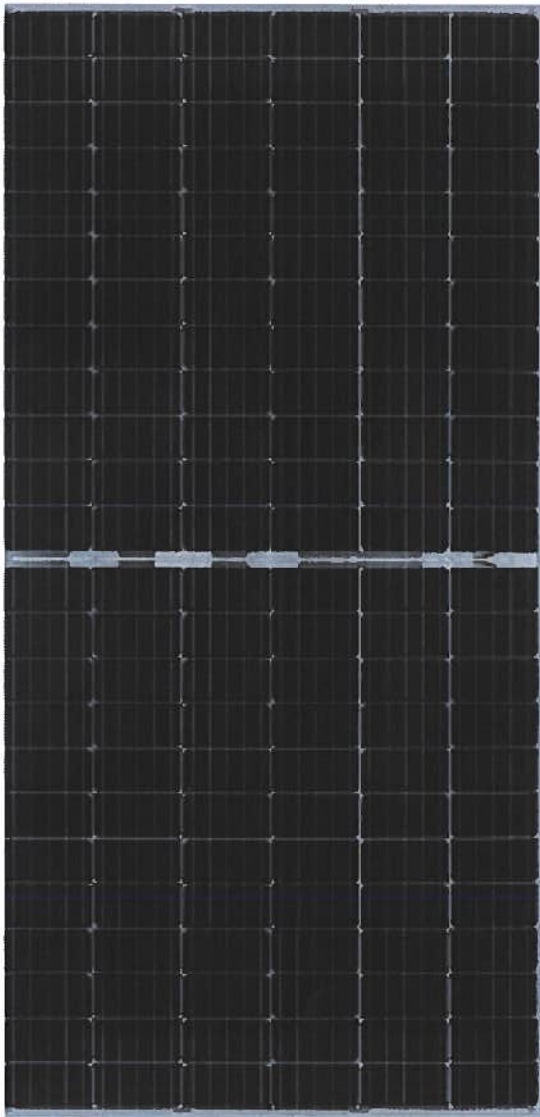




# MONO-CRYSTALLINE BIFACIAL HALF-CUT MODULE 8.450~460MMSX



## 8.33 IS ALWAYS MORE

### Features of Module



**Shingling Technology**  
Innovative structure, low-temperature adhesive bonding, high-density layout.



**Beautiful Appearance**  
Uniform layout, better aesthetic.



**Superior Safety and Reliability**  
No hidden welding crack, low operating temperature, high pressure resistance.



**Low System Cost**  
High module efficiency, reducing system cost.



**Low Hot Spot Risk**  
Parallel circuit design reduces shading loss.



**Low Shading Loss**  
Full parallel arrangement brings high effective power generation hours.

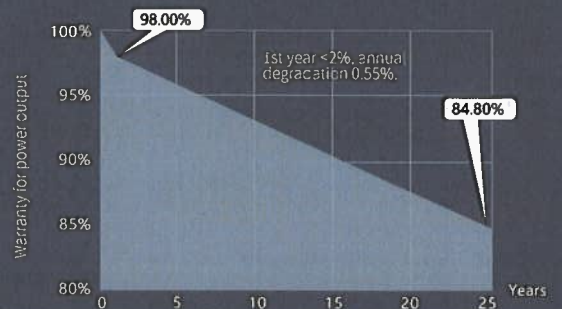


**Eco-friendly**  
Adhering to green philosophy, no fluorine and low lead.

### Linear Power Output Warranty

**15** 15-year warranty for materials.

**30** 30-year warranty for linear power output.



### Electrical Characteristics (STC)

Max Power (Pmax/W)	450	455	460
Max Power Voltage(Vmp/V)	41.59	41.82	42.05
Max Power Current (Imp/A)	10.82	10.88	10.94
Open Circuit Voltage(Voc/V)	49.63	49.92	50.22
Short Circuit Current (Isc/A)	11.59	11.65	11.71
Module Efficiency (%)	20.70	20.93	21.16

### Electrical Characteristics at NMOT

Max Power (Pmax/W)	336.04	339.51	343.30
Max Power Voltage(Vmp/V)	38.76	38.98	39.19
Max Power Current (Imp/A)	8.67	8.71	8.76
Open Circuit Voltage(Voc/V)	46.41	46.69	46.97
Short Circuit Current (Isc/A)	9.36	9.41	9.45

### Bifacial Generation Data (take 460 for example)

Power Gain	5%	15%	25%
Maximum Power (W)	483.15	528.98	575.24
Module Efficiency (%)	22.23	24.34	26.47
Max Power Voltage(Vmp/V)	42.05	42.05	42.05
Max Power Current(Imp/A)	11.49	12.58	13.68
Open Circuit Voltage(Voc/V)	50.22	50.22	50.22
Short Circuit Current(Isc/A)	12.30	13.47	

### Mechanical Characteristics at NMOT

Cell Type	P Type/M6/PERC/Bifacial/9BB/Half-Cell 166×83mm		
Number of Cells	144(6×12×2)		
Weight	27.5±1.0Kg		
Dimension	2094×1038×30mm		
Front Glass	Semi-tempered coated glass	Frame	Anodized Aluminum
Encapsulating Material	EVA/POE+POE	Junction Box	Protection Degree IP68
Back Glass	Semi-tempered glass	Cable	

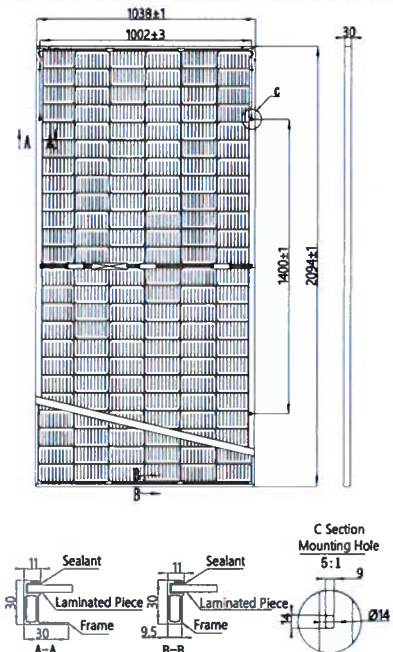
### Temperature Parameters

NMOT	42.3°C (±2°C)
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Isc	0.04%/°C
Temperature Coefficient of Pm	-0.34%/°C

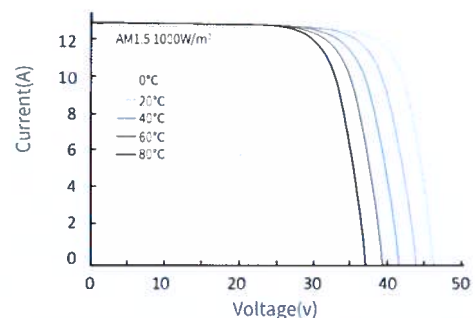
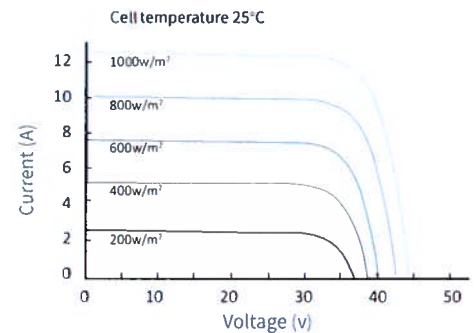
### Maximum Ratings

Series Fuse Rating [A]	20
Maximum Surface Load Capacity [Pa]	5400
Temperature Range [°C]	-40~+85
Withstanding Hail	Maximum diameter of 25 mm with impact speed of 23m/s -1

### Drawings



### I - CURVE



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