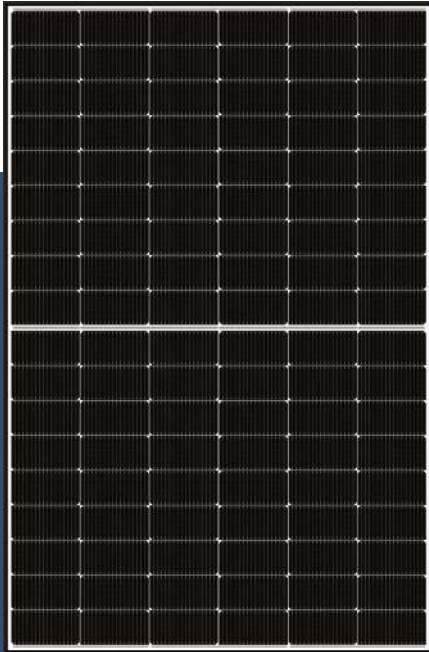


N Type / P Type

# P Type Monofacial Module(Black Frame) DAS-WH108PA

## 400W~420W



### Key Features



#### High Efficiency

Leading module efficiency in industry, up to 21.5%



#### Half Cell, SMBB Technology

Series-then-parallel cell connection design, more reliable soldering technology



#### High Reliability

Passed 3\*IEC standard test



#### Low NMOT

As low as 43°C, improving the power generation efficiency



#### Reduce Mismatch Loss

Half-cut cell technology provides optimized energy production under inter-row shading conditions



#### Superior Low Irradiance Performance

Excellent low irradiance performance, increase power generation in low-light conditions like mornings, evenings and cloudy days

Maximum Power Output

**420W**

Maximum Module Efficiency

**21.5%**

Power Output Tolerance

**0~+5W**

### Product and Quality Certifications

IEC 61215, IEC 61730

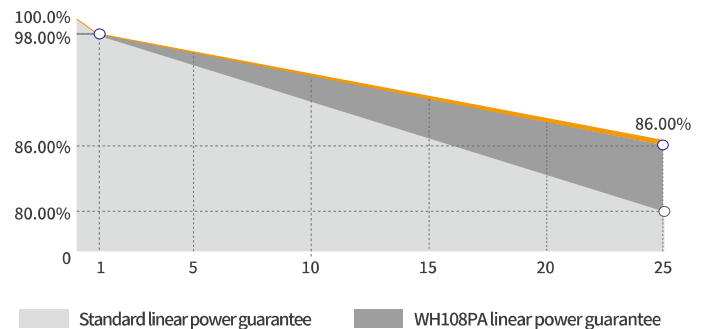
ISO 9001: Quality Management System

ISO 14001: Environment Management System

ISO 45001: Occupational Health and Safety Management System

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

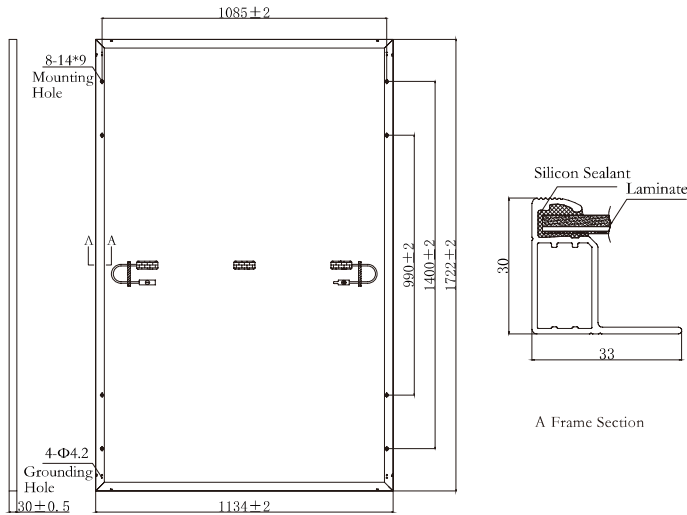
IEC TS 62804-1, IEC 60068-2-68: PID test, Dust and Sand test



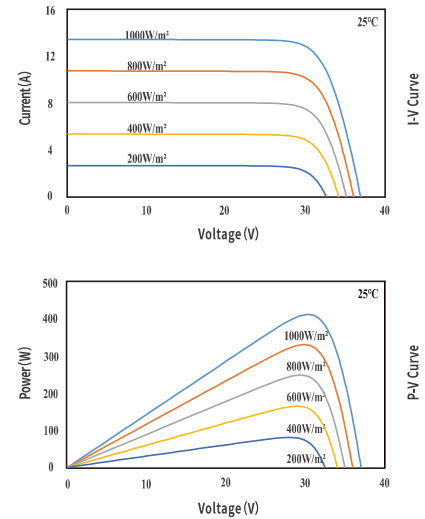
### Leading product and power warranty

**-2.00%** 1st-year Degradation **-0.50%** Annual Degradation **12** Materials and workmanship warranty **25** Linear power warranty

## Engineering Drawing (mm)



## Characteristic Curves(410W)



## Electrical Parameters (STC \*)

Nominal Max. Power(Pmax/W)	400	405	410	415	420
Open Circuit Voltage(Voc/V)	37.21	37.38	37.55	37.71	37.87
Short Circuit Current(Isc/A)	13.67	13.76	13.85	13.94	14.03
Operating Voltage(Vmp/V)	31.18	31.35	31.52	31.68	31.84
Operating Current(Imp/A)	12.83	12.92	13.01	13.10	13.20
Efficiency(%)	20.5	20.7	21.0	21.3	21.5

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

## Electrical Parameters (NMOT \*)

Nominal Max. Power(Pmax/W)	294.0	297.7	301.4	305.0	308.7
Open Circuit Voltage(Voc/V)	34.42	34.58	34.73	34.88	35.03
Short Circuit Current(Isc/A)	11.02	11.09	11.16	11.24	11.31
Operating Voltage(Vmp/V)	28.65	28.79	28.95	29.10	29.23
Operating Current(Imp/A)	10.26	10.34	10.41	10.48	10.56

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)	+0.048%/°C
Open Circuit Voltage(Voc)	-0.26%/°C
Nominal Max. Power(Pmax)	-0.340%/°C
NMOT	43 ± 2°C

## Mechanical Parameters

Cell Type	P Type
Module Size	1722 × 1134 × 30mm
Glass Thickness	3.2mm
Module Weight	21.5Kg
Output Cable	4mm <sup>2</sup> , cable length 300mm (can be customized)
Connector	MC4 compatible
Junction Box	IP68, 3 bypass diodes
Frame	Anodized aluminium alloy (Black)

## Operating Parameters

Max. System Voltage	DC1500V
Power Tolerance	0 ~ +5 W
Operating Temperature	-40°C ~ +85°C
Max. Fuse Rated Current	25A
Front Static Load	Snow load 5400Pa, Wind load 2400Pa

## Packing Data

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

