

# JW-HD108N-R3

n-type Bifacial Dual-Glass **Black Frame** Module

## 435-460W

J-TOPCon Technology



460W

Maximum Power Output

23.0%

Maximum Module Efficiency

0~+3%

Power Output Tolerance



### 10-30% Additional Power Generation

30 years lifespan brings 10-30% additional power generation comparing with conventional P-type module



### ZERO LID (Light Induced Degradation)

n-type solar cell has no LID naturally which can increase power generation



### Higher Reliability

New generation TOPCon technology for the battery, featuring no web coating, no current leakage, and reater resistance to hot spots.



### Better Weak Illumination Response

Higher power output even under low-light environments like on cloudy or foggy days



### Better Temperature Coefficient

Lower temperature coefficient (-0.28%) and lower working temperature, resulting in more power.



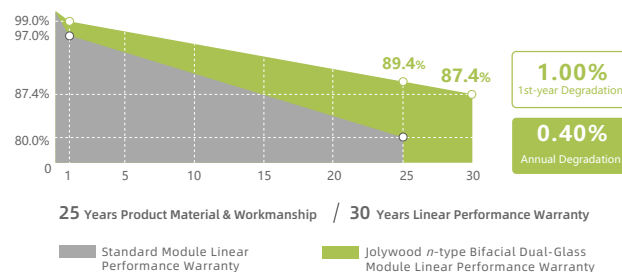
### Wider Applicability

More application scenes like BIPV, vertical installation, snowfield, high-humid, windy and dusty area



IEC61215(2021), IEC61730(2023), IEC61701, IEC62716  
ISO9001:2015: Quality Management System  
ISO14001:2015: Environment Management System  
ISO45001:2018: Occupational health and safety management systems  
IEC62941: 2019: Quality system for PV module manufacturing

### Linear Performance Warranty



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## Electrical Properties | STC\*

| Testing Condition                            | Front Side | Front Side | Front Side | Front Side | Front Side | Front Side |
|----------------------------------------------|------------|------------|------------|------------|------------|------------|
| Peak Power (P <sub>max</sub> ) (W)           | 435        | 440        | 445        | 450        | 455        | 460        |
| MPP Voltage (V <sub>mp</sub> ) (V)           | 33.15      | 33.33      | 33.51      | 33.69      | 33.87      | 34.05      |
| MPP Current (I <sub>mp</sub> ) (A)           | 13.12      | 13.20      | 13.28      | 13.36      | 13.43      | 13.51      |
| Open Circuit Voltage (V <sub>oc</sub> ) (V)  | 38.57      | 38.77      | 38.97      | 39.17      | 39.37      | 39.57      |
| Short Circuit Current (I <sub>sc</sub> ) (A) | 13.93      | 14.00      | 14.07      | 14.14      | 14.21      | 14.28      |
| Module Efficiency (%)                        | 21.8       | 22.0       | 22.3       | 22.5       | 22.8       | 23.0       |

\*STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, AM1.5  
The data above is for reference only and the actual data is in accordance with the practical testing Power Measurement Tolerance ±3%

## Electrical Properties | NMOT\*

| Testing Condition                            | Front Side | Front Side | Front Side | Front Side | Front Side | Front Side |
|----------------------------------------------|------------|------------|------------|------------|------------|------------|
| Peak Power (P <sub>max</sub> ) (W)           | 326        | 330        | 333        | 337        | 341        | 345        |
| MPP Voltage (V <sub>mp</sub> ) (V)           | 31.74      | 31.91      | 32.08      | 32.26      | 32.43      | 32.60      |
| MPP Current (I <sub>mp</sub> ) (A)           | 10.27      | 10.33      | 10.39      | 10.45      | 10.51      | 10.57      |
| Open Circuit Voltage (V <sub>oc</sub> ) (V)  | 36.93      | 37.12      | 37.32      | 37.51      | 37.70      | 37.89      |
| Short Circuit Current (I <sub>sc</sub> ) (A) | 11.25      | 11.30      | 11.36      | 11.42      | 11.47      | 11.53      |

\*NMOT: Irradiance 800 W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1 m/s

## Electrical Properties Under Different Rear Gain | HD108N-450

| Power Gain (%) | Peak Power (P <sub>max</sub> ) (W) | MPP Voltage (V <sub>mp</sub> ) (V) | MPP Current (I <sub>mp</sub> ) (A) | Open Circuit Voltage (V <sub>oc</sub> ) (V) | Short Circuit Current (I <sub>sc</sub> ) (A) |
|----------------|------------------------------------|------------------------------------|------------------------------------|---------------------------------------------|----------------------------------------------|
| 10             | 495.00                             | 33.69                              | 14.69                              | 39.17                                       | 15.55                                        |
| 15             | 517.50                             | 33.69                              | 15.36                              | 39.17                                       | 16.26                                        |
| 20             | 540.00                             | 33.69                              | 16.03                              | 39.17                                       | 16.96                                        |
| 25             | 562.50                             | 33.79                              | 16.65                              | 39.27                                       | 17.63                                        |
| 30             | 585.00                             | 33.79                              | 17.31                              | 39.27                                       | 18.33                                        |

## Operating Properties

|                                |                                     |
|--------------------------------|-------------------------------------|
| Operating Temperature (°C)     | -40°C~+85°C                         |
| Maximum System Voltage (V)     | 1500V DC (IEC)                      |
| Maximum Series Fuse Rating (A) | 30                                  |
| Bifaciality*                   | 80%                                 |
| Static Load                    | Front side 5400Pa, Rear side 2400Pa |

\*Bifaciality=P<sub>max</sub>rear (STC) /P<sub>max</sub>front (STC) , Bifaciality tolerance:±5%

## Temperature Coefficient

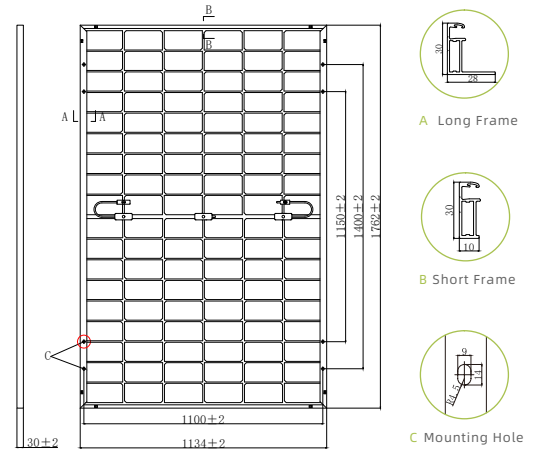
|                                               |            |
|-----------------------------------------------|------------|
| Temperature Coefficient of P <sub>max</sub> * | -0.280%/°C |
| Temperature Coefficient of V <sub>oc</sub>    | -0.250%/°C |
| Temperature Coefficient of I <sub>sc</sub>    | +0.045%/°C |
| Nominal Operating Cell Temperature (NOCT)     | 42±2°C     |

## Mechanical Properties

|                         |                                                                       |
|-------------------------|-----------------------------------------------------------------------|
| Number of Cells         | 108pcs                                                                |
| Module Dimension        | 1762mm*1134mm*30mm                                                    |
| Weight                  | 24.6kg                                                                |
| Front / Rear Glass*     | 2.0mm/2.0mm Heat strengthened glass                                   |
| Frame                   | Anodized Aluminium Alloy                                              |
| Junction Box            | IP68 (3 diodes)                                                       |
| Length of Cable         | 4.0mm <sup>2</sup> , +1300mm/-1300mm (Cable length can be customized) |
| Packaging Configuration | 36pcs/Pallet,936pcs/40'HQ                                             |

\*The specification and key features described in this datasheet may deviate slightly and aren't guaranteed. Due to ongoing innovation, R&D enhancement, Jolywood (Taizhou) Solar Technology Co., Ltd. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

## Engineering Drawing (unit: mm)



## Characteristic Curves | HD108N-450

