

**BiMAX 6R****435-455W**

SP455M-48H

N-Type TOPCon Ultra Black  
Bifacial Double-Glass Solar Module

**22.52%**

Max. Module Efficiency

**N-Type 182\*210mm Cell**

Adopting the 182\*210mm N-Type TOPCon cells with the highest efficiency.

**Bifacial with Double-Glass**

Module adopts 182\*210mm half cells, bifacial module provide an additional 5%~25% output.

**Load Capacity**

Mechanical load tests including wind load 2400Pa and snow load 5400Pa done by TUV.

**PID Protection**

Ensure the attenuation probability caused by PID phenomenon is minimized.

**Harsh Environmental Adaptability**

Strict salt spray and ammonia corrosion test by TUV.

**Quality Management System and Product Certification**

IEC61215/61730, IEC62804(PID), IEC61701(Salt).

IEC62716 (Ammonia), IEC60068-2-68(Sand).

ISO 9001:2015/quality management system.

ISO 14001:2015/environmental management system.

ISO 45001:2018/occupation health safety management system.

ISO 50001:2011/energy management system.

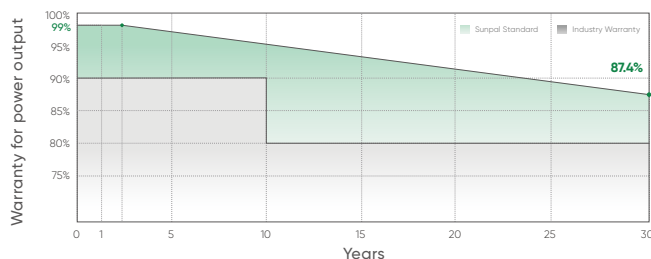
IEC TS 62941-2016/PV industry quality management system.

**Quality Guarantee****25 Years**

Materials Warranty

**30 Years**

Power Warranty



## Mechanical Characteristics

|                        |                                                                             |
|------------------------|-----------------------------------------------------------------------------|
| Weight                 | 25kg                                                                        |
| Dimensions             | 1762×1134×30mm                                                              |
| Cell Dimensions        | 182×210mm                                                                   |
| Cell Amount            | 48×2 pcs                                                                    |
| Maximum System Voltage | 1500V                                                                       |
| Junction Box           | IP68                                                                        |
| Glass Thickness        | (F) 2.0mm, Anti-Reflection Coating   (B) 2.0mm, Heat Strengthened Glass     |
| Frame                  | Aluminum Alloy                                                              |
| Cable                  | 4mm <sup>2</sup> , 300mm in length, length can be customized / UV resistant |
| Connector              | MC4 Compatible                                                              |
| Bifaciality            | 80±5%                                                                       |
| Packing                | 36pcs/box, 936pcs/40'HQ                                                     |

## Electrical Parameters (STC\*)

|                                               |       |       |       |       |       |
|-----------------------------------------------|-------|-------|-------|-------|-------|
| Module Type: SP455M-48H                       | 435   | 440   | 445   | 450   | 455   |
| Maximum Power (P <sub>max</sub> /W)           | 435   | 440   | 445   | 450   | 455   |
| Open Circuit Voltage (V <sub>oc</sub> /V)     | 35.13 | 35.38 | 35.63 | 35.88 | 36.13 |
| Short Circuit Current (I <sub>sc</sub> /A)    | 15.77 | 15.84 | 15.90 | 15.97 | 16.02 |
| Voltage at Maximum Power (V <sub>mp</sub> /V) | 29.18 | 29.38 | 29.58 | 29.78 | 29.98 |
| Current at Maximum Power (I <sub>mp</sub> /A) | 14.91 | 14.98 | 15.04 | 15.11 | 15.18 |
| Module Efficiency (%)                         | 21.77 | 22.02 | 22.27 | 22.52 | 22.52 |

\*STC: Irradiance 1000W/m<sup>2</sup>, cell temperature 25°C, AM=1.5. Tolerance of P<sub>max</sub> is within ±3%.

## Electrical Parameters (NMOT\*\*)

|                                               |       |       |       |       |       |
|-----------------------------------------------|-------|-------|-------|-------|-------|
| Maximum Power (P <sub>max</sub> /W)           | 331   | 335   | 339   | 343   | 347   |
| Open Circuit Voltage (V <sub>oc</sub> /V)     | 33.30 | 33.56 | 33.82 | 34.08 | 34.34 |
| Short Circuit Current (I <sub>sc</sub> /A)    | 12.66 | 12.74 | 12.79 | 12.85 | 12.88 |
| Voltage at Maximum Power (V <sub>mp</sub> /V) | 27.48 | 27.67 | 27.86 | 28.05 | 28.24 |
| Current at Maximum Power (I <sub>mp</sub> /A) | 12.05 | 12.11 | 12.17 | 12.23 | 12.29 |

\*\*NMOT: Under Nominal Module Operating Temperature (NMOT), irradiance of 800W/m<sup>2</sup>, spectrum AM 1.5, ambient temperature 20°C, wind speed 1m/s.

## Electrical Parameters (At 10% Bifacial Power Output)

|                                               |       |       |       |       |       |
|-----------------------------------------------|-------|-------|-------|-------|-------|
| Output Power (P <sub>max</sub> /W)            | 479   | 484   | 490   | 495   | 501   |
| Open Circuit Voltage (V <sub>oc</sub> /V)     | 35.13 | 35.38 | 35.63 | 35.88 | 36.13 |
| Short Circuit Current (I <sub>sc</sub> /A)    | 17.31 | 17.38 | 17.45 | 17.53 | 17.59 |
| Voltage at Maximum Power (V <sub>mp</sub> /V) | 29.18 | 29.38 | 29.58 | 29.78 | 29.98 |
| Current at Maximum Power (I <sub>mp</sub> /A) | 16.40 | 16.47 | 16.55 | 16.62 | 16.69 |

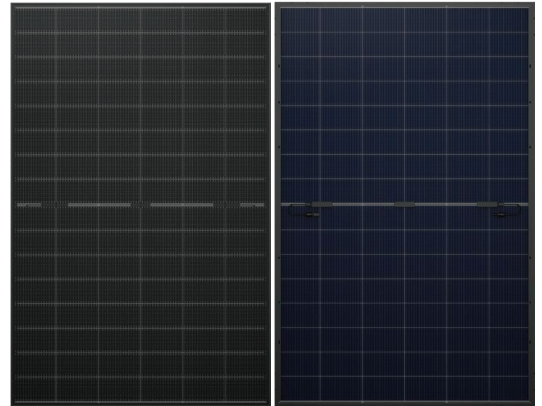
## Temperature Characteristics

|                                       |            |
|---------------------------------------|------------|
| NMOT                                  | 41±3°C     |
| Temp. Coefficient of V <sub>oc</sub>  | -0.25%/°C  |
| Temp. Coefficient of I <sub>sc</sub>  | +0.046%/°C |
| Temp. Coefficient of P <sub>max</sub> | -0.30%/°C  |

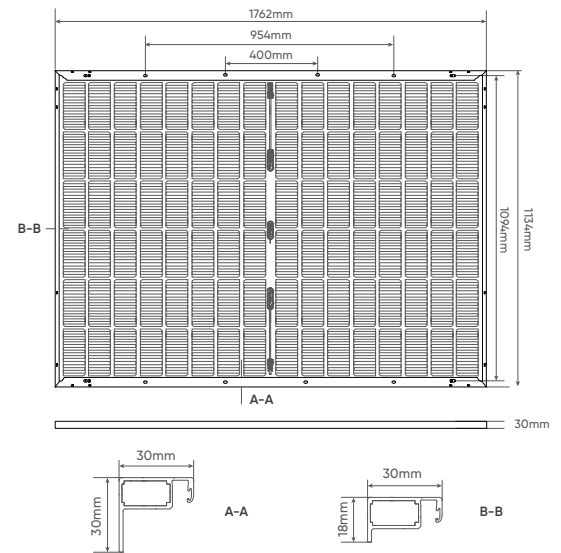
## Maximum Rating

|                       |               |
|-----------------------|---------------|
| Output Tolerance      | 0~+5W         |
| Operating Temperature | -40°C~+85°C   |
| Wind Load/Snow Load   | 2400Pa/5400Pa |
| Fuse Current          | 25A           |

## Product Image



## Drawings



## Characteristics (SP450M-48H-450W)

