

# OYUNGSOLAR

**OSM48NHB**

**435-460 Watt**

**HALF CELL**

**N-Type HJT**

**BIFACIAL WITH DUAL GLASS**

## 0BB Technology

Shorter current transmission distance, less resistive loss and higher power generation efficiency, lower LCOE, more sophisticated look.

## HJT Technology

Combining gettering process and double-sided  $\mu\text{c-Si}$  to improve cell efficiency and module power.

## Up to 95% Bifaciality

Natural symmetrical bifacial structure bringing more energy yield from the backside.

## No LID, No PID

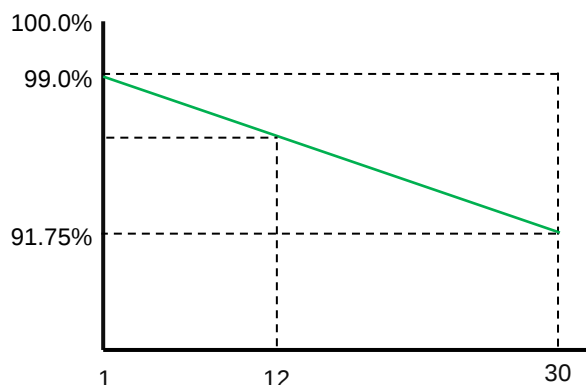
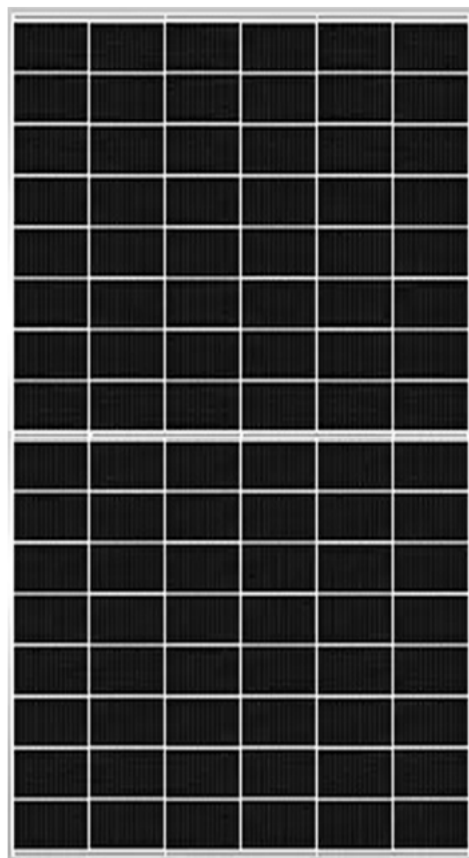
Better performance and efficiency, ultra-high power generation.

## Sealing with PIB

Stronger water resistance, greater air impermeability to extend module lifespan.

## Suitable for Utility project

Lower BOS cost, lower LCOE.



**15** years  
Product  
Warranty

**30** years  
Linear Power  
Warranty

**1.0%**  
First-year  
Degradation

**0.28%**  
Annual Degradation  
Over 30 Years

IEC61215:2021 / IEC61730:2023

IEC61701 / IEC62716 / IEC60068 / IEC62804

ISO9001:2015: Quality Management System

ISO14001:2015: Environment Management System

ISO45001:2018: Occupational health and safety management systems



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# OSM48NHB 435-460

## Mechanical Parameters

|                  |                                                                   |
|------------------|-------------------------------------------------------------------|
| Cell Type        | N-type HJT                                                        |
| No. of cells     | 96 (48×2)                                                         |
| Dimension        | 1762×1134×30mm                                                    |
| Weight           | 21.8kg                                                            |
| Front Glass      | 2.0 mm, anti-reflection coating                                   |
| Back Glass       | 2.0 mm, heat strengthened glass                                   |
| Frame            | anodized aluminium alloy                                          |
| Junction Box     | IP68 rated                                                        |
| Protection Class | Class II                                                          |
| IEC Fire Type    | Class C                                                           |
| Output Cables    | 4.0mm <sup>2</sup> , (+): 350mm, (-): 250mm, or customized length |

## Packaging Configuration

|                   |                            |
|-------------------|----------------------------|
| Pallet Dimentions | /                          |
| Packaging Detail  | 36pcs/pallet, 936pcs/40'HC |

## Specifications (STC)

|                                  |           |       |       |       |       |       |
|----------------------------------|-----------|-------|-------|-------|-------|-------|
| Maximum Power (Pmax/W)           | 435       | 440   | 445   | 450   | 455   | 460   |
| Maximum Power Voltage (Vmp/V)    | 30.50     | 30.61 | 30.72 | 30.83 | 30.94 | 31.05 |
| Maximum Power Current (Imp/A)    | 14.27     | 14.38 | 14.49 | 14.60 | 14.71 | 14.82 |
| Open-circuit Voltage (Voc/V)     | 36.42     | 36.52 | 36.62 | 36.72 | 36.82 | 36.92 |
| Short-circuit Current (Isc/A)    | 15.20     | 15.31 | 15.42 | 15.53 | 15.64 | 15.75 |
| Module Efficiency (STC/%)        | 21.80     | 22.00 | 22.30 | 22.50 | 22.80 | 23.00 |
| Power Tolerance                  | 0~3%      |       |       |       |       |       |
| Temperature Coefficients of Pmax | -0.24%/°C |       |       |       |       |       |
| Temperature Coefficients of Voc  | -0.22%/°C |       |       |       |       |       |
| Temperature Coefficients of Isc  | 0.04%/°C  |       |       |       |       |       |

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

## Specifications (BNPI)

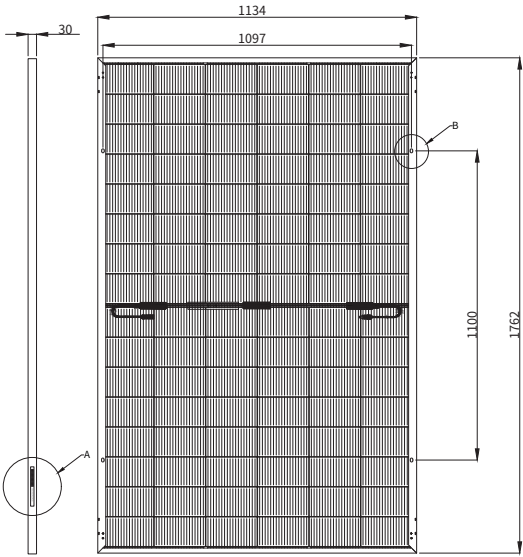
|                               |       |       |       |       |       |       |
|-------------------------------|-------|-------|-------|-------|-------|-------|
| Maximum Power (Pmax/W)        | 487   | 493   | 499   | 504   | 510   | 515   |
| Maximum Power Voltage (Vmp/V) | 30.61 | 30.72 | 30.83 | 30.94 | 31.05 | 31.16 |
| Maximum Power Current (Imp/A) | 15.94 | 16.07 | 16.19 | 16.31 | 16.44 | 16.56 |
| Open-circuit Voltage (Voc/V)  | 36.55 | 36.65 | 36.75 | 36.85 | 36.95 | 37.05 |
| Short-circuit Current (Isc/A) | 17.05 | 17.17 | 17.29 | 17.42 | 17.54 | 17.66 |

BNPI: Irradiance: front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

## Application Conditions

|                                           |                |
|-------------------------------------------|----------------|
| Operating Temperature                     | -40°C ~ +85°C  |
| Maximum System Voltage                    | 1500 VDC (IEC) |
| Maximum Series Fuse Rating                | 30A            |
| Nominal Operating Cell Temperature - NOCT | 44±2°C         |
| Bifaciality                               | 90±5%          |

## Engineering Drawings



## Electrical Performance

