40.88	41.04
最佳工作电流Imp[A]	Optimum Operating Current Imp [A]	16.58	16.66	16.73	16.81	16.88	16.95
开路电压Voc[M]	Open Circuit Voltage Voc [V]	48.46	48.66	48.86	49.06	49.26	49.46
短路电流Isc[A]	Short Circuit Current Isc [A]	17.56	17.64	17.70	17.77	17.83	17.90

双面测试条件(BNPI):光照强度:正面1000W/m<sup>2</sup>, 背面135W/m<sup>2</sup>, 环境温度25°C, 大气质量1.5  
Bifacial Test Conditions (BNPI):Irradiance: 1000 W/m<sup>2</sup> (front), 135 W/m<sup>2</sup> (rear)Ambient temperature: 25°C ,Air mass: 1.5

## 应用条件 Application conditions

工作温度范围	Operating Temperature Range	-40°C~+70°C
最大系统电压	Maximum System Voltage	1500VDC (IEC)
最大额定熔丝电流	Maximum Rated Fuse Current	35A
双面系数	Bifacial Coefficient	φVoc: 98±5 %, φIsc: 80±5 %, φPmax: 80±5 %