

# OYUNGSOLAR

OSM54NTB

425-450 Watt

HALF CELL

N-Type TOPCon

FULL BLACK BIFACIAL WITH DUAL GLASS

## N-Type Technology

N-Type modules with Tunnel Oxide Passivating Contacts (TOPcon) technology offer lower LID/LeTID degradation and better low light performance.

## HOT 3.0 Technology

N-type modules with HOT 3.0 technology offer better reliability and efficiency.

## Dual-Sided Power Generation

Dual-sided power generation gain increases with backside exposure to light, significantly reducing LCOE.

## Mechanical Load Enhanced

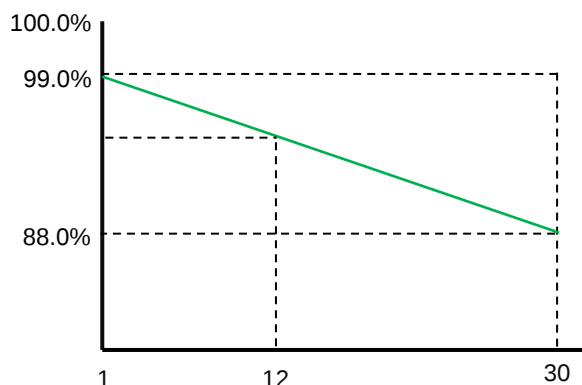
Certified to withstand: 6000 Pa front side max static test load 4000 Pa rear side max static test load

## SMBB Technology

Better light trapping and current collection to improve module power output and reliability.

## Anti-PID Guarantee

Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control.



|                                        |                                             |                                          |                                                     |
|----------------------------------------|---------------------------------------------|------------------------------------------|-----------------------------------------------------|
| <b>12</b> years<br>Product<br>Warranty | <b>30</b> years<br>Linear Power<br>Warranty | <b>1.0%</b><br>First-year<br>Degradation | <b>0.40%</b><br>Annual Degradation<br>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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# OSM54NTB 425-450 FB

## Mechanical Parameters

|                  |                                                                   |
|------------------|-------------------------------------------------------------------|
| Cell Type        | N-type TOPCon                                                     |
| No. of cells     | 108 (54×2)                                                        |
| Dimension        | 1762×1134×30mm                                                    |
| Weight           | 24.5kg                                                            |
| 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> , (+): 400mm, (-): 200mm, or customized length |

## Packaging Configuration

|                   |                            |
|-------------------|----------------------------|
| Pallet Dimentions | 1792×1140×1249mm           |
| Packaging Detail  | 37pcs/pallet, 962pcs/40'HC |

## Specifications (STC)

|                                  |           |       |       |       |       |       |
|----------------------------------|-----------|-------|-------|-------|-------|-------|
| Maximum Power (Pmax/W)           | 425       | 430   | 435   | 440   | 445   | 450   |
| Maximum Power Voltage (Vmp/V)    | 32.90     | 33.08 | 33.26 | 33.44 | 33.61 | 33.79 |
| Maximum Power Current (Imp/A)    | 12.92     | 13.00 | 13.08 | 13.16 | 13.24 | 13.32 |
| Open-circuit Voltage (Voc/V)     | 39.23     | 39.43 | 39.63 | 39.83 | 40.03 | 40.23 |
| Short-circuit Current (Isc/A)    | 13.77     | 13.84 | 13.91 | 13.98 | 14.05 | 14.12 |
| Module Efficiency (STC/%)        | 21.27     | 21.52 | 21.77 | 22.02 | 22.27 | 22.52 |
| Power Tolerance                  | 0~3%      |       |       |       |       |       |
| Temperature Coefficients of Pmax | -0.29%/°C |       |       |       |       |       |
| Temperature Coefficients of Voc  | -0.25%/°C |       |       |       |       |       |
| Temperature Coefficients of Isc  | 0.045%/°C |       |       |       |       |       |

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

## Specifications (BNPI)

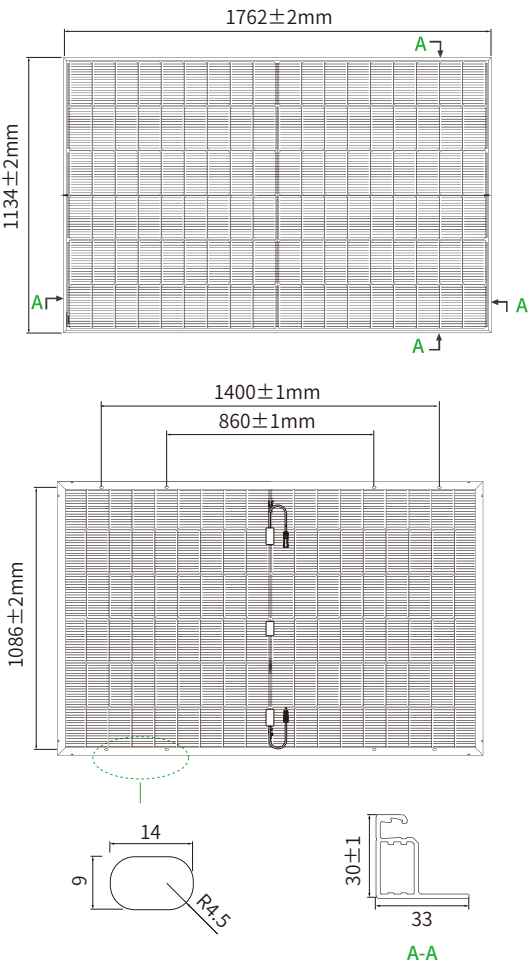
|                               |       |       |       |       |       |       |
|-------------------------------|-------|-------|-------|-------|-------|-------|
| Maximum Power (Pmax/W)        | 469   | 474   | 480   | 485   | 491   | 496   |
| Maximum Power Voltage (Vmp/V) | 32.91 | 33.06 | 33.26 | 33.41 | 33.61 | 33.76 |
| Maximum Power Current (Imp/A) | 14.25 | 14.34 | 14.43 | 14.52 | 14.60 | 14.69 |
| Open-circuit Voltage (Voc/V)  | 39.23 | 39.43 | 39.63 | 39.83 | 40.03 | 40.23 |
| Short-circuit Current (Isc/A) | 15.16 | 15.24 | 15.32 | 15.40 | 15.48 | 15.56 |

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

## Application Conditions

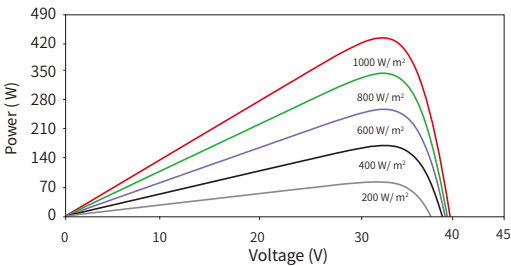
|                                           |                                        |
|-------------------------------------------|----------------------------------------|
| Operating Temperature                     | -40°C ~ +70°C                          |
| Maximum System Voltage                    | 1500 VDC (IEC)                         |
| Maximum Series Fuse Rating                | 30A                                    |
| Nominal Operating Cell Temperature - NOCT | 45±2°C                                 |
| Bifaciality Coefficient                   | φVoc: 98±5%, φIsc: 80±5%, φPmax: 80±5% |

## Engineering Drawings



## Electrical Performance

Power-Voltage Curves (440W)



Current-Voltage Curves (440W)

