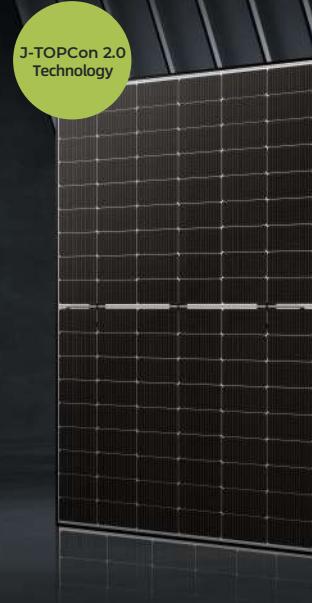


JW-HD108N

N-type Bifacial Mono Module
with SMBB Technology

415-435W

| | | |
|----------------------|---------------------------|------------------------|
| 435W | 22.27% | 0~+5W |
| Maximum Power Output | Maximum Module Efficiency | Power Output Tolerance |



IEC61215(2016), IEC61730(2016) | 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



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

Adpoted Jolywood lastest J-TOPCon2.0 technology, No polysilicon wrap around, Full electrical isolation, Zero leakage current; Much Safer for roof



Better Weak Illumination Response

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



Better Temperature Coefficient

Higher power generation under working conditions, thanks to passivating contact cell technology



Wider Applicability

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

Jolywood Delivers Reliable Performance Over Time

- Leader of N-type bifacial manufacturer
- Full-automatic facility and industry-leading technology
- Best-in-class durability and reliability
- BNEF Tier One

Linear Performance Warranty



*Subject to the terms and conditions contained in the applicable Jolywood Solar Limited Warranty Statement. Also this 25-year limited product warranty is available only for products installed and operating on residential rooftops in certain regions.

Electrical Properties | STC*

| Testing Condition | Front Side |
|---------------------------------|------------|------------|------------|------------|------------|
| Peak Power (Pmax) (W) | 415 | 420 | 425 | 430 | 435 |
| MPP Voltage (Vmp) (V) | 31.7 | 31.9 | 32.1 | 32.3 | 32.5 |
| MPP Current (Imp) (A) | 13.10 | 13.17 | 13.24 | 13.32 | 13.39 |
| Open Circuit Voltage (Voc) (V) | 37.7 | 37.9 | 38.1 | 38.3 | 38.4 |
| Short Circuit Current (Isc) (A) | 13.91 | 13.98 | 14.05 | 14.12 | 14.18 |
| Module Efficiency (%) | 21.25 | 21.51 | 21.76 | 22.02 | 22.27 |

*STC: Irradiance 1000 W/m², 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 | NOCT*

| Testing Condition | Front Side |
|---------------------------------|------------|------------|------------|------------|------------|
| Peak Power (Pmax) (W) | 315 | 318 | 322 | 326 | 330 |
| MPP Voltage (Vmp) (V) | 29.8 | 30.0 | 30.2 | 30.3 | 30.5 |
| MPP Current (Imp) (A) | 10.56 | 10.62 | 10.67 | 10.74 | 10.82 |
| Open Circuit Voltage (Voc) (V) | 36.0 | 36.2 | 36.4 | 36.6 | 36.8 |
| Short Circuit Current (Isc) (A) | 11.22 | 11.27 | 11.33 | 11.38 | 11.44 |

*NOCT: Irradiance 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s

Operating Properties

Operating Temperature (°C) -40°C~+85°C

Maximum System Voltage (V) 1500V DC (IEC)

Maximum Series Fuse Rating (A) 30

Power Tolerance 0~+5W

Bifaciality* 80%

*Bifaciality=Pmaxrear (STC) /Pmaxfront (STC) , Bifaciality tolerance:±5%

Temperature Coefficient

Temperature Coefficient of Pmax* -0.300%/°C

Temperature Coefficient of Voc -0.250%/°C

Temperature Coefficient of Isc +0.045%/°C

Nominal Operating Cell Temperature (NOCT) 42±2°C

*Temperature Coefficient of Pmax±0.03%/°C

Mechanical Properties

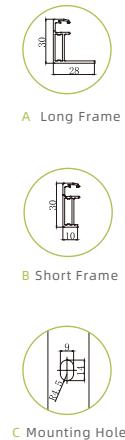
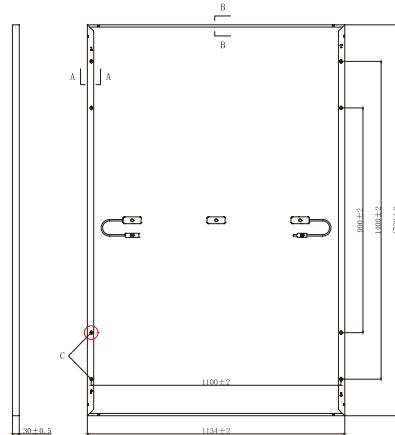
| | |
|---------------------|--|
| Cell Size | 182.00mm*91.00mm |
| Number of Cells | 108pcs(12*9) |
| Module Dimension | 1722mm*1134mm*30mm |
| Weight | 24.5kg |
| Front / Rear Glass* | 2.0mm/2.0mm |
| Frame | Anodized Aluminium Alloy |
| Junction Box | IP68 (3 diodes) |
| Length of Cable | 4.0mm ² , +300mm/-180mm (Cable length can be customized) |

*Heat strengthened glass

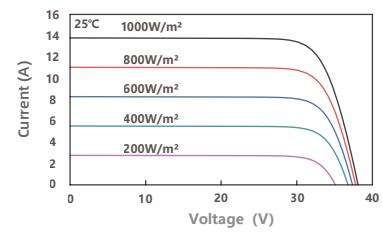
With Different Power Generation Gain (regarding 415W as an example)

| Power Gain (%) | Peak Power (Pmax) (W) | MPP Voltage (Vmp) (V) | MPP Current (Imp) (A) | Open Circuit Voltage (Voc) (V) | Short Circuit Current (Isc) (A) |
|----------------|-----------------------|-----------------------|-----------------------|--------------------------------|---------------------------------|
| 10 | 448 | 31.7 | 14.13 | 37.7 | 14.99 |
| 15 | 465 | 31.7 | 14.65 | 37.7 | 15.54 |
| 20 | 481 | 31.7 | 15.17 | 37.7 | 16.08 |
| 25 | 498 | 31.7 | 15.69 | 37.7 | 16.62 |
| 30 | 515 | 31.8 | 16.20 | 37.8 | 17.16 |

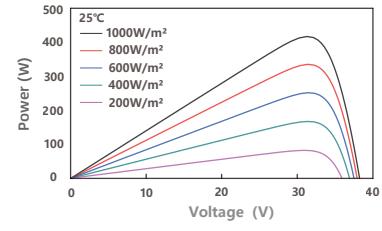
Engineering Drawing (unit: mm)



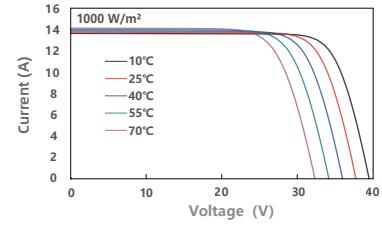
Characteristic Curves | HD108N-415



I-V Characteristics
At Different Irradiations



P-V Characteristics
At Different Irradiations



I-V Characteristics
At Different Temperatures

Packaging Configuration

| Packing Type | 20'GP | 40'GP | 40'HQ |
|------------------|-------|-------|-------|
| Piece/Pallet | | 36 | |
| Pallet/Container | 6 | 13 | 26 |
| Piece/Container | 216 | 468 | 936 |

*The specification and key features described in this datasheet may deviate slightly and are not 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.

