

## Bifacial Double Glass Module (Black Frame)

DAS-DH120ND

# 490W~515W



### Key Features



#### High Efficiency

Leading module efficiency in industry, up to 22.8%



#### Excellent Appearance and Performance

Bifacial solar cell, symmetrical design, low risk of micro-crack



#### High Reliability

Passed 3\*IEC standard test, 25 years materials warranty, 30 years power warranty



#### Excellent Rear Side Power Generation

Bifaciality is up to 80%, up to 30% more energy yield than conventional modules



#### Better low irradiance performance

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



#### Extensive Application Scenes

More extensive application scenes, such as BIPV, snow field, vertical installation, high humidity, strong wind and desert region

Maximum Power Output

## 515W

Maximum Module Efficiency

## 22.8%

Power Output Tolerance

## 0~+5W

### Product and Quality Certifications

IEC 61215, IEC 61730

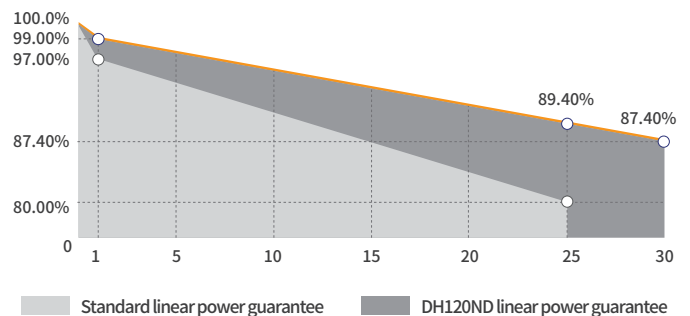
ISO 9001: Quality Management System

ISO 14001: Environment Management System

ISO 45001: Occupational Health and Safety Management System

IEC 62716, IEC 61701: Ammonia, Salt mist corrosion test

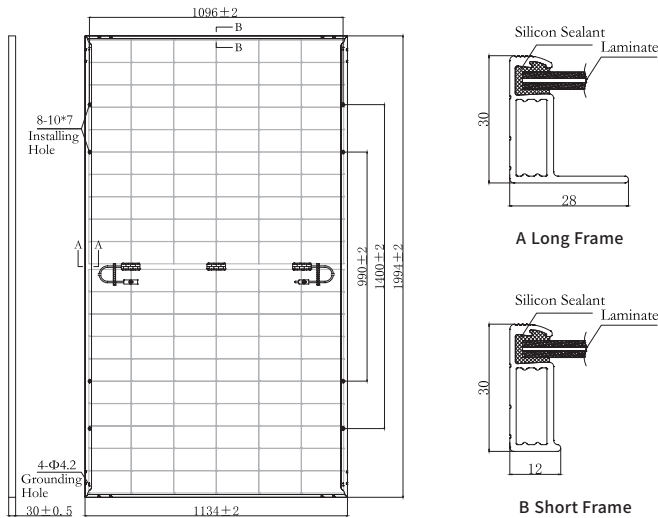
IEC TS 62804-1, IEC 60068-2-68: PID test, Dust and Sand test



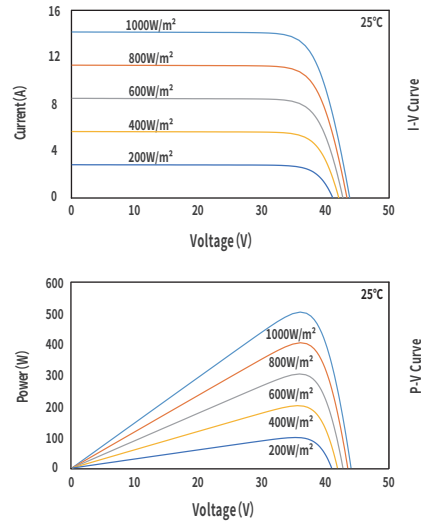
### Leading product and power warranty

-1.00% 1st-year Degradation -0.40% Annual Degradation 25 Materials and workmanship warranty 30 Linear power warranty

## Engineering Drawing (mm)



## Characteristic Curves(505W)



## Electrical Parameters (STC \*)

| Nominal Max. Power(Pmax/W)   | 490   | 495   | 500   | 505   | 510   | 515   |
|------------------------------|-------|-------|-------|-------|-------|-------|
| Open Circuit Voltage(Voc/V)  | 42.71 | 42.91 | 43.10 | 43.30 | 43.50 | 43.71 |
| Short Circuit Current(Isc/A) | 14.54 | 14.60 | 14.66 | 14.72 | 14.78 | 14.84 |
| Operating Voltage(Vmp/V)     | 35.51 | 35.72 | 35.92 | 36.13 | 36.33 | 36.53 |
| Operating Current(Imp/A)     | 13.80 | 13.86 | 13.92 | 13.98 | 14.04 | 14.10 |
| Efficiency(%)                | 21.7  | 21.9  | 22.1  | 22.3  | 22.6  | 22.8  |

STC \*: Irradiance = 1000 W/m<sup>2</sup>, Cell Temperature = 25°C, AM = 1.5  
Test condition is based on the front side

## Mechanical Parameters

|                 |  |
|-----------------|--|
| Cell Type       | N Type   |
| Module Size     | 1994 × 1134 × 30mm   |
| Glass Thickness | 2.0mm  |
| Module Weight   | 28.0Kg   |
| Output Cable    | 4mm <sup>2</sup> , cable length 1200mm (can be customized) |
| Connector       | MC4 Series   |
| Junction Box    | IP68, 3 bypass diodes                                      |
| Frame           | Anodized aluminium alloy (Black)                           |

## Electrical Parameters (NMOT \*)

| Nominal Max. Power(Pmax/W)   | 373   | 377   | 381   | 385   | 389   | 392   |
|------------------------------|-------|-------|-------|-------|-------|-------|
| Open Circuit Voltage(Voc/V)  | 40.89 | 41.09 | 41.27 | 41.46 | 41.65 | 41.85 |
| Short Circuit Current(Isc/A) | 11.72 | 11.77 | 11.82 | 11.87 | 11.91 | 11.96 |
| Operating Voltage(Vmp/V)     | 33.56 | 33.76 | 33.95 | 34.14 | 34.33 | 34.52 |
| Operating Current(Imp/A)     | 11.12 | 11.17 | 11.22 | 11.27 | 11.32 | 11.37 |

NMOT \*: Irradiance = 800 W/m<sup>2</sup>, Ambient Temperature = 20°C, AM = 1.5,  
Wind Speed = 1 m/s  
Test condition is based on the front side

## Temperature Coefficients

|                            |            |
|----------------------------|------------|
| Short Circuit Current(Isc) | +0.045%/°C |
| Open Circuit Voltage(Voc)  | -0.250%/°C |
| Nominal Max. Power(Pmax)   | -0.280%/°C |
| NMOT                       | 42 ± 2°C   |

## Backside Power Gain (For 505W)

| Power Gain                   | 10%   | 15%   | 20%   | 25%   | 30%   |
|------------------------------|-------|-------|-------|-------|-------|
| Nominal Max. Power(Pmax/W)   | 555.5 | 580.8 | 606.0 | 631.3 | 656.5 |
| Open Circuit Voltage(Voc/V)  | 43.30 | 43.30 | 43.40 | 43.40 | 43.40 |
| Short Circuit Current(Isc/A) | 16.19 | 16.93 | 17.66 | 18.40 | 19.14 |
| Operating Voltage(Vmp/V)     | 36.13 | 36.13 | 36.23 | 36.23 | 36.23 |
| Operating Current(Imp/A)     | 15.38 | 16.07 | 16.73 | 17.42 | 18.12 |

## Operating Parameters

|                         |                                     |
|-------------------------|-------------------------------------|
| Max. System Voltage     | DC1500V                             |
| Power Tolerance         | 0 ~ +5 W                            |
| Operating Temperature   | -40°C ~ +85°C                       |
| Max. Fuse Rated Current | 30A                                 |
| Front Static Load       | Snow load 5400Pa, Wind load 2400Pa  |
| Packing Data            | 36 pcs/Pallet; 180(20GP); 792(40HQ) |