



**Tier1**

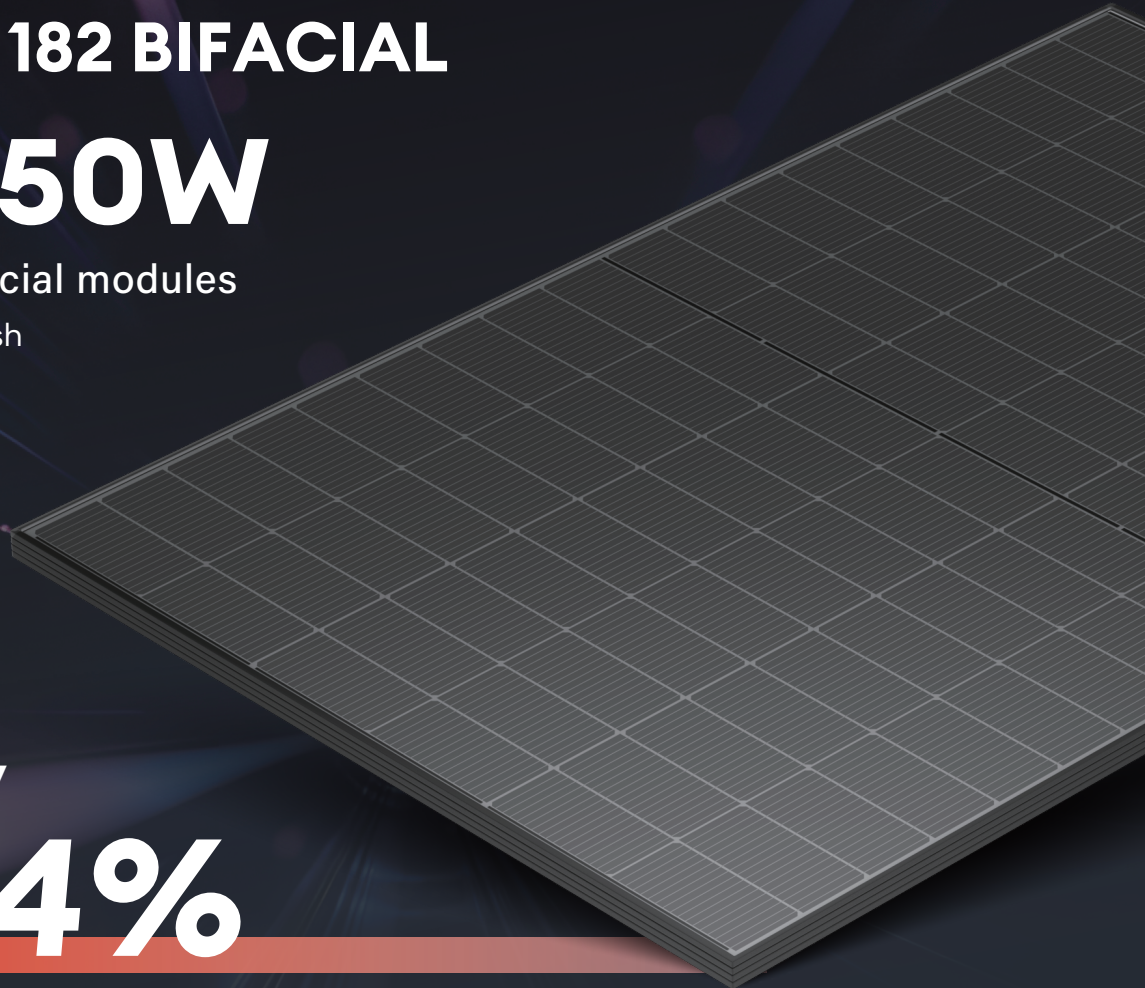
BloombergNEF  
*Power the future*

# TOPCon 182 BIFACIAL

# 435-450W

High efficiency bifacial modules

· Black frame, Black mesh



 UTILITY

 C&I

Module efficiency

# 23.04%



Better leveled cost of energy



Better high temperature stability

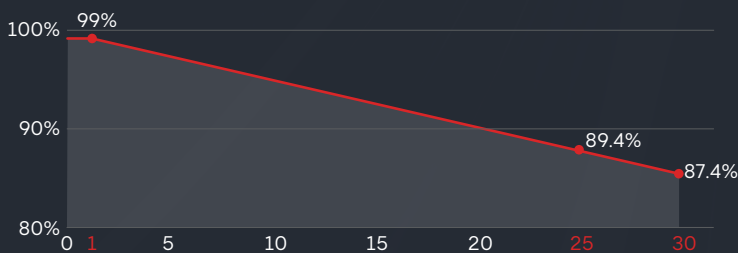


Improved low-light performance



Excellent bifacial performance

Linear performance guarantee for 30 years



## WARRANTY

Quality Guarantee **25** years

Power Warranty **30** years

## CERTIFICATE



Ariet Green



## ELECTRIC CHARACTERISTICS

## SPDG (435/450W)-N108M10

| Model of modules              | SPDG435-N108M10 |        | SPDG440-N108M10 |        | SPDG445-N108M10 |       | SPDG450-N108M10 |       |
|-------------------------------|-----------------|--------|-----------------|--------|-----------------|-------|-----------------|-------|
|                               | STC             | NMOT   | STC             | NMOT   | STC             | NMOT  | STC             | NMOT  |
| Power ( Pmax/W )              | 435             | 325.00 | 440             | 329.00 | 445             | 332.4 | 450             | 336.2 |
| Maximum power current ( Vmp ) | 31.94           | 29.80  | 32.09           | 29.90  | 32.25           | 30    | 32.41           | 30.1  |
| Maximum power current ( Imp ) | 13.62           | 10.91  | 13.72           | 11.00  | 13.8            | 11.08 | 13.89           | 11.16 |
| Open circuit voltage ( Voc )  | 38.43           | 36.00  | 38.53           | 36.10  | 38.64           | 36.2  | 38.75           | 36.3  |
| Short circuitcurrent ( Isc )  | 14.34           | 11.56  | 14.43           | 11.63  | 14.53           | 11.71 | 14.63           | 11.79 |
| Module efficiency             | 22.28%          |        | 22.53%          |        | 22.79%          |       | 23.04%          |       |

STC ( Electrical parameters at standard test conditions (STC:AM=1.5, 1000W/m<sup>2</sup> ,Cells Temperature25°C )

NMOT ( Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C,AM1.5,Wind Speed 1m/s )

## ELECTRICAL CHARACTERISTICS WITH 15% REAR SIDE POWER GAIN

|                               |        |        |        |        |
|-------------------------------|--------|--------|--------|--------|
| Front power Pmax/W            | 500.25 | 506.00 | 511.75 | 517.50 |
| Maximum power voltage ( Vmp ) | 31.94  | 32.09  | 32.25  | 32.41  |
| Maximum power current ( Imp ) | 15.66  | 15.77  | 15.87  | 15.97  |
| Open circuit voltage ( Voc )  | 38.43  | 38.53  | 38.64  | 38.75  |
| Short circuitcurrent ( Isc )  | 16.49  | 16.59  | 16.71  | 16.82  |

## STRUCTURAL CHARACTERISTICS

|                       |  |
|-----------------------|--|
| Module size (L*W*H)   | 1722x1134x30mm                                 |
| Weight                | 23.3kg   |
| Cell                  | 108 cells,N type Mono-Crystalline , 182mm×91mm |
| Front glass           | 2.0mm , Anti-Reflection Coating                |
| Back glass            | 2.0mm , Heat Strengthened Glass                |
| Frame                 | Anodized aluminum alloy                        |
| Junction box          | IP68 , 3 bypass diodes                         |
| Output wire           | 4mm <sup>2</sup>                               |
| Wire length           | Line length 1100mm/customized                  |
| Connector             | MC4 Compatible                                 |
| Packing Specification | 37 pcs/Pallet ; 962 pcs/40' HQ                 |

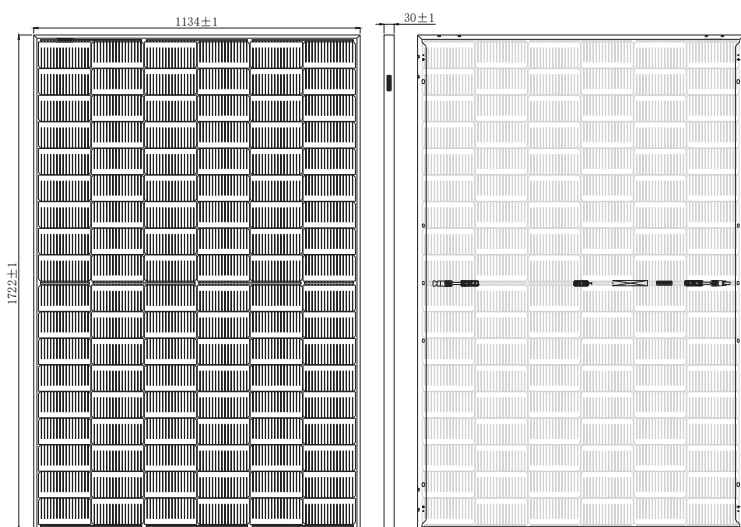
## OPERATING PARAMETERS

|                                   |                 |
|-----------------------------------|-----------------|
| Power tolerance (W)               | (0~+5W)         |
| Maximum system voltage (V)        | 1500V           |
| Maximum rated fuse current (A)    | 30A             |
| Current operating temperature (C) | -40~+85°C       |
| Mechanical load                   | +5400Pa/-2400Pa |

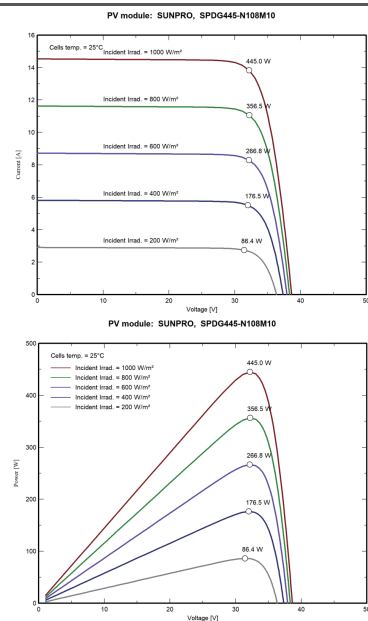
## TEMPERATURE CHARACTERISTICS

|                                   |             |
|-----------------------------------|-------------|
| Temp. Coeff. of Isc (TK Isc)      | 0.046% / °C |
| Temp. Coeff. of Voc (TK Voc)      | -0.25% / °C |
| Temp. Coeff. of Pmax (TK Pmax)    | -0.30% / °C |
| Normal Operating Cell Temperature | 45±2°C      |

## MODULE DIMENSIONS(MM)



## I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



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\*The above parameters are for reference only, and the actual parameters of the factory shall prevail